DAQmx Buffer Properties

Use the DAQmx Buffer properties to configure input and output buffers in computer memory and to query the size of device onboard buffers.

Property	Description
Input:Buffer Size	Specifies the number of samples the input buffer can hold for each channel in the task. Zero indicates to allocate no buffer. Use a buffer size of 0 to perform a hardware-timed operation without using a buffer. Setting this property overrides the automatic input buffer allocation that NI-DAQmx performs. Details
Input:Onboard Buffer Size	Indicates in samples per channel the size of the onboard input buffer of the device. Details
Output:Buffer Size	Specifies the number of samples the output buffer can hold for each channel in the task. Zero indicates to allocate no buffer. Use a buffer size of 0 to perform a hardware-timed operation without using a buffer. Setting this property overrides the automatic output buffer allocation that NI-DAQmx performs. Details
Output:Onboard Buffer Size	Specifies in samples per channel the size of the onboard output buffer of the device. Details

Input:Buffer Size Property

Short Name: Input.BufSize

Property of DAQmx Buffer

Specifies the number of samples the input buffer can hold for each channel in the task. Zero indicates to allocate no buffer. Use a buffer size of 0 to perform a hardware-timed operation without using a buffer. Setting this property overrides the automatic input buffer allocation that NI-DAQmx performs.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Input:Onboard Buffer Size Property

Short Name: Input.OnbrdBufSize

Property of DAQmx Buffer

Indicates in samples per channel the size of the onboard input buffer of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Output:Buffer Size Property

Short Name: Output.BufSize

Property of DAQmx Buffer

Specifies the number of samples the output buffer can hold for each channel in the task. Zero indicates to allocate no buffer. Use a buffer size of 0 to perform a hardware-timed operation without using a buffer. Setting this property overrides the automatic output buffer allocation that NI-DAQmx performs.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Output:Onboard Buffer Size Property

Short Name: Output.OnbrdBufSize

Property of DAQmx Buffer

Specifies in samples per channel the size of the onboard output buffer of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Calibration Info Properties

The DAQmx Calibration Info properties return information about the calibration of a device.

Property	Description
Active Device	Specifies the device from which to retrieve calibration properties. Details
Self Calibration:Is Supported	Indicates whether the device supports self calibration. Details
Self Calibration:Last Self Calibration Date/Time	Indicates the last date and time that the device underwent a self calibration. Details
Self Calibration:Last Self Calibration Temperature	Indicates in degrees Celsius the temperature of the device at the time of the last self calibration. Compare this temperature to the current onboard temperature to determine if you should perform another calibration. Details
External Calibration:Recommended Interval	Indicates in months the National Instruments recommended interval between each external calibration of the device. Details
External Calibration:Last External Calibration Date/Time	Indicates the last date and time that the device underwent an external calibration. Details
External Calibration:Last External Calibration Temperature	Indicates in degrees Celsius the temperature of the device at the time of the last external calibration. Compare this temperature to the current onboard temperature to determine if you should perform another calibration. Details
User-Defined Information:Information	Specifies a string that contains arbitrary, user-defined information. This number of characters in this string can be no more than Cal.UserDefinedInfo.MaxSize. Details
User-Defined Information:Max Size	Indicates the maximum length in characters of Cal.UserDefinedInfo. Details

More:Device Temperature	Indicates in degrees Celsius the current temperature of the device. Details

Active Device Property

Short Name: ActiveDev

Property of DAQmx Calibration Info

Specifies the device from which to retrieve calibration properties.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Self Calibration:Is Supported Property

Short Name: SelfCal.Supported

Property of DAQmx Calibration Info

Indicates whether the device supports self calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Self Calibration:Last Self Calibration Date/Time Property

Short Name: SelfCal.LastDate/Time

Property of DAQmx Calibration Info

Indicates the last date and time that the device underwent a self calibration.

Using Traditional NI-DAQ (Legacy) to perform calibration does not update this property. This property is updated only when you use NI-DAQmx to perform calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Self Calibration:Last Self Calibration Temperature Property

Short Name: SelfCal.LastTemp

Property of DAQmx Calibration Info

Indicates in degrees Celsius the temperature of the device at the time of the last self calibration. Compare this temperature to the current onboard temperature to determine if you should perform another calibration.

The temperature returned by this property is the calibration temperature as measured by an onboard temperature sensor and may differ from the temperature displayed on a printed calibration certificate. Calibration certificates usually display the ambient temperature rather than the onboard temperature.

Using Traditional NI-DAQ (Legacy) to perform calibration does not update this property. This property is updated only when you use NI-DAQmx to perform calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

External Calibration:Recommended Interval Property

Short Name: ExtCal.RecommendedInterval

Property of DAQmx Calibration Info

Indicates in months the National Instruments recommended interval between each external calibration of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

External Calibration:Last External Calibration Date/Time Property

Short Name: ExtCal.LastDate/Time

Property of DAQmx Calibration Info

Indicates the last date and time that the device underwent an external calibration.

Using Traditional NI-DAQ (Legacy) to perform calibration does not update this property. This property is updated only when you use NI-DAQmx to perform calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

External Calibration:Last External Calibration Temperature Property

Short Name: ExtCal.LastTemp

Property of DAQmx Calibration Info

Indicates in degrees Celsius the temperature of the device at the time of the last external calibration. Compare this temperature to the current onboard temperature to determine if you should perform another calibration.

The temperature returned by this property is the calibration temperature as measured by an onboard temperature sensor and may differ from the temperature displayed on a printed calibration certificate. Calibration certificates usually display the ambient temperature rather than the onboard temperature.

Using Traditional NI-DAQ (Legacy) to perform calibration does not update this property. This property is updated only when you use NI-DAQmx to perform calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

User-Defined Information:Information Property

Short Name: Cal.UserDefinedInfo

Property of DAQmx Calibration Info

Specifies a string that contains arbitrary, user-defined information. This number of characters in this string can be no more than Cal.UserDefinedInfo.MaxSize.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

User-Defined Information:Max Size Property

Short Name: Cal.UserDefinedInfo.MaxSize

Property of DAQmx Calibration Info

Indicates the maximum length in characters of Cal.UserDefinedInfo.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Device Temperature Property

Short Name: DevTemp

Property of DAQmx Calibration Info

Indicates in degrees Celsius the current temperature of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Channel Properties

Use the DAQmx Channel properties to configure virtual channels.

Property	Description
Active Channels (if subset)	Specifies a virtual channel o channels to modify. The virtu are within the context of a sp NI-DAQmx configures all cha task if you do not set this property. Details
Analog Input:Maximum Value	Specifies the maximum valu to measure. This value is in specify with a units property. query this property, it returns maximum value that the dev measure with the current set
Analog Input:Minimum Value	Specifies the minimum value to measure. This value is in specify with a units property. query this property, it returns minimum value that the devi measure with the current set
Analog Input:Custom Scale Name	Specifies the name of a cust the channel. Details
Analog Input:Measurement Type	Indicates the measurement t the analog input channel and cases, such as for temperatu measurements, the sensor t
Analog Input:Voltage:Units	Specifies the units to use to voltage measurements from channel. Details
Analog Input:Voltage:dB Reference	Specifies the decibel referen the units of the channel. Wh samples as a waveform, the reference level is included in waveform attributes. Details

Analog Input:Voltage:AC RMS Voltage:Units	Specifies the units to use to voltage RMS measurements channel. Details
Analog Input:Temperature:Units	Specifies the units to use to temperature measurements channel. Details
Analog Input:Temperature:Thermocouple:Type	Specifies the type of thermo connected to the channel. Tl types differ in composition a measurement range. Details
Analog Input:Temperature:Thermocouple:Scale Type	Specifies the method or equ that the thermocouple scale
Analog Input:Temperature:Thermocouple:CJC Source	Indicates the source of cold-compensation. Details
Analog Input:Temperature:Thermocouple:CJC Value	Specifies the temperature of junction if AI.Thrmcpl.CJCSr Value. Specify this value in t the measurement. Details
Analog Input:Temperature:Thermocouple:CJC Channel	Indicates the channel that ac temperature of the cold junc AI.Thrmcpl.CJCSrc is Chanr channel is a temperature cha DAQmx acquires the temper correct units. Other channel as a resistance channel with sensor, must use a custom s values to degrees Celsius. D
Analog Input:Temperature:RTD:Type	Specifies the type of RTD cc the channel. Details
Analog Input:Temperature:RTD:R0	Specifies in ohms the senso at 0 deg C. The Callendar-V equation requires this value. sensor documentation to det value. Details

Analog Input:Temperature:RTD:Custom:A	Specifies the 'A' constant of Callendar-Van Dusen equati DAQmx requires this value v a custom RTD. Details
Analog Input:Temperature:RTD:Custom:B	Specifies the 'B' constant of Callendar-Van Dusen equati DAQmx requires this value v a custom RTD. Details
Analog Input:Temperature:RTD:Custom:C	Specifies the 'C' constant of Callendar-Van Dusen equati DAQmx requires this value v a custom RTD. Details
Analog Input:Temperature:Thermistor:A	Specifies the 'A' constant of Steinhart-Hart thermistor equation. Details
Analog Input:Temperature:Thermistor:B	Specifies the 'B' constant of Steinhart-Hart thermistor equation. Details
Analog Input:Temperature:Thermistor:C	Specifies the 'C' constant of Steinhart-Hart thermistor equation. Details
Analog Input:Temperature:Thermistor:R1	Specifies in ohms the value reference resistor if you use excitation. NI-DAQmx ignore for current excitation. Details
Analog Input:Temperature:Advanced:Force Read from Channel	Specifies whether to read fro channel if it is a cold-junctior compensation channel. By d DAQmx Read does not retur cold-junction compensation Setting this property to TRU operations to return the cold compensation channel data other channels in the task. D
Analog Input:Current:Units	Specifies the units to use to current measurements from

	channel. Details
Analog Input:Current:AC RMS Current:Units	Specifies the units to use to current RMS measurements channel. Details
Analog Input:Strain:Units	Specifies the units to use to measurements from the cha
Analog Input:Strain:Strain Gage:Gage Factor	Specifies the sensitivity of th gage. Gage factor relates th electrical resistance to the cl strain. Refer to the sensor d for this value. Details
Analog Input:Strain:Strain Gage:Poisson Ratio	Specifies the ratio of lateral strain in the material you are measuring. Details
Analog Input:Strain:Strain Gage:Configuration	Specifies the bridge configur strain gages. Details
Analog Input:Resistance:Units	Specifies the units to use to resistance measurements. D
Analog Input:Frequency:Units	Specifies the units to use to frequency measurements fr channel. Details
Analog Input:Frequency:Voltage:Threshold Level	Specifies the voltage level a recognize waveform repetitic should select a voltage level only once within the entire p waveform. You also can sele that occurs only once while t rises or falls. Details
Analog Input:Frequency:Voltage:Hysteresis	Specifies in volts a window b AI.Freq.ThreshVoltage. The must pass below AI.Freq.Th minus this value before NI-D recognizes a waveform repe AI.Freq.ThreshVoltage. Hyst improve the measurement a when the signal contains noi

	jitter. Details
Analog Input:Position:LVDT:Units	Specifies the units to use to position measurements from channel. Details
Analog Input:Position:LVDT:Sensitivity	Specifies the sensitivity of th value is in the units you spec AI.LVDT.SensitivityUnits. Re sensor documentation to det value. Details
Analog Input:Position:LVDT:Sensitivity Units	Specifies the units of AI.LVDT.Sensitivity. Details
Analog Input:Position:RVDT:Units	Specifies the units to use to angular position measureme channel. Details
Analog Input:Position:RVDT:Sensitivity	Specifies the sensitivity of th value is in the units you spec AI.RVDT.SensitivityUnits. Re sensor documentation to det value. Details
Analog Input:Position:RVDT:Sensitivity Units	Specifies the units of AI.RVDT.Sensitivity. Details
Analog Input:Sound Pressure:Maximum Sound Pressure Level	Specifies the maximum insta sound pressure level you ex measure. This value is in de referenced to 20 micropasca DAQmx uses the maximum pressure level to calculate va pascals for AI.Max and AI.M channel. Details
Analog Input:Sound Pressure:Units	Specifies the units to use to pressure measurements fror channel. Details
Analog Input:Sound Pressure:dB Reference	Specifies the decibel referen the units of the channel. Wh samples as a waveform, the reference level is included in

	waveform attributes. NI-DAQ uses the decibel reference le converting AI.SoundPressure.MaxSour to a voltage level. Details
Analog Input:Sound Pressure:Microphone:Sensitivity	Specifies the sensitivity of th microphone. This value is in Refer to the sensor docume determine this value. Details
Analog Input:Acceleration:Units	Specifies the units to use to acceleration measurements channel. Details
Analog Input:Acceleration:dB Reference	Specifies the decibel referen the units of the channel. Wh samples as a waveform, the reference level is included in waveform attributes. Details
Analog Input:Acceleration:Accelerometer:Sensitivity	Specifies the sensitivity of th accelerometer. This value is you specify with AI.Accel.Se Refer to the sensor docume determine this value. Details
Analog Input:Acceleration:Accelerometer:Sensitivity Units	Specifies the units of AI.Accel.Sensitivity. Details
Analog Input:TEDS:Is TEDS	Indicates if the virtual chann initialized using a TEDS bits the corresponding physical channel. Details
Analog Input:TEDS:Units	Indicates the units defined b information associated with t channel. Details
Analog Input:General Properties:Input Configuration:Coupling	Specifies the coupling for the channel. Details
Analog Input:General Properties:Input Configuration:Impedance	Specifies the input impedanc channel. Details

Analog Input:General Properties:Input Configuration:Terminal Configuration	Specifies the terminal config the channel. Details
Analog Input:General Properties:Input Configuration:Input Source	Specifies the source of the c can use the signal from the I or one of several calibration Certain devices have a singl signal bus. For these device specify the same calibration channels you connect to a c signal. Details
Analog Input:General Properties:Signal Conditioning:Resistance Configuration	Specifies the resistance con the channel. NI-DAQmx use for any resistance-based me including temperature meas using a thermistor or RTD. D
Analog Input:General Properties:Signal Conditioning:Lead Wire Resistance	Specifies in ohms the resista wires that lead to the sensor
Analog Input:General Properties:Signal Conditioning:Bridge:Configuration	Specifies the type of Wheats that the sensor is. Details
Analog Input:General Properties:Signal Conditioning:Bridge:Nominal Resistance	Specifies in ohms the resista each arm of the bridge in an position. Details
Analog Input:General Properties:Signal Conditioning:Bridge:Initial Bridge Voltage	Specifies in volts the output bridge in the unloaded condi DAQmx subtracts this value measurements before applyi equations. Details
Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Shunt Cal Enable	Specifies whether to enable calibration switch. Use AI.Bridge.ShuntCal.Select to switch(es) to enable. Details
Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Shunt Cal Select	Specifies which shunt calibra switch(es) to enable. Use AI.Bridge.ShuntCal.Enable t switch(es) you specify with t property. Details

Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Gain Adjustment	Specifies the result of a shu NI-DAQmx multiplies data re channel by the value of this value should be close to 1.0
Analog Input:General Properties:Signal Conditioning:Bridge:Balance:Coarse Potentiometer	Specifies by how much to co for offset in the signal. This v between 0 and 127. Details
Analog Input:General Properties:Signal Conditioning:Bridge:Balance:Fine Potentiometer	Specifies by how much to co for offset in the signal. This v between 0 and 4095. Details
Analog Input:General Properties:Signal Conditioning:Current Shunt Resistor:Location	Specifies the shunt resistor l current measurements. Deta
Analog Input:General Properties:Signal Conditioning:Current Shunt Resistor:Value	Specifies in ohms the extern resistance for current measurements. Details
Analog Input:General Properties:Signal Conditioning:Excitation:Source	Specifies the source of excit
Analog Input:General Properties:Signal Conditioning:Excitation:Value	Specifies the amount of exci the sensor requires. If AI.Excit.VoltageOrCurrent is value is in volts. If AI.Excit.VoltageOrCurrent is value is in amperes. Details
Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Use Excitation For Scaling	Specifies if NI-DAQmx divide measurement by the excitati should typically set this prop for ratiometric transducers. I property to TRUE, set AI.Ma to reflect the scaling. Details
Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Use Multiplexed Excitation	Specifies if the SCXI-1122 m the excitation to the upper ha channels as it advances thro list. Details
Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Actual	Specifies the actual amount supplied by an internal excita

Excitation Value	If you read an internal excita more precisely with an exter set this property to the value NI-DAQmx ignores this valu excitation. When performing calibration, some devices se property automatically. Deta
Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:DC or AC	Specifies if the excitation su AC. Details
Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Voltage or Current	Specifies if the channel uses voltage excitation. Details
Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Frequency	Specifies the AC excitation f Hertz. Details
Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Synchronization Enable	Specifies whether to synchro excitation source of the char another channel. Synchroniz excitation sources of multipl use multichannel sensors. S property to FALSE for the m and to TRUE for the slave channels. Details
Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Wire Mode	Specifies the number of lead LVDT or RVDT. Some senso you to tie leads together to c or five- wire sensor. Refer to documentation for more information. Details
Analog Input:General Properties:Signal Conditioning:Probe/Attenuator:Attenuation Value	Specifies the amount of atte use. Details
Analog Input:General Properties:Filter:Analog Lowpass:Enable	Specifies whether to enable filter of the channel. Details
Analog Input:General Properties:Filter:Analog Lowpass:Cutoff	Specifies the frequency in H corresponds to the -3dB cut

Frequency	filter. Details
Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:Clock Source	Specifies the source of the fi you need a higher resolution you can supply an external c increase the resolution. Refe SCXI-1141/1142/1143 User I more information. Details
Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:External Clock Frequency	Specifies the frequency of th clock when you set AI.Lowpass.SwitchCap.ClkS External. NI-DAQmx uses th to set the pre- and post- filte SCXI-1141, SCXI-1142, and On those devices, NI-DAQm the filter cutoff by using the e f/(100*n), where f is the exte frequency, and n is the exter divisor. Refer to the SCXI-1141/1142/1143 User Manua information. Details
Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:External Clock Divisor	Specifies the divisor for the e when you set AI.Lowpass.SwitchCap.ClkS External. On the SCXI-1141, and SCXI-1143, NI-DAQmx the filter cutoff by using the e f/(100*n), where f is the exte frequency, and n is the exter divisor. Refer to the SCXI-1141/1142/1143 User Manua information. Details
Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:Output Clock Divisor	Specifies the divisor for the c NI-DAQmx uses the cutoff fr determine the output clock fr Refer to the SCXI-1141/1142 Manual for more information
Analog Input:General	Indicates the units of

Properties:Digitizer/ADC:Resolution Units	AI.Resolution. Details
Analog Input:General Properties:Digitizer/ADC:Resolution Value	Indicates the resolution of th digital converter of the chan value is in the units you spe AI.ResolutionUnits. Details
Analog Input:General Properties:Digitizer/ADC:Raw Sample Size	Indicates in bits the size of a from the device. Details
Analog Input:General Properties:Digitizer/ADC:Raw Sample Justification	Indicates the justification of a from the device. Details
Analog Input:General Properties:Digitizer/ADC:Timing Mode	Specifies the ADC timing mo controlling the tradeoff betw and effective resolution. Son timing modes provide increa powerline noise rejection. O that have an AI Convert cloc affects both the maximum a values for AIConv.Rate. You same ADC timing mode for a on a device, but you can use ADC timing modes for differe the same task. Details
Analog Input:General Properties:Digitizer/ADC:Dither:Enable	Specifies whether to enable Dithering adds Gaussian noi input signal. You can use dit achieve higher resolution me by over sampling the input s averaging the results. Detail
Analog Input:General Properties:Channel Calibration:Has Valid Calibration Information	Indicates if the channel has information. Details
Analog Input:General Properties:Channel Calibration:Enable Calibration	Specifies whether to enable calibration associated with th channel. Details
Analog Input:General Properties:Channel Calibration:Apply Calibration If Expired	Specifies whether to apply th calibration to the channel aft

	expiration date has passed.
Analog Input:General Properties:Channel Calibration:Calibration Date	Specifies the last date and ti channel underwent a channe calibration. Details
Analog Input:General Properties:Channel Calibration:Expiration Date	Specifies the date and time t channel calibration expires.
Analog Input:General Properties:Channel Calibration:Scaling Parameters:Scale Type	Specifies the method or equ that the calibration scale use
Analog Input:General Properties:Channel Calibration:Scaling Parameters:Table:Pre-Scaled Values	Specifies the reference valu when calibrating the channe
Analog Input:General Properties:Channel Calibration:Scaling Parameters:Table:Scaled Values	Specifies the acquired value when calibrating the channe
Analog Input:General Properties:Channel Calibration:Scaling Parameters:Polynomial:Forward Coefficients	Specifies the forward polyno used for calibrating the chan
Analog Input:General Properties:Channel Calibration:Scaling Parameters:Polynomial:Reverse Coefficients	Specifies the reverse polyno used for calibrating the chan
Analog Input:General Properties:Channel Calibration:Operator Name	Specifies the name of the op performed the channel calibr
Analog Input:General Properties:Channel Calibration:Description	Specifies the description ent calibration of the channel. D
Analog Input:General Properties:Channel Calibration:Verification:Reference Values	Specifies the reference valu when verifying the calibratio stores these values as a rec calibration accuracy and doe them in the scaling process.
Analog Input:General Properties:Channel Calibration:Verification:Acquired Values	Specifies the acquired value when verifying the calibratio stores these values as a rec calibration accuracy and doe

	them in the scaling process.
Analog Input:General Properties:Advanced:Range:High	Specifies the upper limit of tl range of the device. This val native units of the device. Or devices, for example, the na volts. Details
Analog Input:General Properties:Advanced:Range:Low	Specifies the lower limit of th range of the device. This val native units of the device. Or devices, for example, the na volts. Details
Analog Input:General Properties:Advanced:Gain:Gain Value	Specifies a gain factor to ap channel. Details
Analog Input:General Properties:Advanced:Sample and Hold Enable	Specifies whether to enable and hold circuitry of the devi you disable sample and hold small voltage offset might be into the signal. You can elim offset by using AI.AutoZeroM perform an auto zero on the channel. Details
Analog Input:General Properties:Advanced:High Accuracy Settings:Auto Zero Mode	Specifies how often to meas NI-DAQmx subtracts the me ground voltage from every sample. Details
Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism	Specifies the data transfer m device. Details
Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition	Specifies under what conditi data from the onboard mem device to the buffer. Details
Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Custom Threshold	Specifies the number of sam must be in the FIFO to trans the device if AI.DataXferReq Onboard Memory Custom Threshold. Details

Analog Input:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable	Specifies for NI-DAQmx to m registers to the memory spa application, if possible. Norm DAQmx maps hardware regi memory accessible only to tl Mapping the registers to the space of the application incr performance. However, if the accesses the memory space the registers, it can adversel operation of the device and result in a system crash. Det
Analog Input:General Properties:Advanced:Data Transfer and Memory:Compression:Raw Data Compression Type	Specifies the type of compre apply to raw samples returne device. Details
Analog Input:General Properties:Advanced:Data Transfer and Memory:Compression:Lossy LSB Removal:Compressed Sample Size	Specifies the number of bits raw sample when AI.RawDataCompressionTyp Lossy LSB Removal. Details
Analog Input:General Properties:Advanced:Device Scaling Coefficients:Device Scaling Coefficients	Indicates the coefficients of a equation that NI-DAQmx use values from the native forma device to volts. Each elemer corresponds to a term of the For example, if index two of 4, the third term of the equat Scaling coefficients do not a any custom scales or senso by the channel. Details
Analog Input:General Properties:Advanced:Enhanced Alias Rejection Enable	Specifies whether to enable alias rejection. By default, er rejection is enabled on supp devices. Leave this property default value for most applications. Details
Analog Output:Maximum Value	Specifies the maximum valu

	to generate. The value is in t specify with a units property. write a value larger than the value, NI-DAQmx generates DAQmx might coerce this va smaller value if other task se the device from generating t maximum. Details
Analog Output:Minimum Value	Specifies the minimum value to generate. The value is in t specify with a units property. write a value smaller than th value, NI-DAQmx generates DAQmx might coerce this va larger value if other task sett the device from generating t minimum. Details
Analog Output:Custom Scale Name	Specifies the name of a cust the channel. Details
Analog Output:Output Type	Indicates whether the chann voltage, current, or a wavefo
Analog Output:Voltage:Units	Specifies in what units to ge voltage on the channel. Writ channel in the units you sele
Analog Output:Voltage:Current Limit	Specifies the current limit, in the voltage channel. Details
Analog Output:Current:Units	Specifies in what units to ge current on the channel. Write channel in the units you sele
Analog Output:Function Generation:Type	Specifies the kind of the wav generate. Details
Analog Output:Function Generation:Frequency	Specifies the frequency of th to generate in hertz. Details
Analog Output:Function Generation:Amplitude	Specifies the zero-to-peak a the waveform to generate in and negative values are vali

Analog Output:Function Generation:Offset	Specifies the voltage offset c waveform to generate. Detai
Analog Output:Function Generation:Square:DutyCycle	Specifies the square wave d the waveform to generate. D
Analog Output:Function Generation:Modulation:Type	Specifies if the device gener modulated version of the wa the original waveform as a c input from an external termir signal. Details
Analog Output:Function Generation:Modulation:FM Deviation	Specifies the FM deviation ir volt when AO.FuncGen.Mod is FM. Details
Analog Output:General Properties:Output Configuration:Output Impedance	Specifies in ohms the imped analog output stage of the d
Analog Output:General Properties:Output Configuration:Load Impedance	Specifies in ohms the load ir connected to the analog outp channel. Details
Analog Output:General Properties:Output Configuration:Idle Output Behavior	Specifies the state of the cha no generation is in progress.
Analog Output:General Properties:Output Configuration:Terminal Configuration	Specifies the terminal config channel. Details
Analog Output:General Properties:DAC:Resolution Units	Specifies the units of AO.Resolution. Details
Analog Output:General Properties:DAC:Resolution Value	Indicates the resolution of th analog converter of the char value is in the units you spec AO.ResolutionUnits. Details
Analog Output:General Properties:DAC:Range:High	Specifies the upper limit of th range of the device. This val native units of the device. Or devices, for example, the na volts. Details
Analog Output:General Properties:DAC:Range:Low	Specifies the lower limit of th range of the device. This val native units of the device. Or

	devices, for example, the na volts. Details
Analog Output:General Properties:DAC:Reference Voltage:Connect DAC Reference to Ground	Specifies whether to ground DAC reference. Grounding t DAC reference has the effec grounding all analog output stopping waveform generati analog output channels rega whether the channels belon current task. You can ground DAC reference only when AO.DAC.Ref.Src is Internal AO.DAC.Ref.AllowConnToG TRUE. Details
Analog Output:General Properties:DAC:Reference Voltage:Allow Connecting DAC Reference to Ground at Runtime	Specifies whether to allow g internal DAC reference at ru must set this property to TR AO.DAC.Ref.Src to Internal can set AO.DAC.Ref.ConnT TRUE. Details
Analog Output:General Properties:DAC:Reference Voltage:Source	Specifies the source of the D reference voltage. The value voltage source determines th value of the DAC. Details
Analog Output:General Properties:DAC:Reference Voltage:External Source	Specifies the source of the D reference voltage if AO.DAC External. The valid sources vary by device. Details
Analog Output:General Properties:DAC:Reference Voltage:Value	Specifies in volts the value o reference voltage. This volta determines the full-scale ran DAC. Smaller reference volt smaller ranges, but increase resolution. Details
Analog Output:General Properties:DAC:Offset Voltage:Source	Specifies the source of the D voltage. The value of this vo determines the full-scale val

	DAC. Details
Analog Output:General Properties:DAC:Offset Voltage:External Source	Specifies the source of the D voltage if AO.DAC.Offset.Sr The valid sources for this sig device. Details
Analog Output:General Properties:DAC:Offset Voltage:Value	Specifies in volts the value o offset voltage. To achieve be the DAC offset value should calibrated. Details
Analog Output:General Properties:DAC:Reglitching Enable	Specifies whether to enable The output of a DAC normal whenever the DAC is update value. The amount of glitchir from code to code and is ge largest at major code transiti Reglitching generates unifor energy at each code transitio provides for more uniform gl Uniform glitch energy makes filter out the noise introduce glitching during spectrum analysis. Details
Analog Output:General Properties:Advanced:Gain:Gain Value	Specifies in decibels the gai apply to the channel. Details
Analog Output:General Properties:Advanced:Data Transfer and Memory:Use Only Onboard Memory	Specifies whether to write sa directly to the onboard mem device, bypassing the memo Generally, you cannot updat memory directly after you sta Onboard memory includes d FIFOs. Details
Analog Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism	Specifies the data transfer m device. Details
Analog Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition	Specifies under what conditi data from the buffer to the or memory of the device. Detai

Analog Output:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable	Specifies for NI-DAQmx to n registers to the memory spa application, if possible. Norm DAQmx maps hardware reg memory accessible only to t Mapping the registers to the space of the application incr performance. However, if the accesses the memory space the registers, it can adversel operation of the device and result in a system crash. Det
Analog Output:General Properties:Advanced:Device Scaling Coefficients:Device Scaling Coefficients	Indicates the coefficients of a equation that NI-DAQmx use values from a voltage to the of the device. Each element corresponds to a term of the For example, if index two of 4, the third term of the equat Scaling coefficients do not a any custom scales that may the channel. Details
Analog Output:General Properties:Advanced:Enhanced Image Rejection Enable	Specifies whether to enable interpolation filter. Disable th interpolation filter to improve to-noise ratio at the expense image rejection. Details
Digital Input:Invert Lines	Specifies whether to invert t channel. If you set this prope the lines are at high logic wh low logic when on. Details
Digital Input:Number of Lines	Indicates the number of digit channel. Details
Digital Input:Digital Filter:Enable	Specifies whether to enable filter for the line(s) or port(s). enable the filter on a line-by- You do not have to enable th

	lines in a channel. Details
Digital Input:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes as or low state transition. Detail
Digital Input:Tristate	Specifies whether to tristate the channel. If you set this p TRUE, NI-DAQmx tristates t the channel. If you set this p FALSE, NI-DAQmx does not configuration of the lines eve were previously tristated. Se property to FALSE to read li tasks or to read output-only
Digital Input:Logic Family	Specifies the logic family to acquisition. A logic family co voltage thresholds that are c with a group of voltage stanc to device documentation for on the logic high and logic lc for these logic families. Deta
Digital Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism	Specifies the data transfer m device. Details
Digital Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition	Specifies under what conditi data from the onboard mem device to the buffer. Details
Digital Input:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable	Specifies for NI-DAQmx to n registers to the memory spa application, if possible. Norm DAQmx maps hardware reg memory accessible only to t Mapping the registers to the space of the application incr performance. However, if the accesses the memory space the registers, it can adversel operation of the device and

	result in a system crash. Det
Digital Input:General Properties:Advanced:Acquire On	Specifies on which edge of t clock to acquire samples. De
Digital Output:Output Drive Type	Specifies the drive type for d channels. Details
Digital Output:Invert Lines	Specifies whether to invert tl channel. If you set this prope the lines are at high logic wh low logic when on. Details
Digital Output:Number of Lines	Indicates the number of digit channel. Details
Digital Output:Tristate	Specifies whether to stop dri channel and set it to a high-i state. You must commit the t setting to take effect. Details
Digital Output:Line States:Start State	Specifies the state of the line output task when the task st
Digital Output:Line States:Paused State	Specifies the state of the line output task when the task pa
Digital Output:Line States:Done State	Specifies the state of the line output task when the task cc execution. Details
Digital Output:Logic Family	Specifies the logic family to u generation. A logic family co voltage thresholds that are c with a group of voltage stanc to device documentation for on the logic high and logic lc for these logic families. Deta
Digital Output:General Properties:Advanced:Data Transfer and Memory:Use Only Onboard Memory	Specifies whether to write sa directly to the onboard mem device, bypassing the memc Generally, you cannot updat memory after you start the ta memory includes data FIFOs

Digital Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism	Specifies the data transfer m device. Details
Digital Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition	Specifies under what conditi data from the buffer to the o memory of the device. Detai
Digital Output:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable	Specifies for NI-DAQmx to n registers to the memory spa application, if possible. Norm DAQmx maps hardware reg memory accessible only to t Mapping the registers to the space of the application incr performance. However, if the accesses the memory space the registers, it can adversel operation of the device and result in a system crash. De
Digital Output:General Properties:Advanced:Generate On	Specifies on which edge of t clock to generate samples.
Counter Input:Maximum Value	Specifies the maximum valu to measure. This value is in specify with a units property. query this property, it returns maximum value that the har measure with the current se
Counter Input:Minimum Value	Specifies the minimum value to measure. This value is in specify with a units property. query this property, it returns minimum value that the hard measure with the current se
Counter Input:Custom Scale Name	Specifies the name of a cust the channel. Details
Counter Input:Measurement Type	Indicates the measurement t the channel. Details

Counter Input:Frequency:Units	Specifies the units to use to frequency measurements. D
Counter Input:Frequency:Input Terminal	Specifies the input terminal to measure. Details
Counter Input:Frequency:Starting Edge	Specifies between which edg measure the frequency of th signal. Details
Counter Input:Frequency:Measurement Specifications:Method	Specifies the method to use the frequency of the signal. I
Counter Input:Frequency:Measurement Specifications:High Frequency:Measurement Time	Specifies in seconds the len measure the frequency of th CI.Freq.MeasMeth is High F with 2 Counters. Measureme increases with increased me time and with increased sign If you measure a high-freque for too long, however, the co could roll over, which results incorrect measurement. Deta
Counter Input:Frequency:Measurement Specifications:Large Range:Divisor	Specifies the value by which input signal if CI.Freq.MeasM Range with 2 Counters. The divisor, the more accurate th measurement. However, too value could cause the count roll over, which results in an measurement. Details
Counter Input:Frequency:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Frequency:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Frequency:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Frequency:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC

	value to compute settings fo filter. Details
Counter Input:Frequency:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Period:Units	Specifies the unit to use to r measurements. Details
Counter Input:Period:Input Terminal	Specifies the input terminal to measure. Details
Counter Input:Period:Starting Edge	Specifies between which edg measure the period of the si
Counter Input:Period:Measurement Specifications:Method	Specifies the method to use the period of the signal. Deta
Counter Input:Period:Measurement Specifications:High Frequency:Measurement Time	Specifies in seconds the len measure the period of the si CI.Period.MeasMeth is High with 2 Counters. Measureme increases with increased me time and with increased sign If you measure a high-freque for too long, however, the co could roll over, which results incorrect measurement. Deta
Counter Input:Period:Measurement Specifications:Large Range:Divisor	Specifies the value by which input signal if CI.Period.Mea Large Range with 2 Counter the divisor, the more accurat measurement. However, too value could cause the count roll over, which results in an measurement. Details
Counter Input:Period:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Period:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D

Counter Input:Period:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Period:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAQ value to compute settings fo filter. Details
Counter Input:Period:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Count Edges:Input Terminal	Specifies the input terminal to measure. Details
Counter Input:Count Edges:Count Direction:Direction	Specifies whether to increme decrement the counter on ea edge. Details
Counter Input:Count Edges:Count Direction:Terminal	Specifies the source termina digital signal that controls th direction if CI.CountEdges.D Externally Controlled. Details
Counter Input:Count Edges:Count Direction:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Count Edges:Count Direction:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Count Edges:Count Direction:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Count Edges:Count Direction:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAQ value to compute settings fo filter. Details
Counter Input:Count Edges:Count Direction:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details

Counter Input:Count Edges:Initial Count	Specifies the starting value f count. Details
Counter Input:Count Edges:Active Edge	Specifies on which edges to decrement the counter. Deta
Counter Input:Count Edges:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Count Edges:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Count Edges:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Count Edges:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Count Edges:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Position:Angular Encoder:Units	Specifies the units to use to angular position measureme channel. Details
Counter Input:Position:Angular Encoder:Pulses Per Revolution	Specifies the number of puls encoder generates per revol value is the number of pulse signal A or signal B, not the of pulses on both signal A ar B. Details
Counter Input:Position:Angular Encoder:Initial Angle	Specifies the starting angle encoder. This value is in the specify with CI.AngEncoder.
Counter Input:Position:Linear Encoder:Units	Specifies the units to use to encoder measurements from channel. Details
Counter Input:Position:Linear	Specifies the distance to me

Encoder:Distance Per Pulse	each pulse the encoder gen signal A or signal B. This val units you specify with CI.LinEncoder.Units. Details
Counter Input:Position:Linear Encoder:Initial Position	Specifies the position of the when the measurement begi value is in the units you spec CI.LinEncoder.Units. Details
Counter Input:Position:Decoding Type	Specifies how to count and i pulses the encoder generate and signal B. X1, X2, and X4 quadrature encoders only. T Counting is valid for two-puls only. Details
Counter Input:Position:A Input:Terminal	Specifies the terminal to whi connected. Details
Counter Input:Position:A Input:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Position:A Input:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Position:A Input:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Position:A Input:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAQ value to compute settings fo filter. Details
Counter Input:Position:A Input:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Position:B Input:Terminal	Specifies the terminal to whi connected. Details
Counter Input:Position:B Input:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta

Counter Input:Position:B Input:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Position:B Input:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Position:B Input:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Position:B Input:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Position:Z Input:Terminal	Specifies the terminal to whi connected. Details
Counter Input:Position:Z Input:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Position:Z Input:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Position:Z Input:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Position:Z Input:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Position:Z Input:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Position:Z Index Enable	Specifies whether to use Z in the channel. Details
Counter Input:Position:Z Index Value	Specifies the value to which measurement when signal Z signal A and signal B are at

	you specify with CI.Encoder.ZIndexPhase. Sp value in the units of the measurement. Details
Counter Input:Position:Z Index Phase	Specifies the states at which signal B must be while signa NI-DAQmx to reset the meas signal Z is never high while s signal B are high, for examp choose a phase other than A High. Details
Counter Input:Pulse Width:Units	Specifies the units to use to width measurements. Details
Counter Input:Pulse Width:Input Terminal	Specifies the input terminal c to measure. Details
Counter Input:Pulse Width:Starting Edge	Specifies on which edge of t signal to begin each pulse w measurement. Details
Counter Input:Pulse Width:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Pulse Width:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Pulse Width:Digital Filter:Timebase:Source	Specifies the input terminal c to use as the timebase of the filter. Details
Counter Input:Pulse Width:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Pulse Width:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Two Edge Separation:Units	Specifies the units to use to edge separation measureme channel. Details

Counter Input:Two Edge Separation:First:Input Terminal	Specifies the source termina digital signal that starts each measurement. Details
Counter Input:Two Edge Separation:First:Edge	Specifies on which edge of t to start each measurement.
Counter Input:Two Edge Separation:First:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Two Edge Separation:First:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Two Edge Separation:First:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Two Edge Separation:First:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Two Edge Separation:First:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Two Edge Separation:Second:Input Terminal	Specifies the source termina digital signal that stops each measurement. Details
Counter Input:Two Edge Separation:Second:Edge	Specifies on which edge of t signal to stop each measure
Counter Input:Two Edge Separation:Second:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Two Edge Separation:Second:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Two Edge Separation:Second:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Two Edge	Specifies in hertz the rate of

Separation:Second:Digital Filter:Timebase:Rate	width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Two Edge Separation:Second:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Semi-Period:Units	Specifies the units to use to period measurements. Detai
Counter Input:Semi-Period:Input Terminal	Specifies the input terminal to measure. Details
Counter Input:Semi-Period:Starting Edge	Specifies on which edge of t signal to begin semi-period measurement. Semi-period measurements alternate bet time and low time, starting o edge. Details
Counter Input:Semi-Period:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:Semi-Period:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:Semi-Period:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:Semi-Period:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:Semi-Period:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Input:Timestamp:Units	Specifies the units to use to timestamp measurements. D
Counter Input:Timestamp:Initial Seconds	Specifies the number of sec

	elapsed since the beginning current year. This value is ig CI.GPS.SyncMethod is IRIG
Counter Input:Timestamp:GPS:Synchronization Method	Specifies the method to use synchronize the counter to a receiver. Details
Counter Input:Timestamp:GPS:Synchronization Source	Specifies the terminal to whi synchronization signal is connected. Details
Counter Input:General Properties:Counter Timebase:Source	Specifies the terminal of the use for the counter. Details
Counter Input:General Properties:Counter Timebase:Rate	Specifies in Hertz the freque counter timebase. Specifyin counter timebase allows you measurements in terms of ti frequency rather than in tick timebase. If you use an exte timebase and do not specify can take measurements onl ticks of the timebase. Details
Counter Input:General Properties:Counter Timebase:Active Edge	Specifies whether a timebas from rising edge to rising ed falling edge to falling edge. D
Counter Input:General Properties:Counter Timebase:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Input:General Properties:Counter Timebase:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Input:General Properties:Counter Timebase:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the filter. Details
Counter Input:General Properties:Counter Timebase:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Input:General Properties:Counter	Specifies whether to synchro

Timebase:Digital Synchronization:Enable	recognition of transitions in t the internal timebase of the device. Details
Counter Input:General Properties:More:Count	Indicates the current value o register. Details
Counter Input:General Properties:More:Output State	Indicates the current state of terminal of the counter. Deta
Counter Input:General Properties:More:Terminal Count Reached	Indicates whether the counte When you query this propert resets it to FALSE. Details
Counter Input:General Properties:More:Counter Timebase Master Timebase Divisor	Specifies the divisor for an e counter timebase. You can c counter timebase in order to slower signals without causi register to roll over. Details
Counter Input:General Properties:More:Advanced:Data Transfer and Memory:Data Transfer Mechanism	Specifies the data transfer m channel. Details
Counter Input:General Properties:More:Advanced:Data Transfer and Memory:Number Of Possibly Invalid Samples	Indicates the number of sam device might have overwritte could transfer them to the bu
Counter Input:General Properties:More:Advanced:Duplicate Count Prevention	Specifies whether to enable count prevention for the cha Duplicate count prevention is default. Setting CI.Prescaler duplicate count prevention u explicitly enable it. Details
Counter Input:General Properties:More:Advanced:Prescaler	Specifies the divisor to apply you connect to the counter s terminal. Scaled data that yo this setting into account. You a prescaler only when you c external signal to the counte terminal and when that signa higher frequency than the fa

	onboard timebase. Setting th disables duplicate count pre unless you explicitly set CI.DupCountPrevention to T
Counter Output:Output Type	Indicates how to define pulse on the channel. Details
Counter Output:Pulse:Idle State	Specifies the resting state of terminal. Details
Counter Output:Pulse:Output Terminal	Specifies on which terminal pulses. Details
Counter Output:Pulse:Time:Units	Specifies the units in which t and low pulse time. Details
Counter Output:Pulse:Time:High Time	Specifies the amount of time pulse is at a high voltage. Th the units you specify with CO.Pulse.Time.Units or whe the channel. Details
Counter Output:Pulse:Time:Low Time	Specifies the amount of time pulse is at a low voltage. Thi the units you specify with CO.Pulse.Time.Units or whe the channel. Details
Counter Output:Pulse:Time:Initial Delay	Specifies in seconds the am to wait before generating the pulse. Details
Counter Output:Pulse:Frequency:Duty Cycle	Specifies the duty cycle of th The duty cycle of a signal is the pulse divided by period. uses this ratio and the pulse determine the width of the pu delay between pulses. Detai
Counter Output:Pulse:Frequency:Units	Specifies the units in which t pulse frequency. Details
Counter Output:Pulse:Frequency:Frequency	Specifies the frequency of th generate. This value is in the specify with CO.Pulse.Freq.U

	you create the channel. Deta
Counter Output:Pulse:Frequency:Initial Delay	Specifies in seconds the am to wait before generating the pulse. Details
Counter Output:Pulse:Ticks:High Ticks	Specifies the number of ticks high. Details
Counter Output:Pulse:Ticks:Low Ticks	Specifies the number of ticks low. Details
Counter Output:Pulse:Ticks:Initial Delay	Specifies the number of ticks before generating the first pu
Counter Output:General Properties:Counter Timebase:Source	Specifies the terminal of the use for the counter. Typically uses one of the internal cour timebases when generating this property to specify an ex timebase and produce custo widths that are not possible internal timebases. Details
Counter Output:General Properties:Counter Timebase:Rate	Specifies in Hertz the freque counter timebase. Specifyin counter timebase allows you output pulses in seconds rat ticks of the timebase. If you external timebase and do no rate, you can define output p ticks of the timebase. Details
Counter Output:General Properties:Counter Timebase:Active Edge	Specifies whether a timebas from rising edge to rising edg falling edge to falling edge. D
Counter Output:General Properties:Counter Timebase:Digital Filter:Enable	Specifies whether to apply th width filter to the signal. Deta
Counter Output:General Properties:Counter Timebase:Digital Filter:Minimum Pulse Width	Specifies in seconds the mir width the filter recognizes. D
Counter Output:General Properties:Counter Timebase:Digital Filter:Timebase:Source	Specifies the input terminal to use as the timebase of the

	filter. Details
Counter Output:General Properties:Counter Timebase:Digital Filter:Timebase:Rate	Specifies in hertz the rate of width filter timebase. NI-DAC value to compute settings fo filter. Details
Counter Output:General Properties:Counter Timebase:Digital Synchronization:Enable	Specifies whether to synchro recognition of transitions in t the internal timebase of the device. Details
Counter Output:General Properties:More:Count	Indicates the current value o register. Details
Counter Output:General Properties:More:Output State	Indicates the current state of terminal of the counter. Deta
Counter Output:General Properties:More:Auto Increment Count	Specifies a number of timeb which to increment each suc pulse. Details
Counter Output:General Properties:More:Counter Timebase Master Timebase Divisor	Specifies the divisor for an e counter timebase. You can c counter timebase in order to slower signals without causi register to roll over. Details
Counter Output:General Properties:More:Pulse Done	Indicates if the task complet generation. Use this value fo retriggerable pulse generatic need to determine if the dev the current pulse. When you property, NI-DAQmx resets i FALSE. Details
Counter Output:General Properties:More:Advanced:Constrained Generation Mode	Specifies constraints to appl counter generates pulses. C the counter reduces the dev required for counter operatic Constraining the counter car additional analog or counter device to run concurrently. F continuous counter tasks, NI

	consumes no device resourc counter is constrained. For f tasks, resource use increase frequency regardless of the mode. However, fixed freque constraints significantly redu usage, and fixed duty cycle marginally reduces it. Details
Counter Output:General Properties:More:Advanced:Prescaler	Specifies the divisor to apply you connect to the counter s terminal. Pulse generations frequency or time take this s account, but pulse generatio by ticks do not. You should u prescaler only when you cor external signal to the counte terminal and when that signa higher frequency than the fa onboard timebase. Details
Counter Output:General Properties:More:Advanced:Ready For New Value	Indicates whether the counte new continuous pulse train values. Details
General Properties:Channel Type	Indicates the type of the virtu channel. Details
General Properties:Physical Channel Name	Specifies the name of the ph channel upon which this virtu based. Details
General Properties:Description	Specifies a user-defined des the channel. Details
General Properties:Is Global	Indicates whether the chann channel. Details

Active Channels (if subset) Property

Short Name: ActiveChans

Property of DAQmx Channel

Specifies a virtual channel or list of virtual channels to modify. The virtual channels are within the context of a specific task. NI-DAQmx configures all channels in the task if you do not set this property.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Maximum Value Property

Short Name: AI.Max

Property of DAQmx Channel

Specifies the maximum value you expect to measure. This value is in the units you specify with a units property. When you query this property, it returns the coerced maximum value that the device can measure with the current settings.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Minimum Value Property

Short Name: AI.Min

Property of DAQmx Channel

Specifies the minimum value you expect to measure. This value is in the units you specify with a units property. When you query this property, it returns the coerced minimum value that the device can measure with the current settings.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Custom Scale Name Property

Short Name: AI.CustomScaleName

Property of DAQmx Channel

Specifies the name of a custom scale for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Measurement Type Property

Short Name: AI.MeasType

Property of DAQmx Channel

Indicates the measurement to take with the analog input channel and in some cases, such as for temperature measurements, the sensor to use.

Current (10134)	Current measurement.
Frequency (10181)	Frequency measurement using a frequency to voltage converter.
Resistance (10278)	Resistance measurement.
Strain Gage (10300)	Strain measurement.
Temperature:RTD (10301)	Temperature measurement using an RTD.
Temperature:Thermistor (10302)	Temperature measurement using a thermistor.
Temperature:Thermocouple (10303)	Temperature measurement using a thermocouple.
Temperature:Built-in Sensor (10311)	Temperature measurement using a built-in sensor on a terminal block or device. On SCXI modules, for example, this could be the CJC sensor.
Voltage (10322)	Voltage measurement.
More:Voltage:Custom with Excitation (10323)	Voltage measurement with an excitation source. You can use this measurement type for custom sensors that require excitation, but you must use a custom scale to scale the measured voltage.
Voltage RMS (10350)	Voltage RMS measurement.
Current RMS (10351)	Current RMS measurement.
Position:LVDT (10352)	Position measurement using an LVDT.
Position:RVDT (10353)	Position measurement using an RVDT.
Sound Pressure:Microphone	Sound pressure measurement using a microphone.

(10354)	
Accelerometer (10356)	Acceleration measurement using an accelerometer.
TEDS Sensor (12531)	Measurement type defined by TEDS.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Voltage:Units Property

Short Name: AI.Voltage.Units

Property of DAQmx Channel

Specifies the units to use to return voltage measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Volts (10348)	Volts.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Voltage:dB Reference Property

Short Name: AI.Voltage.dBRef

Property of DAQmx Channel

Specifies the decibel reference level in the units of the channel. When you read samples as a waveform, the decibel reference level is included in the waveform attributes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Voltage:AC RMS Voltage:Units Property

Short Name: AI.Voltage.ACRMS.Units

Property of DAQmx Channel

Specifies the units to use to return voltage RMS measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Volts (10348)	Volts.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Units Property

Short Name: AI.Temp.Units

Property of DAQmx Channel

Specifies the units to use to return temperature measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Deg C (10143)	Degrees Celsius.
Deg F (10144)	Degrees Fahrenheit.
Deg R (10145)	Degrees Rankine.
Kelvins (10325)	Kelvins.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermocouple:Type Property

Short Name: AI.Thrmcpl.Type

Property of DAQmx Channel

Specifies the type of thermocouple connected to the channel. Thermocouple types differ in composition and measurement range.

B (10047)	B-type thermocouple.
E (10055)	E-type thermocouple.
J (10072)	J-type thermocouple.
K (10073)	K-type thermocouple.
N (10077)	N-type thermocouple.
R (10082)	R-type thermocouple.
S (10085)	S-type thermocouple.
T (10086)	T-type thermocouple.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermocouple:Scale Type Property

Short Name: AI.Thrmcpl.ScaleType

Property of DAQmx Channel

Specifies the method or equation form that the thermocouple scale uses.

Polynomial (10449)	Scale values by using an Nth order polynomial equation.
Table (10450)	Map an array of prescaled values to an array of corresponding scaled values, with all other values scaled proportionally.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermocouple:CJC Source Property

Short Name: AI.Thrmcpl.CJCSrc

Property of DAQmx Channel

Indicates the source of cold-junction compensation.

Channel (10113)	Use a channel for cold-junction compensation.
Constant Value (10116)	You must specify the cold-junction temperature.
Built-In (10200)	Use a cold-junction compensation channel built into the terminal block.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermocouple:CJC Value Property

Short Name: AI.Thrmcpl.CJCVal

Property of DAQmx Channel

Specifies the temperature of the cold junction if AI.Thrmcpl.CJCSrc is Constant Value. Specify this value in the units of the measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermocouple:CJC Channel Property

Short Name: AI.Thrmcpl.CJCChan

Property of DAQmx Channel

Indicates the channel that acquires the temperature of the cold junction if AI.Thrmcpl.CJCSrc is Channel. If the channel is a temperature channel, NI-DAQmx acquires the temperature in the correct units. Other channel types, such as a resistance channel with a custom sensor, must use a custom scale to scale values to degrees Celsius.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:RTD:Type Property

Short Name: AI.RTD.Type

Property of DAQmx Channel

Specifies the type of RTD connected to the channel.

Pt3920 (10053)	Pt3920.
Pt3916 (10069)	Pt3916.
Pt3851 (10071)	Pt3851.
Custom (10137)	You must use AI.RTD.A, AI.RTD.B, and AI.RTD.C to supply the coefficients for the Callendar-Van Dusen equation.
Pt3750 (12481)	Pt3750.
Pt3911 (12482)	Pt3911.
Pt3928 (12483)	Pt3928.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:RTD:R0 Property

Short Name: AI.RTD.R0

Property of DAQmx Channel

Specifies in ohms the sensor resistance at 0 deg C. The Callendar-Van Dusen equation requires this value. Refer to the sensor documentation to determine this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:RTD:Custom:A Property

Short Name: AI.RTD.A

Property of DAQmx Channel

Specifies the 'A' constant of the Callendar-Van Dusen equation. NI-DAQmx requires this value when you use a custom RTD.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:RTD:Custom:B Property

Short Name: AI.RTD.B

Property of DAQmx Channel

Specifies the 'B' constant of the Callendar-Van Dusen equation. NI-DAQmx requires this value when you use a custom RTD.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:RTD:Custom:C Property

Short Name: AI.RTD.C

Property of DAQmx Channel

Specifies the 'C' constant of the Callendar-Van Dusen equation. NI-DAQmx requires this value when you use a custom RTD.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermistor:A Property

Short Name: AI.Thrmstr.A

Property of DAQmx Channel

Specifies the 'A' constant of the Steinhart-Hart thermistor equation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermistor:B Property

Short Name: AI.Thrmstr.B

Property of DAQmx Channel

Specifies the 'B' constant of the Steinhart-Hart thermistor equation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermistor:C Property

Short Name: AI.Thrmstr.C

Property of DAQmx Channel

Specifies the 'C' constant of the Steinhart-Hart thermistor equation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Thermistor:R1 Property

Short Name: AI.Thrmstr.R1

Property of DAQmx Channel

Specifies in ohms the value of the reference resistor if you use voltage excitation. NI-DAQmx ignores this value for current excitation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Temperature:Advanced:Force Read from Channel Property

Short Name: AI.ForceReadFromChan

Property of DAQmx Channel

Specifies whether to read from the channel if it is a cold-junction compensation channel. By default, DAQmx Read does not return data from cold-junction compensation channels. Setting this property to TRUE forces read operations to return the cold-junction compensation channel data with the other channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Current:Units Property

Short Name: AI.Current.Units

Property of DAQmx Channel

Specifies the units to use to return current measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Amps (10342)	Amperes.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Current:AC RMS Current:Units Property

Short Name: AI.Current.ACRMS.Units

Property of DAQmx Channel

Specifies the units to use to return current RMS measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Amps (10342)	Amperes.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Strain:Units Property

Short Name: AI.Strain.Units

Property of DAQmx Channel

Specifies the units to use to return strain measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Strain (10299)	Strain.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Strain:Strain Gage:Gage Factor Property

Short Name: AI.StrainGage.GageFactor

Property of DAQmx Channel

Specifies the sensitivity of the strain gage. Gage factor relates the change in electrical resistance to the change in strain. Refer to the sensor documentation for this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Strain:Strain Gage:Poisson Ratio Property

Short Name: AI.StrainGage.PoissonRatio

Property of DAQmx Channel

Specifies the ratio of lateral strain to axial strain in the material you are measuring.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Strain:Strain Gage:Configuration Property

Short Name: AI.StrainGage.Cfg

Property of DAQmx Channel

Specifies the bridge configuration of the strain gages.

Full Bridge I (10183)	Four active gages with two pairs subjected to equal and opposite strains.
Full Bridge II (10184)	Four active gages with two aligned with maximum principal strain and two Poisson gages in adjacent arms.
Full Bridge III (10185)	Four active gages with two aligned with maximum principal strain and two Poisson gages in opposite arms.
Half Bridge I (10188)	Two active gages with one aligned with maximum principal strain and one Poisson gage.
Half Bridge II (10189)	Two active gages with equal and opposite strains.
Quarter Bridge I (10271)	Single active gage.
Quarter Bridge II (10272)	Single active gage and one dummy gage.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Resistance:Units Property

Short Name: AI.Resistance.Units

Property of DAQmx Channel

Specifies the units to use to return resistance measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ohms (10384)	Ohms.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Frequency:Units Property

Short Name: AI.Freq.Units

Property of DAQmx Channel

Specifies the units to use to return frequency measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Hz (10373)	Hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Frequency:Voltage:Threshold Level Property

Short Name: AI.Freq.ThreshVoltage

Property of DAQmx Channel

Specifies the voltage level at which to recognize waveform repetitions. You should select a voltage level that occurs only once within the entire period of a waveform. You also can select a voltage that occurs only once while the voltage rises or falls.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Frequency:Voltage:Hysteresis Property

Short Name: AI.Freq.Hyst

Property of DAQmx Channel

Specifies in volts a window below AI.Freq.ThreshVoltage. The input voltage must pass below AI.Freq.ThreshVoltage minus this value before NI-DAQmx recognizes a waveform repetition at AI.Freq.ThreshVoltage. Hysteresis can improve the measurement accuracy when the signal contains noise or jitter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:LVDT:Units Property

Short Name: AI.LVDT.Units

Property of DAQmx Channel

Specifies the units to use to return linear position measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Meters (10219)	Meters.
Inches (10379)	Inches.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:LVDT:Sensitivity Property

Short Name: AI.LVDT.Sensitivity

Property of DAQmx Channel

Specifies the sensitivity of the LVDT. This value is in the units you specify with AI.LVDT.SensitivityUnits. Refer to the sensor documentation to determine this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:LVDT:Sensitivity Units Property

Short Name: AI.LVDT.SensitivityUnits

Property of DAQmx Channel

Specifies the units of AI.LVDT.Sensitivity.

mVolts/Volt/0.001 Inch (12505)	mVolts/Volt/0.001 Inch.
mVolts/Volt/mMeter (12506)	mVolts/Volt/mMeter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:RVDT:Units Property

Short Name: AI.RVDT.Units

Property of DAQmx Channel

Specifies the units to use to return angular position measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Degrees (10146)	Degrees.
Radians (10273)	Radians.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:RVDT:Sensitivity Property

Short Name: AI.RVDT.Sensitivity

Property of DAQmx Channel

Specifies the sensitivity of the RVDT. This value is in the units you specify with AI.RVDT.SensitivityUnits. Refer to the sensor documentation to determine this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Position:RVDT:Sensitivity Units Property

Short Name: AI.RVDT.SensitivityUnits

Property of DAQmx Channel

Specifies the units of AI.RVDT.Sensitivity.

mVolts/Volt/Degree (12507)	mVolts/Volt/Degree.
mVolts/Volt/Radian (12508)	mVolts/Volt/Radian.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Sound Pressure:Maximum Sound Pressure Level Property

Short Name: AI.SoundPressure.MaxSoundPressureLvl

Property of DAQmx Channel

Specifies the maximum instantaneous sound pressure level you expect to measure. This value is in decibels, referenced to 20 micropascals. NI-DAQmx uses the maximum sound pressure level to calculate values in pascals for AI.Max and AI.Min for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Sound Pressure:Units Property

Short Name: AI.SoundPressure.Units

Property of DAQmx Channel

Specifies the units to use to return sound pressure measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Pascals (10081)	Pascals.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Sound Pressure:dB Reference Property

Short Name: AI.SoundPressure.dBRef

Property of DAQmx Channel

Specifies the decibel reference level in the units of the channel. When you read samples as a waveform, the decibel reference level is included in the waveform attributes. NI-DAQmx also uses the decibel reference level when converting AI.SoundPressure.MaxSoundPressureLvl to a voltage level.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Sound Pressure:Microphone:Sensitivity Property

Short Name: AI.Microphone.Sensitivity

Property of DAQmx Channel

Specifies the sensitivity of the microphone. This value is in mV/Pa. Refer to the sensor documentation to determine this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Acceleration:Units Property

Short Name: AI.Accel.Units

Property of DAQmx Channel

Specifies the units to use to return acceleration measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
g (10186)	1 g is approximately equal to 9.81 m/s/s.
m/s^2 (12470)	Meters per second per second.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Acceleration:dB Reference Property

Short Name: AI.Accel.dBRef

Property of DAQmx Channel

Specifies the decibel reference level in the units of the channel. When you read samples as a waveform, the decibel reference level is included in the waveform attributes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Acceleration:Accelerometer:Sensitivity Property

Short Name: AI.Accel.Sensitivity

Property of DAQmx Channel

Specifies the sensitivity of the accelerometer. This value is in the units you specify with AI.Accel.SensitivityUnits. Refer to the sensor documentation to determine this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Acceleration:Accelerometer:Sensitivity Units Property

Short Name: AI.Accel.SensitivityUnits

Property of DAQmx Channel

Specifies the units of AI.Accel.Sensitivity.

mVolts/g (12509)	mVolts/g.
Volts/g (12510)	Volts/g.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:TEDS:Is TEDS Property

Short Name: AI.TEDS.IsTEDS

Property of DAQmx Channel

Indicates if the virtual channel was initialized using a TEDS bitstream from the corresponding physical channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:TEDS:Units Property

Short Name: AI.TEDS.Units

Property of DAQmx Channel

Indicates the units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Input Configuration:Coupling Property

Short Name: AI.Coupling

Property of DAQmx Channel

Specifies the coupling for the channel.

AC (10045)	Remove the DC offset from the signal.
DC (10050)	Allow NI-DAQmx to measure all of the signal.
GND (10066)	Remove the signal from the measurement and measure only ground.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Input Configuration:Impedance Property

Short Name: AI.Impedance

Property of DAQmx Channel

Specifies the input impedance of the channel.

50 Ohms (50)	50 Ohms.
75 Ohms (75)	75 Ohms.
1 M Ohm (1000000)	1 M Ohm.
10 G Ohms (10000000000)	10 G Ohm.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Input Configuration:Terminal Configuration Property

Short Name: AI.TermCfg

Property of DAQmx Channel

Specifies the terminal configuration for the channel.

NRSE (10078)	Non-Referenced Single-Ended.
RSE (10083)	Referenced Single-Ended.
Differential (10106)	Differential.
Pseudodifferential (12529)	Pseudodifferential.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Input Configuration:Input Source Property

Short Name: AI.InputSrc

Property of DAQmx Channel

Specifies the source of the channel. You can use the signal from the I/O connector or one of several calibration signals. Certain devices have a single calibration signal bus. For these devices, you must specify the same calibration signal for all channels you connect to a calibration signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Resistance Configuration Property

Short Name: AI.ResistanceCfg

Property of DAQmx Channel

Specifies the resistance configuration for the channel. NI-DAQmx uses this value for any resistance-based measurements, including temperature measurement using a thermistor or RTD.

2-Wire (2)	2-wire mode.
3-Wire (3)	3-wire mode.
4-Wire (4)	4-wire mode.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Lead Wire Resistance Property

Short Name: AI.LeadWireResistance

Property of DAQmx Channel

Specifies in ohms the resistance of the wires that lead to the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Configuration Property

Short Name: AI.Bridge.Cfg

Property of DAQmx Channel

Specifies the type of Wheatstone bridge that the sensor is.

Full Bridge (10182)	Sensor is a full bridge. If you set AI.Excit.UseForScaling to TRUE, NI-DAQmx divides the measurement by the excitation value. Many sensors scale data to native units using scaling of volts per excitation.
Half Bridge (10187)	Sensor is a half bridge. If you set AI.Excit.UseForScaling to TRUE, NI-DAQmx divides the measurement by the excitation value. Many sensors scale data to native units using scaling of volts per excitation.
No Bridge (10228)	Sensor is not a Wheatstone bridge.
Quarter Bridge (10270)	Sensor is a quarter bridge. If you set AI.Excit.UseForScaling to TRUE, NI-DAQmx divides the measurement by the excitation value. Many sensors scale data to native units using scaling of volts per excitation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Nominal Resistance Property

Short Name: AI.Bridge.NomResistance

Property of DAQmx Channel

Specifies in ohms the resistance across each arm of the bridge in an unloaded position.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Initial Bridge Voltage Property

Short Name: AI.Bridge.InitialVoltage

Property of DAQmx Channel

Specifies in volts the output voltage of the bridge in the unloaded condition. NI-DAQmx subtracts this value from any measurements before applying scaling equations.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Shunt Cal Enable Property

Short Name: AI.Bridge.ShuntCal.Enable

Property of DAQmx Channel

Specifies whether to enable a shunt calibration switch. Use AI.Bridge.ShuntCal.Select to select the switch(es) to enable.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Shunt Cal Select Property

Short Name: AI.Bridge.ShuntCal.Select

Property of DAQmx Channel

Specifies which shunt calibration switch(es) to enable. Use AI.Bridge.ShuntCal.Enable to enable the switch(es) you specify with this property.

A (12513)	Switch A.
B (12514)	Switch B.
A and B (12515)	Switches A and B.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Shunt Cal:Gain Adjustment Property

Short Name: AI.Bridge.ShuntCal.GainAdjust

Property of DAQmx Channel

Specifies the result of a shunt calibration. NI-DAQmx multiplies data read from the channel by the value of this property. This value should be close to 1.0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Balance:Coarse Potentiometer Property

Short Name: AI.Bridge.Balance.CoarsePot

Property of DAQmx Channel

Specifies by how much to compensate for offset in the signal. This value can be between 0 and 127.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Bridge:Balance:Fine Potentiometer Property

Short Name: AI.Bridge.Balance.FinePot

Property of DAQmx Channel

Specifies by how much to compensate for offset in the signal. This value can be between 0 and 4095.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Current Shunt Resistor:Location Property

Short Name: AI.CurrentShunt.Loc

Property of DAQmx Channel

Specifies the shunt resistor location for current measurements.

External (10167)	Use a shunt resistor external to the device. You must specify the value of the shunt resistor by using AI.CurrentShunt.Resistance.
Internal (10200)	Use the built-in shunt resistor of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Current Shunt Resistor:Value Property

Short Name: AI.CurrentShunt.Resistance

Property of DAQmx Channel

Specifies in ohms the external shunt resistance for current measurements.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Source Property

Short Name: AI.Excit.Src

Property of DAQmx Channel

Specifies the source of excitation.

External (10167)	Use an excitation source other than the built-in excitation source of the device. If you select this value, you must specify the amount of excitation.
Internal (10200)	Use the built-in excitation source of the device. If you select this value, you must specify the amount of excitation.
None (10230)	Supply no excitation to the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Value Property

Short Name: AI.Excit.Val

Property of DAQmx Channel

Specifies the amount of excitation that the sensor requires. If AI.Excit.VoltageOrCurrent is Voltage, this value is in volts. If AI.Excit.VoltageOrCurrent is Current, this value is in amperes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Use Excitation For Scaling Property

Short Name: AI.Excit.UseForScaling

Property of DAQmx Channel

Specifies if NI-DAQmx divides the measurement by the excitation. You should typically set this property to TRUE for ratiometric transducers. If you set this property to TRUE, set AI.Max and AI.Min to reflect the scaling.

For example, if you expect to acquire a voltage between -5 and 5, and you use an excitation of .10 volts to scale the measurement, set AI.Min to -50 and set AI.Max to 50. If you set AI.Bridge.Cfg to No Bridge, this property has no effect on the measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Use Multiplexed Excitation Property

Short Name: AI.Excit.UseMultiplexed

Property of DAQmx Channel

Specifies if the SCXI-1122 multiplexes the excitation to the upper half of the channels as it advances through the scan list.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Actual Excitation Value Property

Short Name: AI.Excit.ActualVal

Property of DAQmx Channel

Specifies the actual amount of excitation supplied by an internal excitation source. If you read an internal excitation source more precisely with an external device, set this property to the value you read. NI-DAQmx ignores this value for external excitation. When performing shunt calibration, some devices set this property automatically.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:DC or AC Property

Short Name: AI.Excit.DCorAC

Property of DAQmx Channel

Specifies if the excitation supply is DC or AC.

AC (10045)	AC excitation.
DC (10050)	DC excitation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:Advanced:Voltage or Current Property

Short Name: AI.Excit.VoltageOrCurrent

Property of DAQmx Channel

Specifies if the channel uses current or voltage excitation.

Current (10134)	Current excitation.
Voltage (10322)	Voltage excitation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Frequency Property

Short Name: AI.ACExcit.Freq

Property of DAQmx Channel

Specifies the AC excitation frequency in Hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Synchronization Enable Property

Short Name: AI.ACExcit.SyncEnable

Property of DAQmx Channel

Specifies whether to synchronize the AC excitation source of the channel to that of another channel. Synchronize the excitation sources of multiple channels to use multichannel sensors. Set this property to FALSE for the master channel and to TRUE for the slave channels.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Excitation:AC Excitation:Wire Mode Property

Short Name: AI.ACExcit.WireMode

Property of DAQmx Channel

Specifies the number of leads on the LVDT or RVDT. Some sensors require you to tie leads together to create a four- or five- wire sensor. Refer to the sensor documentation for more information.

4-Wire (4)	4-wire.
5-Wire (5)	5-wire.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Signal Conditioning:Probe/Attenuator:Attenuation Value Property

Short Name: AI.Atten

Property of DAQmx Channel

Specifies the amount of attenuation to use.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Enable Property

Short Name: AI.Lowpass.Enable

Property of DAQmx Channel

Specifies whether to enable the lowpass filter of the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Cutoff Frequency Property

Short Name: AI.Lowpass.CutoffFreq

Property of DAQmx Channel

Specifies the frequency in Hertz that corresponds to the -3dB cutoff of the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:Clock Source Property

Short Name: AI.Lowpass.SwitchCap.ClkSrc

Property of DAQmx Channel

Specifies the source of the filter clock. If you need a higher resolution for the filter, you can supply an external clock to increase the resolution. Refer to the SCXI-1141/1142/1143 User Manual for more information.

External (10167)	External to the device.
Internal (10200)	Internal to the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:External Clock Frequency Property

Short Name: AI.Lowpass.SwitchCap.ExtClkFreq

Property of DAQmx Channel

Specifies the frequency of the external clock when you set AI.Lowpass.SwitchCap.ClkSrc to External. NI-DAQmx uses this frequency to set the pre- and post- filters on the SCXI-1141, SCXI-1142, and SCXI-1143. On those devices, NI-DAQmx determines the filter cutoff by using the equation f/(100*n), where f is the external frequency, and n is the external clock divisor. Refer to the SCXI-1141/1142/1143 User Manual for more information.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:External Clock Divisor Property

Short Name: AI.Lowpass.SwitchCap.ExtClkDiv

Property of DAQmx Channel

Specifies the divisor for the external clock when you set AI.Lowpass.SwitchCap.ClkSrc to External. On the SCXI-1141, SCXI-1142, and SCXI-1143, NI-DAQmx determines the filter cutoff by using the equation f/(100*n), where f is the external frequency, and n is the external clock divisor. Refer to the SCXI-1141/1142/1143 User Manual for more information.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Filter:Analog Lowpass:Advanced:Switched Capacitor:Output Clock Divisor Property

Short Name: AI.Lowpass.SwitchCap.OutClkDiv

Property of DAQmx Channel

Specifies the divisor for the output clock. NI-DAQmx uses the cutoff frequency to determine the output clock frequency. Refer to the SCXI-1141/1142/1143 User Manual for more information.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Resolution Units Property

Short Name: AI.ResolutionUnits

Property of DAQmx Channel

Indicates the units of AI.Resolution.

Bits (10109)	Bits.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Resolution Value Property

Short Name: AI.Resolution

Property of DAQmx Channel

Indicates the resolution of the analog-to-digital converter of the channel. This value is in the units you specify with AI.ResolutionUnits.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Raw Sample Size Property

Short Name: AI.RawSampSize

Property of DAQmx Channel

Indicates in bits the size of a raw sample from the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Raw Sample Justification Property

Short Name: AI.RawSampJustification

Property of DAQmx Channel

Indicates the justification of a raw sample from the device.

Left-Justified (10209)	Samples occupy the higher bits of the integer.
Right-Justified (10279)	Samples occupy the lower bits of the integer.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Timing Mode Property

Short Name: AI.ADCTimingMode

Property of DAQmx Channel

Specifies the ADC timing mode, controlling the tradeoff between speed and effective resolution. Some ADC timing modes provide increased powerline noise rejection. On devices that have an AI Convert clock, this setting affects both the maximum and default values for AIConv.Rate. You must use the same ADC timing mode for all channels on a device, but you can use different ADC timing modes for different device in the same task.

High Resolution (10195)	Increases resolution and noise rejection while decreasing conversion rate.
High Speed (14712)	Increases conversion rate while decreasing resolution.
Best 50 Hz Rejection (14713)	Improves 50 Hz noise rejection while decreasing noise rejection at other frequencies.
Best 60 Hz Rejection (14714)	Improves 60 Hz noise rejection while decreasing noise rejection at other frequencies.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Digitizer/ADC:Dither:Enable Property

Short Name: AI.Dither.Enable

Property of DAQmx Channel

Specifies whether to enable dithering. Dithering adds Gaussian noise to the input signal. You can use dithering to achieve higher resolution measurements by over sampling the input signal and averaging the results.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Has Valid Calibration Information Property

Short Name: AI.ChanCal.HasValidCalInfo

Property of DAQmx Channel

Indicates if the channel has calibration information.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Enable Calibration Property

Short Name: AI.ChanCal.EnableCal

Property of DAQmx Channel

Specifies whether to enable the channel calibration associated with the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Apply Calibration If Expired Property

Short Name: AI.ChanCal.ApplyCalIfExp

Property of DAQmx Channel

Specifies whether to apply the channel calibration to the channel after the expiration date has passed.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Calibration Date Property

Short Name: AI.ChanCal.CalDate

Property of DAQmx Channel

Specifies the last date and time that the channel underwent a channel calibration.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Expiration Date Property

Short Name: AI.ChanCal.ExpDate

Property of DAQmx Channel

Specifies the date and time that the channel calibration expires.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Scaling Parameters:Scale Type Property

Short Name: AI.ChanCal.ScaleType

Property of DAQmx Channel

Specifies the method or equation form that the calibration scale uses.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

None (10230)	
Polynomial (10449)	Scale values by using an Nth order polynomial equation.
Table (10450)	Map an array of prescaled values to an array of corresponding scaled values, with all other values scaled proportionally.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Scaling Parameters:Table:Pre-Scaled Values Property

Short Name: AI.ChanCal.Table.PreScaledVals

Property of DAQmx Channel

Specifies the reference values collected when calibrating the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Scaling Parameters:Table:Scaled Values Property

Short Name: AI.ChanCal.Table.ScaledVals

Property of DAQmx Channel

Specifies the acquired values collected when calibrating the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Scaling Parameters:Polynomial:Forward Coefficients Property

Short Name: AI.ChanCal.Poly.ForwardCoeff

Property of DAQmx Channel

Specifies the forward polynomial values used for calibrating the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Scaling Parameters:Polynomial:Reverse Coefficients Property

Short Name: AI.ChanCal.Poly.ReverseCoeff

Property of DAQmx Channel

Specifies the reverse polynomial values used for calibrating the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Operator Name Property

Short Name: AI.ChanCal.OperatorName

Property of DAQmx Channel

Specifies the name of the operator who performed the channel calibration.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Description Property

Short Name: AI.ChanCal.Desc

Property of DAQmx Channel

Specifies the description entered for the calibration of the channel.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Verification:Reference Values Property

Short Name: AI.ChanCal.Verif.RefVals

Property of DAQmx Channel

Specifies the reference values collected when verifying the calibration. NI-DAQmx stores these values as a record of calibration accuracy and does not use them in the scaling process.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Channel Calibration:Verification:Acquired Values Property

Short Name: AI.ChanCal.Verif.AcqVals

Property of DAQmx Channel

Specifies the acquired values collected when verifying the calibration. NI-DAQmx stores these values as a record of calibration accuracy and does not use them in the scaling process.

Refer to the DAQmx Professional Tools Web site for more information and examples of channel calibration.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Range:High Property

Short Name: AI.Rng.High

Property of DAQmx Channel

Specifies the upper limit of the input range of the device. This value is in the native units of the device. On E Series devices, for example, the native units is volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Range:Low Property

Short Name: AI.Rng.Low

Property of DAQmx Channel

Specifies the lower limit of the input range of the device. This value is in the native units of the device. On E Series devices, for example, the native units is volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Gain:Gain Value Property

Short Name: AI.Gain

Property of DAQmx Channel

Specifies a gain factor to apply to the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Sample and Hold Enable Property

Short Name: AI.SampAndHold.Enable

Property of DAQmx Channel

Specifies whether to enable the sample and hold circuitry of the device. When you disable sample and hold circuitry, a small voltage offset might be introduced into the signal. You can eliminate this offset by using AI.AutoZeroMode to perform an auto zero on the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:High Accuracy Settings:Auto Zero Mode Property

Short Name: AI.AutoZeroMode

Property of DAQmx Channel

Specifies how often to measure ground. NI-DAQmx subtracts the measured ground voltage from every sample.

Every Sample (10164)	Perform an auto zero at every sample of the acquisition.
None (10230)	Do not perform an autozero.
Once (10244)	Perform an auto zero at the beginning of the acquisition.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism Property

Short Name: AI.DataXferMech

Property of DAQmx Channel

Specifies the data transfer mode for the device.

DMA (10054)	Direct Memory Access. Data transfers take place independently from the application.
Interrupts (10204)	Data transfers take place independently from the application. Using interrupts increases CPU usage because the CPU must service interrupt requests. Typically, you should use interrupts if the device is out of DMA channels.
Programmed I/O (10264)	Data transfers take place when you call DAQmx Read or DAQmx Write.
USB Bulk (12590)	Data transfers take place independently from the application using a USB bulk pipe.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition Property

Short Name: AI.DataXferReqCond

Property of DAQmx Channel

Specifies under what condition to transfer data from the onboard memory of the device to the buffer.

Onboard Memory More than Half Full (10237)	Transfer data from the device when more than half of the onboard memory of the device fills.
Onboard Memory Not Empty (10241)	Transfer data from the device when there is data in the onboard memory.
When Acquisition Complete (12546)	Transfer data when the acquisition is complete.
Onboard Memory Custom Threshold (12577)	Transfer data from the device when the number of samples specified with AI.DataXferCustomThreshold are in the device FIFO.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Custom Threshold Property

Short Name: AI.DataXferCustomThreshold

Property of DAQmx Channel

Specifies the number of samples that must be in the FIFO to transfer data from the device if AI.DataXferReqCond is Onboard Memory Custom Threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable Property

Short Name: AI.MemMapEnable

Property of DAQmx Channel

Specifies for NI-DAQmx to map hardware registers to the memory space of the application, if possible. Normally, NI-DAQmx maps hardware registers to memory accessible only to the kernel. Mapping the registers to the memory space of the application increases performance. However, if the application accesses the memory space mapped to the registers, it can adversely affect the operation of the device and possibly result in a system crash.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Compression:Raw Data Compression Type Property

Short Name: AI.RawDataCompressionType

Property of DAQmx Channel

Specifies the type of compression to apply to raw samples returned from the device.

Refer to the DAQmx Professional Tools Web site for more information and examples of raw data compression and streaming to disk.

None (10230)	Do not compress samples.
Lossless Packing (12555)	Remove unused bits from samples. No resolution is lost.
Lossy LSB Removal (12556)	Remove unused bits from samples. Then, if necessary, remove bits from samples until the samples are the size specified with AI.LossyLSBRemoval.CompressedSampSize. This compression type limits resolution to the specified sample size.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Data Transfer and Memory:Compression:Lossy LSB Removal:Compressed Sample Size Property

Short Name: AI.LossyLSBRemoval.CompressedSampSize

Property of DAQmx Channel

Specifies the number of bits to return in a raw sample when AI.RawDataCompressionType is set to Lossy LSB Removal.

Refer to the DAQmx Professional Tools Web site for more information and examples of raw data compression and streaming to disk.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Device Scaling Coefficients:Device Scaling Coefficients Property

Short Name: AI.DevScalingCoeff

Property of DAQmx Channel

Indicates the coefficients of a polynomial equation that NI-DAQmx uses to scale values from the native format of the device to volts. Each element of the array corresponds to a term of the equation. For example, if index two of the array is 4, the third term of the equation is 4x^2. Scaling coefficients do not account for any custom scales or sensors contained by the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:General Properties:Advanced:Enhanced Alias Rejection Enable Property

Short Name: AI.EnhancedAliasRejectionEnable

Property of DAQmx Channel

Specifies whether to enable enhanced alias rejection. By default, enhanced alias rejection is enabled on supported devices. Leave this property set to the default value for most applications.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Maximum Value Property

Short Name: AO.Max

Property of DAQmx Channel

Specifies the maximum value you expect to generate. The value is in the units you specify with a units property. If you try to write a value larger than the maximum value, NI-DAQmx generates an error. NI-DAQmx might coerce this value to a smaller value if other task settings restrict the device from generating the desired maximum.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Minimum Value Property

Short Name: AO.Min

Property of DAQmx Channel

Specifies the minimum value you expect to generate. The value is in the units you specify with a units property. If you try to write a value smaller than the minimum value, NI-DAQmx generates an error. NI-DAQmx might coerce this value to a larger value if other task settings restrict the device from generating the desired minimum.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Custom Scale Name Property

Short Name: AO.CustomScaleName

Property of DAQmx Channel

Specifies the name of a custom scale for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Output Type Property

Short Name: AO.OutputType

Property of DAQmx Channel

Indicates whether the channel generates voltage, current, or a waveform.

Current (10134)	Current generation.
Voltage (10322)	Voltage generation.
Function Generation (14750)	Function generation.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Voltage:Units Property

Short Name: AO.Voltage.Units

Property of DAQmx Channel

Specifies in what units to generate voltage on the channel. Write data to the channel in the units you select.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Volts (10348)	Volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Voltage:Current Limit Property

Short Name: AO.Voltage.CurrentLimit

Property of DAQmx Channel

Specifies the current limit, in amperes, for the voltage channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Current:Units Property

Short Name: AO.Current.Units

Property of DAQmx Channel

Specifies in what units to generate current on the channel. Write data to the channel in the units you select.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Amps (10342)	Amperes.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Type Property

Short Name: AO.FuncGen.Type

Property of DAQmx Channel

Specifies the kind of the waveform to generate.

Sine (14751)	Sine wave.
Triangle (14752)	Triangle wave.
Square (14753)	Square wave.
Sawtooth (14754)	Sawtooth wave.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Frequency Property

Short Name: AO.FuncGen.Freq

Property of DAQmx Channel

Specifies the frequency of the waveform to generate in hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Amplitude Property

Short Name: AO.FuncGen.Amplitude

Property of DAQmx Channel

Specifies the zero-to-peak amplitude of the waveform to generate in volts. Zero and negative values are valid.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Offset Property

Short Name: AO.FuncGen.Offset

Property of DAQmx Channel

Specifies the voltage offset of the waveform to generate.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Square:DutyCycle Property

Short Name: AO.FuncGen.Square.DutyCycle

Property of DAQmx Channel

Specifies the square wave duty cycle of the waveform to generate.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Modulation:Type Property

Short Name: AO.FuncGen.ModulationType

Property of DAQmx Channel

Specifies if the device generates a modulated version of the waveform using the original waveform as a carrier and input from an external terminal as the signal.

None (10230)	No modulation.
AM (14756)	Amplitude modulation.
FM (14757)	Frequency modulation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Function Generation:Modulation:FM Deviation Property

Short Name: AO.FuncGen.FMDeviation

Property of DAQmx Channel

Specifies the FM deviation in hertz per volt when AO.FuncGen.ModulationType is FM.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Output Configuration:Output Impedance Property

Short Name: AO.OutputImpedance

Property of DAQmx Channel

Specifies in ohms the impedance of the analog output stage of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Output Configuration:Load Impedance Property

Short Name: AO.LoadImpedance

Property of DAQmx Channel

Specifies in ohms the load impedance connected to the analog output channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Output Configuration:Idle Output Behavior Property

Short Name: AO.IdleOutputBehavior

Property of DAQmx Channel

Specifies the state of the channel when no generation is in progress.

Zero Volts (12526)	Generate 0 V.
High Impedance (12527)	Set the channel to high impedance, effectively disconnecting the analog output circuitry from the I/O connector.
Maintain Existing Value (12528)	Continue generating the current value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Output Configuration:Terminal Configuration Property

Short Name: AO.TermCfg

Property of DAQmx Channel

Specifies the terminal configuration of the channel.

RSE (10083)	Referenced Single-Ended.
Differential (10106)	Differential.
Pseudodifferential (12529)	Pseudodifferential.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Resolution Units Property

Short Name: AO.ResolutionUnits

Property of DAQmx Channel

Specifies the units of AO.Resolution.

Bits (10109)	Bits.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Resolution Value Property

Short Name: AO.Resolution

Property of DAQmx Channel

Indicates the resolution of the digital-to-analog converter of the channel. This value is in the units you specify with AO.ResolutionUnits.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Range:High Property

Short Name: AO.DAC.Rng.High

Property of DAQmx Channel

Specifies the upper limit of the output range of the device. This value is in the native units of the device. On E Series devices, for example, the native units is volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Range:Low Property

Short Name: AO.DAC.Rng.Low

Property of DAQmx Channel

Specifies the lower limit of the output range of the device. This value is in the native units of the device. On E Series devices, for example, the native units is volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reference Voltage:Connect DAC Reference to Ground Property

Short Name: AO.DAC.Ref.ConnToGnd

Property of DAQmx Channel

Specifies whether to ground the internal DAC reference. Grounding the internal DAC reference has the effect of grounding all analog output channels and stopping waveform generation across all analog output channels regardless of whether the channels belong to the current task. You can ground the internal DAC reference only when AO.DAC.Ref.Src is Internal and AO.DAC.Ref.AllowConnToGnd is TRUE.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reference Voltage:Allow Connecting DAC Reference to Ground at Runtime Property

Short Name: AO.DAC.Ref.AllowConnToGnd

Property of DAQmx Channel

Specifies whether to allow grounding the internal DAC reference at run time. You must set this property to TRUE and set AO.DAC.Ref.Src to Internal before you can set AO.DAC.Ref.ConnToGnd to TRUE.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reference Voltage:Source Property

Short Name: AO.DAC.Ref.Src

Property of DAQmx Channel

Specifies the source of the DAC reference voltage. The value of this voltage source determines the full-scale value of the DAC.

External (10167)	External to the device.
Internal (10200)	Internal to the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reference Voltage:External Source Property

Short Name: AO.DAC.Ref.ExtSrc

Property of DAQmx Channel

Specifies the source of the DAC reference voltage if AO.DAC.Ref.Src is External. The valid sources for this signal vary by device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reference Voltage:Value Property

Short Name: AO.DAC.Ref.Val

Property of DAQmx Channel

Specifies in volts the value of the DAC reference voltage. This voltage determines the full-scale range of the DAC. Smaller reference voltages result in smaller ranges, but increased resolution.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Offset Voltage:Source Property

Short Name: AO.DAC.Offset.Src

Property of DAQmx Channel

Specifies the source of the DAC offset voltage. The value of this voltage source determines the full-scale value of the DAC.

External (10167)	External to the device.
Internal (10200)	Internal to the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Offset Voltage:External Source Property

Short Name: AO.DAC.Offset.ExtSrc

Property of DAQmx Channel

Specifies the source of the DAC offset voltage if AO.DAC.Offset.Src is External. The valid sources for this signal vary by device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Offset Voltage:Value Property

Short Name: AO.DAC.Offset.Val

Property of DAQmx Channel

Specifies in volts the value of the DAC offset voltage. To achieve best accuracy, the DAC offset value should be hand calibrated.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:DAC:Reglitching Enable Property

Short Name: AO.ReglitchEnable

Property of DAQmx Channel

Specifies whether to enable reglitching. The output of a DAC normally glitches whenever the DAC is updated with a new value. The amount of glitching differs from code to code and is generally largest at major code transitions. Reglitching generates uniform glitch energy at each code transition and provides for more uniform glitches. Uniform glitch energy makes it easier to filter out the noise introduced from glitching during spectrum analysis.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Gain:Gain Value Property

Short Name: AO.Gain

Property of DAQmx Channel

Specifies in decibels the gain factor to apply to the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Data Transfer and Memory:Use Only Onboard Memory Property

Short Name: AO.UseOnlyOnBrdMem

Property of DAQmx Channel

Specifies whether to write samples directly to the onboard memory of the device, bypassing the memory buffer. Generally, you cannot update onboard memory directly after you start the task. Onboard memory includes data FIFOs.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism Property

Short Name: AO.DataXferMech

Property of DAQmx Channel

Specifies the data transfer mode for the device.

DMA (10054)	Direct Memory Access. Data transfers take place independently from the application.
Interrupts (10204)	Data transfers take place independently from the application. Using interrupts increases CPU usage because the CPU must service interrupt requests. Typically, you should use interrupts if the device is out of DMA channels.
Programmed I/O (10264)	Data transfers take place when you call DAQmx Read or DAQmx Write.
USB Bulk (12590)	Data transfers take place independently from the application using a USB bulk pipe.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition Property

Short Name: AO.DataXferReqCond

Property of DAQmx Channel

Specifies under what condition to transfer data from the buffer to the onboard memory of the device.

Onboard Memory Empty (10235)	Transfer data to the device only when there is no data in the onboard memory of the device.
Onboard Memory Half Full or Less (10239)	Transfer data to the device any time the onboard memory is less than half full.
Onboard Memory Less than Full (10242)	Transfer data to the device any time the onboard memory of the device is not full.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable Property

Short Name: AO.MemMapEnable

Property of DAQmx Channel

Specifies for NI-DAQmx to map hardware registers to the memory space of the application, if possible. Normally, NI-DAQmx maps hardware registers to memory accessible only to the kernel. Mapping the registers to the memory space of the application increases performance. However, if the application accesses the memory space mapped to the registers, it can adversely affect the operation of the device and possibly result in a system crash.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Device Scaling Coefficients:Device Scaling Coefficients Property

Short Name: AO.DevScalingCoeff

Property of DAQmx Channel

Indicates the coefficients of a linear equation that NI-DAQmx uses to scale values from a voltage to the native format of the device. Each element of the array corresponds to a term of the equation. For example, if index two of the array is 4, the third term of the equation is 4x^2. Scaling coefficients do not account for any custom scales that may be applied to the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:General Properties:Advanced:Enhanced Image Rejection Enable Property

Short Name: AO.EnhancedImageRejectionEnable

Property of DAQmx Channel

Specifies whether to enable the DAC interpolation filter. Disable the interpolation filter to improve DAC signal-to-noise ratio at the expense of degraded image rejection.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Invert Lines Property

Short Name: DI.InvertLines

Property of DAQmx Channel

Specifies whether to invert the lines in the channel. If you set this property to TRUE, the lines are at high logic when off and at low logic when on.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Number of Lines Property

Short Name: DI.NumLines

Property of DAQmx Channel

Indicates the number of digital lines in the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Digital Filter:Enable Property

Short Name: DI.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to enable the digital filter for the line(s) or port(s). You can enable the filter on a line-by-line basis. You do not have to enable the filter for all lines in a channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Digital Filter:Minimum Pulse Width Property

Short Name: DI.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes as a valid high or low state transition.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Tristate Property

Short Name: DI.Tristate

Property of DAQmx Channel

Specifies whether to tristate the lines in the channel. If you set this property to TRUE, NI-DAQmx tristates the lines in the channel. If you set this property to FALSE, NI-DAQmx does not modify the configuration of the lines even if the lines were previously tristated. Set this property to FALSE to read lines in other tasks or to read output-only lines.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Logic Family Property

Short Name: DI.LogicFamily

Property of DAQmx Channel

Specifies the logic family to use for acquisition. A logic family corresponds to voltage thresholds that are compatible with a group of voltage standards. Refer to device documentation for information on the logic high and logic low voltages for these logic families.

5.0 V (14619)	Compatible with TTL and 5 V CMOS signals.
2.5 V (14620)	Compatible with 2.5 V CMOS signals.
3.3 V (14621)	Compatible with LVTTL signals.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism Property

Short Name: DI.DataXferMech

Property of DAQmx Channel

Specifies the data transfer mode for the device.

DMA (10054)	Direct Memory Access. Data transfers take place independently from the application.
Interrupts (10204)	Data transfers take place independently from the application. Using interrupts increases CPU usage because the CPU must service interrupt requests. Typically, you should use interrupts if the device is out of DMA channels.
Programmed I/O (10264)	Data transfers take place when you call DAQmx Read or DAQmx Write.
USB Bulk (12590)	Data transfers take place independently from the application using a USB bulk pipe.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition Property

Short Name: DI.DataXferReqCond

Property of DAQmx Channel

Specifies under what condition to transfer data from the onboard memory of the device to the buffer.

Onboard Memory More than Half Full (10237)	Transfer data from the device when more than half of the onboard memory of the device fills.
Onboard Memory Not Empty (10241)	Transfer data from the device when there is data in the onboard memory.
When Acquisition Complete (12546)	Transfer data when the acquisition is complete.
Onboard Memory Custom Threshold (12577)	Transfer data from the device when the number of samples specified with AI.DataXferCustomThreshold are in the device FIFO.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable Property

Short Name: DI.MemMapEnable

Property of DAQmx Channel

Specifies for NI-DAQmx to map hardware registers to the memory space of the application, if possible. Normally, NI-DAQmx maps hardware registers to memory accessible only to the kernel. Mapping the registers to the memory space of the application increases performance. However, if the application accesses the memory space mapped to the registers, it can adversely affect the operation of the device and possibly result in a system crash.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:General Properties:Advanced:Acquire On Property

Short Name: DI.AcquireOn

Property of DAQmx Channel

Specifies on which edge of the sample clock to acquire samples.

Sample Clock Active Edge (14617)	Active edges.
Sample Clock Inactive Edge (14618)	Inactive edges.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Output Drive Type Property

Short Name: DO.OutputDriveType

Property of DAQmx Channel

Specifies the drive type for digital output channels.

Active Drive (12573)	Drive the output pin to approximately 0 V for logic low and +3.3 V or +5 V, depending on the device, for logic high.
Open Collector (12574)	Drive the output pin to 0 V for logic low. For logic high, the output driver assumes a high-impedance state and does not drive a voltage.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Invert Lines Property

Short Name: DO.InvertLines

Property of DAQmx Channel

Specifies whether to invert the lines in the channel. If you set this property to TRUE, the lines are at high logic when off and at low logic when on.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Number of Lines Property

Short Name: DO.NumLines

Property of DAQmx Channel

Indicates the number of digital lines in the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Tristate Property

Short Name: DO.Tristate

Property of DAQmx Channel

Specifies whether to stop driving the channel and set it to a high-impedance state. You must commit the task for this setting to take effect.

Setting this property before you commit the task determines whether NI-DAQmx drives data on the channel or tristates the channel after the task transitions to the committed state.

Use this property when you want to read and write to channels in a task. Set this property to TRUE before you read from the channel and set this property to FALSE before you write to the channel.

When you read from an output channel that is not tristated, the value corresponds to the current value you are driving on the channel.

When you write to a channel that is tristated, no change occurs until you set this property to FALSE. After you set this property to FALSE, the value NI-DAQmx drives on the channel corresponds to the last value written to the channel.

Ensure the channel is tristated before any external devices that you connect to the channel drive data onto the channel. Failure to do so could result in double-driving the channel and damaging the device.

This property is supported only for line-configurable, bidirectional ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Line States:Start State Property

Short Name: DO.LineStates.StartState

Property of DAQmx Channel

Specifies the state of the lines in a digital output task when the task starts.

No Change (10160)	Do not change the state of the lines. On some devices, you can select this value only for entire ports.
High (10192)	Logic high.
Low (10214)	Logic low.
Tristate (10310)	High-impedance state. You can select this state only on devices with bidirectional lines. You cannot select this state for dedicated digital output lines. On some devices, you can select this value only for entire ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Line States:Paused State Property

Short Name: DO.LineStates.PausedState

Property of DAQmx Channel

Specifies the state of the lines in a digital output task when the task pauses.

No Change (10160)	Do not change the state of the lines. On some devices, you can select this value only for entire ports.
High (10192)	Logic high.
Low (10214)	Logic low.
Tristate (10310)	High-impedance state. You can select this state only on devices with bidirectional lines. You cannot select this state for dedicated digital output lines. On some devices, you can select this value only for entire ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Line States:Done State Property

Short Name: DO.LineStates.DoneState

Property of DAQmx Channel

Specifies the state of the lines in a digital output task when the task completes execution.

No Change (10160)	Do not change the state of the lines. On some devices, you can select this value only for entire ports.
High (10192)	Logic high.
Low (10214)	Logic low.
Tristate (10310)	High-impedance state. You can select this state only on devices with bidirectional lines. You cannot select this state for dedicated digital output lines. On some devices, you can select this value only for entire ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Logic Family Property

Short Name: DO.LogicFamily

Property of DAQmx Channel

Specifies the logic family to use for generation. A logic family corresponds to voltage thresholds that are compatible with a group of voltage standards. Refer to device documentation for information on the logic high and logic low voltages for these logic families.

5.0 V (14619)	Compatible with TTL and 5 V CMOS signals.
2.5 V (14620)	Compatible with 2.5 V CMOS signals.
3.3 V (14621)	Compatible with LVTTL signals.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:General Properties:Advanced:Data Transfer and Memory:Use Only Onboard Memory Property

Short Name: DO.UseOnlyOnBrdMem

Property of DAQmx Channel

Specifies whether to write samples directly to the onboard memory of the device, bypassing the memory buffer. Generally, you cannot update onboard memory after you start the task. Onboard memory includes data FIFOs.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Mechanism Property

Short Name: DO.DataXferMech

Property of DAQmx Channel

Specifies the data transfer mode for the device.

DMA (10054)	Direct Memory Access. Data transfers take place independently from the application.
Interrupts (10204)	Data transfers take place independently from the application. Using interrupts increases CPU usage because the CPU must service interrupt requests. Typically, you should use interrupts if the device is out of DMA channels.
Programmed I/O (10264)	Data transfers take place when you call DAQmx Read or DAQmx Write.
USB Bulk (12590)	Data transfers take place independently from the application using a USB bulk pipe.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:General Properties:Advanced:Data Transfer and Memory:Data Transfer Request Condition Property

Short Name: DO.DataXferReqCond

Property of DAQmx Channel

Specifies under what condition to transfer data from the buffer to the onboard memory of the device.

Onboard Memory Empty (10235)	Transfer data to the device only when there is no data in the onboard memory of the device.
Onboard Memory Half Full or Less (10239)	Transfer data to the device any time the onboard memory is less than half full.
Onboard Memory Less than Full (10242)	Transfer data to the device any time the onboard memory of the device is not full.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:General Properties:Advanced:Data Transfer and Memory:Memory Mapping for Programmed IO Enable Property

Short Name: DO.MemMapEnable

Property of DAQmx Channel

Specifies for NI-DAQmx to map hardware registers to the memory space of the application, if possible. Normally, NI-DAQmx maps hardware registers to memory accessible only to the kernel. Mapping the registers to the memory space of the application increases performance. However, if the application accesses the memory space mapped to the registers, it can adversely affect the operation of the device and possibly result in a system crash.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:General Properties:Advanced:Generate On Property

Short Name: DO.GenerateOn

Property of DAQmx Channel

Specifies on which edge of the sample clock to generate samples.

Sample Clock Active Edge (14617)	Active edges.
Sample Clock Inactive Edge (14618)	Inactive edges.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Maximum Value Property

Short Name: CI.Max

Property of DAQmx Channel

Specifies the maximum value you expect to measure. This value is in the units you specify with a units property. When you query this property, it returns the coerced maximum value that the hardware can measure with the current settings.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Minimum Value Property

Short Name: CI.Min

Property of DAQmx Channel

Specifies the minimum value you expect to measure. This value is in the units you specify with a units property. When you query this property, it returns the coerced minimum value that the hardware can measure with the current settings.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Custom Scale Name Property

Short Name: CI.CustomScaleName

Property of DAQmx Channel

Specifies the name of a custom scale for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Measurement Type Property

Short Name: CI.MeasType

Property of DAQmx Channel

Indicates the measurement to take with the channel.

Count Edges (10125)	Count edges of a digital signal.
Frequency (10179)	Measure the frequency of a digital signal.
Period (10256)	Measure the period of a digital signal.
Two Edge Separation (10267)	Measure time between edges of two digital signals.
Semi Period (10289)	Measure the time between state transitions of a digital signal.
Pulse Width (10359)	Measure the width of a pulse of a digital signal.
Position:Angular Encoder (10360)	Angular position measurement using an angular encoder.
Position:Linear Encoder (10361)	Linear position measurement using a linear encoder.
GPS Timestamp (10362)	Timestamp measurement, synchronizing the counter to a GPS receiver.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Units Property

Short Name: CI.Freq.Units

Property of DAQmx Channel

Specifies the units to use to return frequency measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ticks (10304)	Timebase ticks.
Hz (10373)	Hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Input Terminal Property

Short Name: CI.Freq.Term

Property of DAQmx Channel

Specifies the input terminal of the signal to measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Starting Edge Property

Short Name: CI.Freq.StartingEdge

Property of DAQmx Channel

Specifies between which edges to measure the frequency of the signal.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Measurement Specifications:Method Property

Short Name: CI.Freq.MeasMeth

Property of DAQmx Channel

Specifies the method to use to measure the frequency of the signal.

Low Frequency with 1 Counter (10105)	Use one counter that uses a constant timebase to measure the input signal.
High Frequency with 2 Counters (10157)	Use two counters, one of which counts pulses of the signal to measure during the specified measurement time.
Large Range with 2 Counters (10205)	Use one counter to divide the frequency of the input signal to create a lower-frequency signal that the second counter can more easily measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Measurement Specifications:High Frequency:Measurement Time Property

Short Name: CI.Freq.MeasTime

Property of DAQmx Channel

Specifies in seconds the length of time to measure the frequency of the signal if CI.Freq.MeasMeth is High Frequency with 2 Counters. Measurement accuracy increases with increased measurement time and with increased signal frequency. If you measure a high-frequency signal for too long, however, the count register could roll over, which results in an incorrect measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Measurement Specifications:Large Range:Divisor Property

Short Name: CI.Freq.Div

Property of DAQmx Channel

Specifies the value by which to divide the input signal if CI.Freq.MeasMeth is Large Range with 2 Counters. The larger the divisor, the more accurate the measurement. However, too large a value could cause the count register to roll over, which results in an incorrect measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Digital Filter:Enable Property

Short Name: CI.Freq.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Digital Filter:Minimum Pulse Width Property

Short Name: CI.Freq.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Digital Filter:Timebase:Source Property

Short Name: CI.Freq.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Digital Filter:Timebase:Rate Property

Short Name: CI.Freq.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Frequency:Digital Synchronization:Enable Property

Short Name: CI.Freq.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Units Property

Short Name: CI.Period.Units

Property of DAQmx Channel

Specifies the unit to use to return period measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Input Terminal Property

Short Name: CI.Period.Term

Property of DAQmx Channel

Specifies the input terminal of the signal to measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Starting Edge Property

Short Name: CI.Period.StartingEdge

Property of DAQmx Channel

Specifies between which edges to measure the period of the signal.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Measurement Specifications:Method Property

Short Name: CI.Period.MeasMeth

Property of DAQmx Channel

Specifies the method to use to measure the period of the signal.

Low Frequency with 1 Counter (10105)	Use one counter that uses a constant timebase to measure the input signal.
High Frequency with 2 Counters (10157)	Use two counters, one of which counts pulses of the signal to measure during the specified measurement time.
Large Range with 2 Counters (10205)	Use one counter to divide the frequency of the input signal to create a lower-frequency signal that the second counter can more easily measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Measurement Specifications:High Frequency:Measurement Time Property

Short Name: CI.Period.MeasTime

Property of DAQmx Channel

Specifies in seconds the length of time to measure the period of the signal if CI.Period.MeasMeth is High Frequency with 2 Counters. Measurement accuracy increases with increased measurement time and with increased signal frequency. If you measure a high-frequency signal for too long, however, the count register could roll over, which results in an incorrect measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Measurement Specifications:Large Range:Divisor Property

Short Name: CI.Period.Div

Property of DAQmx Channel

Specifies the value by which to divide the input signal if CI.Period.MeasMeth is Large Range with 2 Counters. The larger the divisor, the more accurate the measurement. However, too large a value could cause the count register to roll over, which results in an incorrect measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Digital Filter:Enable Property

Short Name: CI.Period.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Digital Filter:Minimum Pulse Width Property

Short Name: CI.Period.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Digital Filter:Timebase:Source Property

Short Name: CI.Period.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Digital Filter:Timebase:Rate Property

Short Name: CI.Period.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Period:Digital Synchronization:Enable Property

Short Name: CI.Period.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Input Terminal Property

Short Name: CI.CountEdges.Term

Property of DAQmx Channel

Specifies the input terminal of the signal to measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Direction Property

Short Name: CI.CountEdges.Dir

Property of DAQmx Channel

Specifies whether to increment or decrement the counter on each edge.

Count Down (10124)	Decrement counter.
Count Up (10128)	Increment counter.
Externally Controlled (10326)	The state of a digital line controls the count direction. Each counter has a default count direction terminal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Terminal Property

Short Name: CI.CountEdges.DirTerm

Property of DAQmx Channel

Specifies the source terminal of the digital signal that controls the count direction if CI.CountEdges.Dir is Externally Controlled.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Digital Filter:Enable Property

Short Name: CI.CountEdges.CountDir.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Digital Filter:Minimum Pulse Width Property

Short Name: CI.CountEdges.CountDir.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Digital Filter:Timebase:Source Property

Short Name: CI.CountEdges.CountDir.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Digital Filter:Timebase:Rate Property

Short Name: CI.CountEdges.CountDir.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Count Direction:Digital Synchronization:Enable Property

Short Name: CI.CountEdges.CountDir.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Initial Count Property

Short Name: CI.CountEdges.InitialCnt

Property of DAQmx Channel

Specifies the starting value from which to count.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Active Edge Property

Short Name: CI.CountEdges.ActiveEdge

Property of DAQmx Channel

Specifies on which edges to increment or decrement the counter.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Digital Filter:Enable Property

Short Name: CI.CountEdges.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Digital Filter:Minimum Pulse Width Property

Short Name: CI.CountEdges.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Digital Filter:Timebase:Source Property

Short Name: CI.CountEdges.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Digital Filter:Timebase:Rate Property

Short Name: CI.CountEdges.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Count Edges:Digital Synchronization:Enable Property

Short Name: CI.CountEdges.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Angular Encoder:Units Property

Short Name: CI.AngEncoder.Units

Property of DAQmx Channel

Specifies the units to use to return angular position measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Degrees (10146)	Degrees.
Radians (10273)	Radians.
Ticks (10304)	Ticks.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Angular Encoder:Pulses Per Revolution Property

Short Name: CI.AngEncoder.PulsesPerRev

Property of DAQmx Channel

Specifies the number of pulses the encoder generates per revolution. This value is the number of pulses on either signal A or signal B, not the total number of pulses on both signal A and signal B.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Angular Encoder:Initial Angle Property

Short Name: CI.AngEncoder.InitialAngle

Property of DAQmx Channel

Specifies the starting angle of the encoder. This value is in the units you specify with CI.AngEncoder.Units.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Linear Encoder:Units Property

Short Name: CI.LinEncoder.Units

Property of DAQmx Channel

Specifies the units to use to return linear encoder measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Meters (10219)	Meters.
Ticks (10304)	Ticks.
Inches (10379)	Inches.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Linear Encoder:Distance Per Pulse Property

Short Name: CI.LinEncoder.DistPerPulse

Property of DAQmx Channel

Specifies the distance to measure for each pulse the encoder generates on signal A or signal B. This value is in the units you specify with CI.LinEncoder.Units.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Linear Encoder:Initial Position Property

Short Name: CI.LinEncoder.InitialPos

Property of DAQmx Channel

Specifies the position of the encoder when the measurement begins. This value is in the units you specify with CI.LinEncoder.Units.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Decoding Type Property

Short Name: CI.Encoder.DecodingType

Property of DAQmx Channel

Specifies how to count and interpret the pulses the encoder generates on signal A and signal B. X1, X2, and X4 are valid for quadrature encoders only. Two Pulse Counting is valid for two-pulse encoders only.

X2 and X4 decoding are more sensitive to smaller changes in position than X1 encoding, with X4 being the most sensitive. However, more sensitive decoding is more likely to produce erroneous measurements if vibration exists in the encoder or other noise exists in the signals.

X1 (10090)	If signal A leads signal B, count the rising edges of signal A. If signal B leads signal A, count the falling edges of signal A.
X2 (10091)	Count the rising and falling edges of signal A.
X4 (10092)	Count the rising and falling edges of signal A and signal B.
Two Pulse Counting (10313)	Increment the count on rising edges of signal A. Decrement the count on rising pulses of signal B.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Terminal Property

Short Name: CI.Encoder.AInputTerm

Property of DAQmx Channel

Specifies the terminal to which signal A is connected.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Digital Filter:Enable Property

Short Name: CI.Encoder.AInput.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Digital Filter:Minimum Pulse Width Property

Short Name: CI.Encoder.AInput.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Digital Filter:Timebase:Source Property

Short Name: CI.Encoder.AInput.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Digital Filter:Timebase:Rate Property

Short Name: CI.Encoder.AInput.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:A Input:Digital Synchronization:Enable Property

Short Name: CI.Encoder.AInput.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Terminal Property

Short Name: CI.Encoder.BInputTerm

Property of DAQmx Channel

Specifies the terminal to which signal B is connected.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Digital Filter:Enable Property

Short Name: CI.Encoder.BInput.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Digital Filter:Minimum Pulse Width Property

Short Name: CI.Encoder.BInput.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Digital Filter:Timebase:Source Property

Short Name: CI.Encoder.BInput.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Digital Filter:Timebase:Rate Property

Short Name: CI.Encoder.BInput.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:B Input:Digital Synchronization:Enable Property

Short Name: CI.Encoder.BInput.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Terminal Property

Short Name: CI.Encoder.ZInputTerm

Property of DAQmx Channel

Specifies the terminal to which signal Z is connected.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Digital Filter:Enable Property

Short Name: CI.Encoder.ZInput.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Digital Filter:Minimum Pulse Width Property

Short Name: CI.Encoder.ZInput.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Digital Filter:Timebase:Source Property

Short Name: CI.Encoder.ZInput.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Digital Filter:Timebase:Rate Property

Short Name: CI.Encoder.ZInput.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Input:Digital Synchronization:Enable Property

Short Name: CI.Encoder.ZInput.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Index Enable Property

Short Name: CI.Encoder.ZIndexEnable

Property of DAQmx Channel

Specifies whether to use Z indexing for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Index Value Property

Short Name: CI.Encoder.ZIndexVal

Property of DAQmx Channel

Specifies the value to which to reset the measurement when signal Z is high and signal A and signal B are at the states you specify with CI.Encoder.ZIndexPhase. Specify this value in the units of the measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Position:Z Index Phase Property

Short Name: CI.Encoder.ZIndexPhase

Property of DAQmx Channel

Specifies the states at which signal A and signal B must be while signal Z is high for NI-DAQmx to reset the measurement. If signal Z is never high while signal A and signal B are high, for example, you must choose a phase other than A High B High.

When signal Z transitions to high and how long it stays high varies from encoder to encoder. Refer to the documentation for the encoder to determine the timing of signal Z with respect to signal A and signal B.

A High B High (10040)	Reset the measurement when signal A and signal B are high.
A High B Low (10041)	Reset the measurement when signal A is high and signal B is low.
A Low B High (10042)	Reset the measurement when signal A is low and signal B high.
A Low B Low (10043)	Reset the measurement when signal A and signal B are low.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Units Property

Short Name: CI.PulseWidth.Units

Property of DAQmx Channel

Specifies the units to use to return pulse width measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Input Terminal Property

Short Name: CI.PulseWidth.Term

Property of DAQmx Channel

Specifies the input terminal of the signal to measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Starting Edge Property

Short Name: CI.PulseWidth.StartingEdge

Property of DAQmx Channel

Specifies on which edge of the input signal to begin each pulse width measurement.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Digital Filter:Enable Property

Short Name: CI.PulseWidth.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Digital Filter:Minimum Pulse Width Property

Short Name: CI.PulseWidth.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Digital Filter:Timebase:Source Property

Short Name: CI.PulseWidth.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Digital Filter:Timebase:Rate Property

Short Name: CI.PulseWidth.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Pulse Width:Digital Synchronization:Enable Property

Short Name: CI.PulseWidth.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Units Property

Short Name: CI.TwoEdgeSep.Units

Property of DAQmx Channel

Specifies the units to use to return two-edge separation measurements from the channel.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Input Terminal Property

Short Name: CI.TwoEdgeSep.First.Term

Property of DAQmx Channel

Specifies the source terminal of the digital signal that starts each measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Edge Property

Short Name: CI.TwoEdgeSep.First.Edge

Property of DAQmx Channel

Specifies on which edge of the first signal to start each measurement.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Digital Filter:Enable Property

Short Name: CI.TwoEdgeSep.First.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Digital Filter:Minimum Pulse Width Property

Short Name: CI.TwoEdgeSep.First.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Digital Filter:Timebase:Source Property

Short Name: CI.TwoEdgeSep.First.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Digital Filter:Timebase:Rate Property

Short Name: CI.TwoEdgeSep.First.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:First:Digital Synchronization:Enable Property

Short Name: CI.TwoEdgeSep.First.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Input Terminal Property

Short Name: CI.TwoEdgeSep.Second.Term

Property of DAQmx Channel

Specifies the source terminal of the digital signal that stops each measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Edge Property

Short Name: CI.TwoEdgeSep.Second.Edge

Property of DAQmx Channel

Specifies on which edge of the second signal to stop each measurement.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Digital Filter:Enable Property

Short Name: CI.TwoEdgeSep.Second.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Digital Filter:Minimum Pulse Width Property

Short Name: CI.TwoEdgeSep.Second.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Digital Filter:Timebase:Source Property

Short Name: CI.TwoEdgeSep.Second.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Digital Filter:Timebase:Rate Property

Short Name: CI.TwoEdgeSep.Second.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Two Edge Separation:Second:Digital Synchronization:Enable Property

Short Name: CI.TwoEdgeSep.Second.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Units Property

Short Name: CI.SemiPeriod.Units

Property of DAQmx Channel

Specifies the units to use to return semi-period measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Input Terminal Property

Short Name: CI.SemiPeriod.Term

Property of DAQmx Channel

Specifies the input terminal of the signal to measure.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Starting Edge Property

Short Name: CI.SemiPeriod.StartingEdge

Property of DAQmx Channel

Specifies on which edge of the input signal to begin semi-period measurement. Semi-period measurements alternate between high time and low time, starting on this edge.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Digital Filter:Enable Property

Short Name: CI.SemiPeriod.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Digital Filter:Minimum Pulse Width Property

Short Name: CI.SemiPeriod.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Digital Filter:Timebase:Source Property

Short Name: CI.SemiPeriod.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Digital Filter:Timebase:Rate Property

Short Name: CI.SemiPeriod.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Semi-Period:Digital Synchronization:Enable Property

Short Name: CI.SemiPeriod.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Timestamp:Units Property

Short Name: CI.Timestamp.Units

Property of DAQmx Channel

Specifies the units to use to return timestamp measurements.

From Custom Scale (10065)	Units a custom scale specifies. If you select this value, you must specify a custom scale name.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Timestamp:Initial Seconds Property

Short Name: CI.Timestamp.InitialSeconds

Property of DAQmx Channel

Specifies the number of seconds that elapsed since the beginning of the current year. This value is ignored if CI.GPS.SyncMethod is IRIG-B.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Timestamp:GPS:Synchronization Method Property

Short Name: CI.GPS.SyncMethod

Property of DAQmx Channel

Specifies the method to use to synchronize the counter to a GPS receiver.

IRIG-B (10070)	Use the IRIG-B synchronization method. The GPS receiver sends one synchronization pulse per second, as well as information about the number of days, hours, minutes, and seconds that elapsed since the beginning of the current year.
PPS (10080)	Use the PPS synchronization method. The GPS receiver sends one synchronization pulse per second, but does not send any timing information. The timestamp measurement returns the number of seconds that elapsed since the device powered up unless you set CI.Timestamp.InitialSeconds.
None (10230)	Do not synchronize the counter to a GPS receiver. The timestamp measurement returns the number of seconds that elapsed since the device powered up unless you set CI.Timestamp.InitialSeconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:Timestamp:GPS:Synchronization Source Property

Short Name: CI.GPS.SyncSrc

Property of DAQmx Channel

Specifies the terminal to which the GPS synchronization signal is connected.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Source Property

Short Name: CI.CtrTimebaseSrc

Property of DAQmx Channel

Specifies the terminal of the timebase to use for the counter.

Typically, NI-DAQmx uses one of the internal counter timebases when performing counter measurements. Use this property to specify an external timebase and produce custom measurement ranges that are not possible with the internal timebases.

You also can use this property to chain counters together. By using the output of a counter as the timebase of another counter, you can effectively widen a counter. For example, you can chain two 24 bit counters together to produce one 48 bit counter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Rate Property

Short Name: CI.CtrTimebaseRate

Property of DAQmx Channel

Specifies in Hertz the frequency of the counter timebase. Specifying the rate of a counter timebase allows you to take measurements in terms of time or frequency rather than in ticks of the timebase. If you use an external timebase and do not specify the rate, you can take measurements only in terms of ticks of the timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Active Edge Property

Short Name: CI.CtrTimebaseActiveEdge

Property of DAQmx Channel

Specifies whether a timebase cycle is from rising edge to rising edge or from falling edge to falling edge.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Digital Filter:Enable Property

Short Name: CI.CtrTimebase.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Digital Filter:Minimum Pulse Width Property

Short Name: CI.CtrTimebase.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Digital Filter:Timebase:Source Property

Short Name: CI.CtrTimebase.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Digital Filter:Timebase:Rate Property

Short Name: CI.CtrTimebase.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:Counter Timebase:Digital Synchronization:Enable Property

Short Name: CI.CtrTimebase.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Count Property

Short Name: CI.Count

Property of DAQmx Channel

Indicates the current value of the count register.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Output State Property

Short Name: CI.OutputState

Property of DAQmx Channel

Indicates the current state of the out terminal of the counter.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Terminal Count Reached Property

Short Name: CI.TCReached

Property of DAQmx Channel

Indicates whether the counter rolled over. When you query this property, NI-DAQmx resets it to FALSE.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Counter Timebase Master Timebase Divisor Property

Short Name: CI.CtrTimebaseMasterTimebaseDiv

Property of DAQmx Channel

Specifies the divisor for an external counter timebase. You can divide the counter timebase in order to measure slower signals without causing the count register to roll over.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Advanced:Data Transfer and Memory:Data Transfer Mechanism Property

Short Name: CI.DataXferMech

Property of DAQmx Channel

Specifies the data transfer mode for the channel.

DMA (10054)	Direct Memory Access. Data transfers take place independently from the application.
Interrupts (10204)	Data transfers take place independently from the application. Using interrupts increases CPU usage because the CPU must service interrupt requests. Typically, you should use interrupts if the device is out of DMA channels.
Programmed I/O (10264)	Data transfers take place when you call DAQmx Read or DAQmx Write.
USB Bulk (12590)	Data transfers take place independently from the application using a USB bulk pipe.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Advanced:Data Transfer and Memory:Number Of Possibly Invalid Samples Property

Short Name: CI.NumPossiblyInvalidSamps

Property of DAQmx Channel

Indicates the number of samples that the device might have overwritten before it could transfer them to the buffer.

On certain devices during finite buffered time measurements, it is not possible to detect if the counter overwrites a value it read before the device could transfer the sample to the buffer. This uncertainty is present only when CI.DataXferMech is DMA and occurs as the acquisition nears completion.

Once the acquisition completes, it is impossible to tell if the status value on the counter indicates an overwrite as a result of a true overwrite, or because the counter detected another edge of the input signal after the acquisition completed but before the counter could disarm. As a result of this behavior, higher frequency input signals are more likely to increase the number of possibly invalid samples.

To decrease the number of possibly invalid samples, read more often from the buffer. Reading from the buffer forces a check on the hardware status and ensures all data is valid up to the present point in the buffer. By default, NI-DAQmx checks the validity of data every fourth of the buffer. If you do not perform a read until after the device acquires all data, the value of this property is one-fourth of the buffer size or zero.

The value this property indicates is valid only while the task is in the running state. The value of this property while the task is in any other state is zero.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Advanced:Duplicate Count Prevention Property

Short Name: CI.DupCountPrevention

Property of DAQmx Channel

Specifies whether to enable duplicate count prevention for the channel. Duplicate count prevention is enabled by default. Setting CI.Prescaler disables duplicate count prevention unless you explicitly enable it.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Input:General Properties:More:Advanced:Prescaler Property

Short Name: CI.Prescaler

Property of DAQmx Channel

Specifies the divisor to apply to the signal you connect to the counter source terminal. Scaled data that you read takes this setting into account. You should use a prescaler only when you connect an external signal to the counter source terminal and when that signal has a higher frequency than the fastest onboard timebase. Setting this value disables duplicate count prevention unless you explicitly set CI.DupCountPrevention to TRUE.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Output Type Property

Short Name: CO.OutputType

Property of DAQmx Channel

Indicates how to define pulses generated on the channel.

Pulse:Frequency (10119)	Generate digital pulses defined by frequency and duty cycle.
Pulse:Ticks (10268)	Generate digital pulses defined by the number of timebase ticks that the pulse is at a low state and the number of timebase ticks that the pulse is at a high state.
Pulse:Time (10269)	Generate pulses defined by the time the pulse is at a low state and the time the pulse is at a high state.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Idle State Property

Short Name: CO.Pulse.IdleState

Property of DAQmx Channel

Specifies the resting state of the output terminal.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Output Terminal Property

Short Name: CO.Pulse.Term

Property of DAQmx Channel

Specifies on which terminal to generate pulses.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Time:Units Property

Short Name: CO.Pulse.Time.Units

Property of DAQmx Channel

Specifies the units in which to define high and low pulse time.

Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Time:High Time Property

Short Name: CO.Pulse.HighTime

Property of DAQmx Channel

Specifies the amount of time that the pulse is at a high voltage. This value is in the units you specify with CO.Pulse.Time.Units or when you create the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Time:Low Time Property

Short Name: CO.Pulse.LowTime

Property of DAQmx Channel

Specifies the amount of time that the pulse is at a low voltage. This value is in the units you specify with CO.Pulse.Time.Units or when you create the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Time:Initial Delay Property

Short Name: CO.Pulse.Time.InitialDelay

Property of DAQmx Channel

Specifies in seconds the amount of time to wait before generating the first pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Frequency:Duty Cycle Property

Short Name: CO.Pulse.DutyCyc

Property of DAQmx Channel

Specifies the duty cycle of the pulses. The duty cycle of a signal is the width of the pulse divided by period. NI-DAQmx uses this ratio and the pulse frequency to determine the width of the pulses and the delay between pulses.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Frequency:Units Property

Short Name: CO.Pulse.Freq.Units

Property of DAQmx Channel

Specifies the units in which to define pulse frequency.

Hz (10373)	Hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Frequency:Frequency Property

Short Name: CO.Pulse.Freq

Property of DAQmx Channel

Specifies the frequency of the pulses to generate. This value is in the units you specify with CO.Pulse.Freq.Units or when you create the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Frequency:Initial Delay Property

Short Name: CO.Pulse.Freq.InitialDelay

Property of DAQmx Channel

Specifies in seconds the amount of time to wait before generating the first pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Ticks:High Ticks Property

Short Name: CO.Pulse.HighTicks

Property of DAQmx Channel

Specifies the number of ticks the pulse is high.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Ticks:Low Ticks Property

Short Name: CO.Pulse.LowTicks

Property of DAQmx Channel

Specifies the number of ticks the pulse is low.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:Pulse:Ticks:Initial Delay Property

Short Name: CO.Pulse.Ticks.InitialDelay

Property of DAQmx Channel

Specifies the number of ticks to wait before generating the first pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Source Property

Short Name: CO.CtrTimebaseSrc

Property of DAQmx Channel

Specifies the terminal of the timebase to use for the counter. Typically, NI-DAQmx uses one of the internal counter timebases when generating pulses. Use this property to specify an external timebase and produce custom pulse widths that are not possible using the internal timebases.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Rate Property

Short Name: CO.CtrTimebaseRate

Property of DAQmx Channel

Specifies in Hertz the frequency of the counter timebase. Specifying the rate of a counter timebase allows you to define output pulses in seconds rather than in ticks of the timebase. If you use an external timebase and do not specify the rate, you can define output pulses only in ticks of the timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Active Edge Property

Short Name: CO.CtrTimebaseActiveEdge

Property of DAQmx Channel

Specifies whether a timebase cycle is from rising edge to rising edge or from falling edge to falling edge.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Digital Filter:Enable Property

Short Name: CO.CtrTimebase.DigFltr.Enable

Property of DAQmx Channel

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Digital Filter:Minimum Pulse Width Property

Short Name: CO.CtrTimebase.DigFltr.MinPulseWidth

Property of DAQmx Channel

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Digital Filter:Timebase:Source Property

Short Name: CO.CtrTimebase.DigFltr.TimebaseSrc

Property of DAQmx Channel

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Digital Filter:Timebase:Rate Property

Short Name: CO.CtrTimebase.DigFltr.TimebaseRate

Property of DAQmx Channel

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:Counter Timebase:Digital Synchronization:Enable Property

Short Name: CO.CtrTimebase.DigSync.Enable

Property of DAQmx Channel

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Count Property

Short Name: CO.Count

Property of DAQmx Channel

Indicates the current value of the count register.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Output State Property

Short Name: CO.OutputState

Property of DAQmx Channel

Indicates the current state of the output terminal of the counter.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Auto Increment Count Property

Short Name: CO.AutoIncrCnt

Property of DAQmx Channel

Specifies a number of timebase ticks by which to increment each successive pulse.

When this value is greater than 0, NI-DAQmx generates progressively longer pulses until the count register rolls over. At that point, the generated pulses return to the original pulse width and grow progressively longer until the count register rolls over again.

Use this property to provide a clock to an analog input channel for equivalent time sampling (ETS). ETS is a data acquisition technique in which data on a periodic waveform with a frequency higher than the Nyquist frequency of the system is obtained by sampling the waveform at instants in time skewed in relation to the beginning of each period of the waveform.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Counter Timebase Master Timebase Divisor Property

Short Name: CO.CtrTimebaseMasterTimebaseDiv

Property of DAQmx Channel

Specifies the divisor for an external counter timebase. You can divide the counter timebase in order to generate slower signals without causing the count register to roll over.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Pulse Done Property

Short Name: CO.PulseDone

Property of DAQmx Channel

Indicates if the task completed pulse generation. Use this value for retriggerable pulse generation when you need to determine if the device generated the current pulse. When you query this property, NI-DAQmx resets it to FALSE.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Advanced:Constrained Generation Mode Property

Short Name: CO.ConstrainedGenMode

Property of DAQmx Channel

Specifies constraints to apply when the counter generates pulses. Constraining the counter reduces the device resources required for counter operation. Constraining the counter can also allow additional analog or counter tasks on the device to run concurrently. For continuous counter tasks, NI-DAQmx consumes no device resources when the counter is constrained. For finite counter tasks, resource use increases with the frequency regardless of the constraint mode. However, fixed frequency constraints significantly reduce resource usage, and fixed duty cycle constraint marginally reduces it.

Unconstrained (14708)	Counter has no restrictions on pulse generation.
Fixed High Frequency (14709)	Pulse frequency must be above 7.63 Hz and cannot change while the task runs. In this mode, the duty cycle has 8 bits of resolution.
Fixed Low Frequency (14710)	Pulse frequency must be below 366.21 Hz and cannot change while the task runs. In this mode, the duty cycle has 16 bits of resolution.
Fixed 50 Percent Duty Cycle (14711)	Pulse duty cycle must be 50 percent. The frequency can change while the task runs.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Advanced:Prescaler Property

Short Name: CO.Prescaler

Property of DAQmx Channel

Specifies the divisor to apply to the signal you connect to the counter source terminal. Pulse generations defined by frequency or time take this setting into account, but pulse generations defined by ticks do not. You should use a prescaler only when you connect an external signal to the counter source terminal and when that signal has a higher frequency than the fastest onboard timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Counter Output:General Properties:More:Advanced:Ready For New Value Property

Short Name: CO.RdyForNewVal

Property of DAQmx Channel

Indicates whether the counter is ready for new continuous pulse train values.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

General Properties:Channel Type Property

Short Name: ChanType

Property of DAQmx Channel

Indicates the type of the virtual channel.

Analog Input (10100)	Analog input channel.
Analog Output (10102)	Analog output channel.
Counter Input (10131)	Counter input channel.
Counter Output (10132)	Counter output channel.
Digital Input (10151)	Digital input channel.
Digital Output (10153)	Digital output channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

General Properties:Physical Channel Name Property

Short Name: PhysicalChanName

Property of DAQmx Channel

Specifies the name of the physical channel upon which this virtual channel is based.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

General Properties:Description Property

Short Name: Descr

Property of DAQmx Channel

Specifies a user-defined description for the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

General Properties:Is Global Property

Short Name: IsGlobal

Property of DAQmx Channel

Indicates whether the channel is a global channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Device Properties

The DAQmx Device properties return information about devices installed in your system.

Property	Description
Active Device	Specifies the device from which to retrieve properties. Details
Device Is Simulated	Indicates if the device is a simulated device. Details
Identification:Product Category	Indicates the product category of the device. This category corresponds to the category displayed in MAX when creating NI-DAQmx simulated devices. Details
Identification:Product Type	Indicates the product name of the device. Details
Identification:Product Number	Indicates the unique hardware identification number for the device. Details
Identification:Device Serial Number	Indicates the serial number of the device. This value is zero if the device does not have a serial number. Details
Chassis:Module Device Names	Indicates an array containing the names of the modules in the chassis. Details
Analog Triggering Supported	Indicates if the device supports analog triggering. Details
Digital Triggering Supported	Indicates if the device supports digital triggering. Details
I/O Type:Analog Input:Physical Channels	Indicates an array containing the names of the analog input physical channels available on the device. Details
I/O Type:Analog Input:Timing:Maximum Single	Indicates the maximum rate for an analog input task if the task contains

Channel Rate	only a single channel from this device. Details
I/O Type:Analog Input:Timing:Maximum Multiple Channel Rate	Indicates the maximum rate for an analog input task if the task contains multiple channels from this device. For multiplexed devices, divide this rate by the number of channels to determine the maximum sampling rate. Details
I/O Type:Analog Input:Timing:Minimum Rate	Indicates the minimum rate for an analog input task on this device. NI-DAQmx returns a warning or error if you attempt to sample at a slower rate. Details
I/O Type:Analog Input:Timing:Simultaneous Sampling Supported	Indicates if the device supports simultaneous sampling. Details
I/O Type:Analog Input:Trigger:Trigger Usage	Indicates the triggers supported by this device for an analog input task. Details
I/O Type:Analog Input:Voltage:Ranges	Indicates pairs of input voltage ranges supported by this device. Each pair consists of the low value, followed by the high value. Details
I/O Type:Analog Input:Voltage:Internal Excitation:Discrete Values	Indicates the set of discrete internal voltage excitation values supported by this device. If the device supports ranges of internal excitation values, use AI.Voltage.IntExcit.RangeVals to determine supported excitation values. Details
I/O Type:Analog Input:Voltage:Internal Excitation:Range Values	Indicates pairs of internal voltage excitation ranges supported by this device. Each pair consists of the low value, followed by the high value. If the device supports a set of discrete internal excitation values, use AI.Voltage.IntExcit.DiscreteVals to determine the supported excitation

	values. Details
I/O Type:Analog Input:Current:Ranges	Indicates the pairs of current input ranges supported by this device. Each pair consists of the low value, followed by the high value. Details
I/O Type:Analog Input:Current:Internal Excitation:Discrete Values	Indicates the set of discrete internal current excitation values supported by this device. Details
I/O Type:Analog Input:Frequency:Ranges	Indicates the pairs of frequency input ranges supported by this device. Each pair consists of the low value, followed by the high value. Details
I/O Type:Analog Input:Gains	Indicates the input gain settings supported by this device. Details
I/O Type:Analog Input:Couplings	Indicates the coupling types supported by this device. Details
I/O Type:Analog Input:Filter:Analog Low Pass:Cutoff Frequency:Discrete Values	Indicates the set of discrete lowpass cutoff frequencies supported by this device. If the device supports ranges of lowpass cutoff frequencies, use AI.Lowpass.CutoffFreq.RangeVals to determine supported frequencies. Details
I/O Type:Analog Input:Filter:Analog Low Pass:Cutoff Frequency:Range Values	Indicates pairs of lowpass cutoff frequency ranges supported by this device. Each pair consists of the low value, followed by the high value. If the device supports a set of discrete lowpass cutoff frequencies, use AI.Lowpass.CutoffFreq.DiscreteVals to determine the supported frequencies. Details
I/O Type:Analog Output:Physical Channels	Indicates an array containing the names of the analog output physical channels available on the device. Details

I/O Type:Analog Output:Timing:Sample Clock Supported	Indicates if the device supports the sample clock timing type for analog output tasks. Details
I/O Type:Analog Output:Timing:Maximum Rate	Indicates the maximum analog output rate of the device. Details
I/O Type:Analog Output:Timing:Minimum Rate	Indicates the minimum analog output rate of the device. Details
I/O Type:Analog Output:Trigger:Trigger Usage	Indicates the triggers supported by this device for analog output tasks. Details
I/O Type:Analog Output:Voltage:Ranges	Indicates pairs of output voltage ranges supported by this device. Each pair consists of the low value, followed by the high value. Details
I/O Type:Analog Output:Current:Ranges	Indicates pairs of output current ranges supported by this device. Each pair consists of the low value, followed by the high value. Details
I/O Type:Analog Output:Gains	Indicates the output gain settings supported by this device. Details
I/O Type:Digital Input:Lines	Indicates an array containing the names of the digital input lines available on the device. Details
I/O Type:Digital Input:Ports	Indicates an array containing the names of the digital input ports available on the device. Details
I/O Type:Digital Input:Timing:Maximum Rate	Indicates the maximum digital input rate of the device. Details
I/O Type:Digital Input:Trigger:Trigger Usage	Indicates the triggers supported by this device for digital input tasks. Details
I/O Type:Digital Output:Lines	Indicates an array containing the names of the digital output lines available on the device. Details
I/O Type:Digital Output:Ports	Indicates an array containing the names of the digital output ports available on the device. Details

I/O Type:Digital Output:Timing:Maximum Rate	Indicates the maximum digital output rate of the device. Details
I/O Type:Digital Output:Trigger:Trigger Usage	Indicates the triggers supported by this device for digital output tasks. Details
I/O Type:Counter Input:Physical Channels	Indicates an array containing the names of the counter input physical channels available on the device. Details
I/O Type:Counter Input:Trigger:Trigger Usage	Indicates the triggers supported by this device for counter input tasks. Details
I/O Type:Counter Input:Timing:Sample Clock Supported	Indicates if the device supports the sample clock timing type for counter input tasks. Details
I/O Type:Counter Input:Maximum Size	Indicates in bits the size of the counters on the device. Details
I/O Type:Counter Input:Maximum Timebase	Indicates in hertz the maximum counter timebase frequency. Details
I/O Type:Counter Output:Physical Channels	Indicates an array containing the names of the counter output physical channels available on the device. Details
I/O Type:Counter Output:Trigger:Trigger Usage	Indicates the triggers supported by this device for counter output tasks. Details
I/O Type:Counter Output:Maximum Size	Indicates in bits the size of the counters on the device. Details
I/O Type:Counter Output:Maximum Timebase	Indicates in hertz the maximum counter timebase frequency. Details
Location:Bus Type	Indicates the bus type of the device. Details
Location:PCI:Bus Number	Indicates the PCI bus number of the device. Details
Location:PCI:Device Number	Indicates the PCI slot number of the device. Details
Location:PXI:Chassis Number	Indicates the PXI chassis number of the

	device, as identified in MAX. Details
Location:PXI:Slot Number	Indicates the PXI slot number of the device. Details
Location:CompactDAQ:Chassis Device Name	Indicates the name of the CompactDAQ chassis that contains this module. Details
Location:CompactDAQ:Slot Number	Indicates the slot number in which this module is located in the CompactDAQ chassis. Details
Bus:Number of DMA Channels	Indicates the number of DMA channels on the device. Details
Terminals	Indicates a list of all terminals on the device. Details

Active Device Property

Short Name: ActiveDev

Property of DAQmx Device

Specifies the device from which to retrieve properties.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Device Is Simulated Property

Short Name: DevIsSimulated

Property of DAQmx Device

Indicates if the device is a simulated device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Identification:Product Category Property

Short Name: ProductCategory

Property of DAQmx Device

Indicates the product category of the device. This category corresponds to the category displayed in MAX when creating NI-DAQmx simulated devices.

Unknown (12588)	Unknown category.
E Series DAQ (14642)	E Series DAQ.
M Series DAQ (14643)	M Series DAQ.
S Series DAQ (14644)	S Series DAQ.
SC Series DAQ (14645)	SC Series DAQ.
USB DAQ (14646)	USB DAQ.
AO Series (14647)	AO Series.
Digital I/O (14648)	Digital I/O.
Dynamic Signal Acquisition (14649)	Dynamic Signal Acquisition.
Switches (14650)	Switches.
CompactDAQ Chassis (14658)	CompactDAQ chassis.
C Series Module (14659)	C Series I/O module.
SCXI Module (14660)	SCXI module.
TIO Series (14661)	TIO Series.
B Series DAQ (14662)	B Series DAQ.
SCC Connector Block (14704)	SCC Connector Block.
SCC Module (14705)	SCC Module.
NI ELVIS (14755)	NI ELVIS.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Identification:Product Type Property

Short Name: ProductType

Property of DAQmx Device

Indicates the product name of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Identification:Product Number Property

Short Name: ProductNum

Property of DAQmx Device

Indicates the unique hardware identification number for the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Identification:Device Serial Number Property

Short Name: DevSerialNum

Property of DAQmx Device

Indicates the serial number of the device. This value is zero if the device does not have a serial number.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Chassis:Module Device Names Property

Short Name: Chassis.ModuleDevNames

Property of DAQmx Device

Indicates an array containing the names of the modules in the chassis.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Triggering Supported Property

Short Name: AnlgTrigSupported

Property of DAQmx Device

Indicates if the device supports analog triggering.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Triggering Supported Property

Short Name: DigTrigSupported

Property of DAQmx Device

Indicates if the device supports digital triggering.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Physical Channels Property

Short Name: AI.PhysicalChans

Property of DAQmx Device

Indicates an array containing the names of the analog input physical channels available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Timing:Maximum Single Channel Rate Property

Short Name: AI.MaxSingleChanRate

Property of DAQmx Device

Indicates the maximum rate for an analog input task if the task contains only a single channel from this device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Timing:Maximum Multiple Channel Rate Property

Short Name: AI.MaxMultiChanRate

Property of DAQmx Device

Indicates the maximum rate for an analog input task if the task contains multiple channels from this device. For multiplexed devices, divide this rate by the number of channels to determine the maximum sampling rate.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Timing:Minimum Rate Property

Short Name: AI.MinRate

Property of DAQmx Device

Indicates the minimum rate for an analog input task on this device. NI-DAQmx returns a warning or error if you attempt to sample at a slower rate.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Timing:Simultaneous Sampling Supported Property

Short Name: AI.SimultaneousSamplingSupported

Property of DAQmx Device

Indicates if the device supports simultaneous sampling.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Trigger:Trigger Usage Property

Short Name: AI.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for an analog input task.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Voltage:Ranges Property

Short Name: AI.Voltage.Rngs

Property of DAQmx Device

Indicates pairs of input voltage ranges supported by this device. Each pair consists of the low value, followed by the high value.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Voltage:Internal Excitation:Discrete Values Property

Short Name: AI.Voltage.IntExcit.DiscreteVals

Property of DAQmx Device

Indicates the set of discrete internal voltage excitation values supported by this device. If the device supports ranges of internal excitation values, use AI.Voltage.IntExcit.RangeVals to determine supported excitation values.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Voltage:Internal Excitation:Range Values Property

Short Name: AI.Voltage.IntExcit.RangeVals

Property of DAQmx Device

Indicates pairs of internal voltage excitation ranges supported by this device. Each pair consists of the low value, followed by the high value. If the device supports a set of discrete internal excitation values, use AI.Voltage.IntExcit.DiscreteVals to determine the supported excitation values.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Current:Ranges Property

Short Name: AI.Current.Rngs

Property of DAQmx Device

Indicates the pairs of current input ranges supported by this device. Each pair consists of the low value, followed by the high value.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Current:Internal Excitation:Discrete Values Property

Short Name: AI.Current.IntExcit.DiscreteVals

Property of DAQmx Device

Indicates the set of discrete internal current excitation values supported by this device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Frequency:Ranges Property

Short Name: AI.Freq.Rngs

Property of DAQmx Device

Indicates the pairs of frequency input ranges supported by this device. Each pair consists of the low value, followed by the high value.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Gains Property

Short Name: AI.Gains

Property of DAQmx Device

Indicates the input gain settings supported by this device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Couplings Property

Short Name: AI.Couplings

Property of DAQmx Device

Indicates the coupling types supported by this device.

AC (10045)	Remove the DC offset from the signal.
DC (10050)	Allow NI-DAQmx to measure all of the signal.
GND (10066)	Remove the signal from the measurement and measure only ground.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Filter:Analog Low Pass:Cutoff Frequency:Discrete Values Property

Short Name: AI.Lowpass.CutoffFreq.DiscreteVals

Property of DAQmx Device

Indicates the set of discrete lowpass cutoff frequencies supported by this device. If the device supports ranges of lowpass cutoff frequencies, use AI.Lowpass.CutoffFreq.RangeVals to determine supported frequencies.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Input:Filter:Analog Low Pass:Cutoff Frequency:Range Values Property

Short Name: AI.Lowpass.CutoffFreq.RangeVals

Property of DAQmx Device

Indicates pairs of lowpass cutoff frequency ranges supported by this device. Each pair consists of the low value, followed by the high value. If the device supports a set of discrete lowpass cutoff frequencies, use AI.Lowpass.CutoffFreq.DiscreteVals to determine the supported frequencies.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Physical Channels Property

Short Name: AO.PhysicalChans

Property of DAQmx Device

Indicates an array containing the names of the analog output physical channels available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Timing:Sample Clock Supported Property

Short Name: AO.SampClkSupported

Property of DAQmx Device

Indicates if the device supports the sample clock timing type for analog output tasks.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Timing:Maximum Rate Property

Short Name: AO.MaxRate

Property of DAQmx Device

Indicates the maximum analog output rate of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Timing:Minimum Rate Property

Short Name: AO.MinRate

Property of DAQmx Device

Indicates the minimum analog output rate of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Trigger:Trigger Usage Property

Short Name: AO.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for analog output tasks.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Voltage:Ranges Property

Short Name: AO.Voltage.Rngs

Property of DAQmx Device

Indicates pairs of output voltage ranges supported by this device. Each pair consists of the low value, followed by the high value.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Current:Ranges Property

Short Name: AO.Current.Rngs

Property of DAQmx Device

Indicates pairs of output current ranges supported by this device. Each pair consists of the low value, followed by the high value.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Analog Output:Gains Property

Short Name: AO.Gains

Property of DAQmx Device

Indicates the output gain settings supported by this device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Input:Lines Property

Short Name: DI.Lines

Property of DAQmx Device

Indicates an array containing the names of the digital input lines available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Input:Ports Property

Short Name: DI.Ports

Property of DAQmx Device

Indicates an array containing the names of the digital input ports available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Input:Timing:Maximum Rate Property

Short Name: DI.MaxRate

Property of DAQmx Device

Indicates the maximum digital input rate of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Input:Trigger:Trigger Usage Property

Short Name: DI.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for digital input tasks.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Output:Lines Property

Short Name: DO.Lines

Property of DAQmx Device

Indicates an array containing the names of the digital output lines available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Output:Ports Property

Short Name: DO.Ports

Property of DAQmx Device

Indicates an array containing the names of the digital output ports available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Output:Timing:Maximum Rate Property

Short Name: DO.MaxRate

Property of DAQmx Device

Indicates the maximum digital output rate of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Digital Output:Trigger:Trigger Usage Property

Short Name: DO.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for digital output tasks.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Input:Physical Channels Property

Short Name: CI.PhysicalChans

Property of DAQmx Device

Indicates an array containing the names of the counter input physical channels available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Input:Trigger:Trigger Usage Property

Short Name: CI.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for counter input tasks.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Input:Timing:Sample Clock Supported Property

Short Name: CI.SampClkSupported

Property of DAQmx Device

Indicates if the device supports the sample clock timing type for counter input tasks.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Input:Maximum Size Property

Short Name: CI.MaxSize

Property of DAQmx Device

Indicates in bits the size of the counters on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Input:Maximum Timebase Property

Short Name: CI.MaxTimebase

Property of DAQmx Device

Indicates in hertz the maximum counter timebase frequency.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Output:Physical Channels Property

Short Name: CO.PhysicalChans

Property of DAQmx Device

Indicates an array containing the names of the counter output physical channels available on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Output:Trigger:Trigger Usage Property

Short Name: CO.TrigUsage

Property of DAQmx Device

Indicates the triggers supported by this device for counter output tasks.

Handshake (10389)	Handshake trigger.
Advance (12488)	Advance trigger.
Pause (12489)	Pause trigger.
Reference (12490)	Reference trigger.
Start (12491)	Start trigger.
Arm Start (14641)	Arm Start trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Output:Maximum Size Property

Short Name: CO.MaxSize

Property of DAQmx Device

Indicates in bits the size of the counters on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

I/O Type:Counter Output:Maximum Timebase Property

Short Name: CO.MaxTimebase

Property of DAQmx Device

Indicates in hertz the maximum counter timebase frequency.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:Bus Type Property

Short Name: BusType

Property of DAQmx Device

Indicates the bus type of the device.

PCI (12582)	PCI.
PXI (12583)	PXI.
SCXI (12584)	SCXI.
PCCard (12585)	PC Card/PCMCIA.
USB (12586)	USB.
Unknown (12588)	Unknown bus type.
PCIe (13612)	PCI Express.
CompactDAQ (14637)	CompactDAQ.
PXIe (14706)	PXI Express.
SCC (14707)	SCC.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:PCI:Bus Number Property

Short Name: PCI.BusNum

Property of DAQmx Device

Indicates the PCI bus number of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:PCI:Device Number Property

Short Name: PCI.DevNum

Property of DAQmx Device

Indicates the PCI slot number of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:PXI:Chassis Number Property

Short Name: PXI.ChassisNum

Property of DAQmx Device

Indicates the PXI chassis number of the device, as identified in MAX.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:PXI:Slot Number Property

Short Name: PXI.SlotNum

Property of DAQmx Device

Indicates the PXI slot number of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:CompactDAQ:Chassis Device Name Property

Short Name: CompactDAQ.ChassisDevName

Property of DAQmx Device

Indicates the name of the CompactDAQ chassis that contains this module.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Location:CompactDAQ:Slot Number Property

Short Name: CompactDAQ.SlotNum

Property of DAQmx Device

Indicates the slot number in which this module is located in the CompactDAQ chassis.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Bus:Number of DMA Channels Property

Short Name: NumDMAChans

Property of DAQmx Device

Indicates the number of DMA channels on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Terminals Property

Short Name: Terminals

Property of DAQmx Device

Indicates a list of all terminals on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Export Signal Properties

Use the DAQmx Export Signal properties to route a control signal within a device or from one device to another. These routes are task-based and are useful for sharing clocks and triggers among multiple devices.

Property	Description
Clocks:AI Convert Clock:Output Terminal	Specifies the terminal to which to route the AI Convert Clock. Details
Clocks:AI Convert Clock:Pulse:Polarity	Indicates the polarity of the exported AI Convert Clock. The polarity is fixed and independent of the active edge of the source of the AI Convert Clock. Details
Clocks:10MHz Reference Clock:Output Terminal	Specifies the terminal to which to route the 10MHz Clock. Details
Clocks:20MHz Timebase:Output Terminal	Specifies the terminal to which to route the 20MHz Timebase. Details
Clocks:Sample Clock:Output Behavior	Specifies whether the exported Sample Clock issues a pulse at the beginning of a sample or changes to a high state for the duration of the sample. Details
Clocks:Sample Clock:Output Terminal	Specifies the terminal to which to route the Sample Clock. Details
Clocks:Sample Clock:Delay Offset	Specifies in seconds the amount of time to offset the exported Sample clock. Refer to timing diagrams for generation applications in the device documentation for more information about this value. Details
Clocks:Sample Clock:Pulse:Polarity	Specifies the polarity of the exported Sample Clock if SampClk.OutputBehavior is Pulse. Details
Clocks:Sample Clock Timebase:Output Terminal	Specifies the terminal to which to route the Sample Clock Timebase. Details
Clocks:Divided Sample Clock Timebase:Output Terminal	Specifies the terminal to which to route the Divided Sample Clock Timebase. Details

Triggers:Advance Trigger:Output Terminal	Specifies the terminal to which to route the Advance Trigger. Details
Triggers:Advance Trigger:Pulse:Polarity	Indicates the polarity of the exported Advance Trigger. Details
Triggers:Advance Trigger:Pulse:Width Units	Specifies the units of AdvTrig.Pulse.Width. Details
Triggers:Advance Trigger:Pulse:Width Value	Specifies the width of an exported Advance Trigger pulse. Specify this value in the units you specify with AdvTrig.Pulse.WidthUnits. Details
Triggers:Pause Trigger:Output Terminal	Specifies the terminal to which to route the Pause Trigger. Details
Triggers:Pause Trigger:Level:Active Level	Specifies the active level of the exported Pause Trigger. Details
Triggers:Reference Trigger:Output Terminal	Specifies the terminal to which to route the Reference Trigger. Details
Triggers:Reference Trigger:Pulse:Polarity	Specifies the polarity of the exported Reference Trigger. Details
Triggers:Start Trigger:Output Terminal	Specifies the terminal to which to route the Start Trigger. Details
Triggers:Start Trigger:Pulse:Polarity	Specifies the polarity of the exported Start Trigger. Details
Events:Advance Complete Event:Output Terminal	Specifies the terminal to which to route the Advance Complete Event. Details
Events:Advance Complete Event:Delay Value	Specifies the output signal delay in periods of the sample clock. Details
Events:Advance Complete Event:Pulse:Polarity	Specifies the polarity of the exported Advance Complete Event. Details
Events:Advance Complete Event:Pulse:Width Value	Specifies the width of the exported Advance Complete Event pulse. Details
Events:AI Hold Complete Event:Output Terminal	Specifies the terminal to which to route the AI Hold Complete Event. Details
Events:AI Hold Complete Event:Pulse:Polarity	Specifies the polarity of an exported AI Hold Complete Event pulse. Details

Events:Change Detection Event:Output Terminal	Specifies the terminal to which to route the Change Detection Event. Details
Events:Change Detection Event:Pulse:Polarity	Specifies the polarity of an exported Change Detection Event pulse. Details
Events:Counter Output Event:Output Terminal	Specifies the terminal to which to route the Counter Output Event. Details
Events:Counter Output Event:Output Behavior	Specifies whether the exported Counter Output Event pulses or changes from one state to the other when the counter reaches terminal count. Details
Events:Counter Output Event:Pulse:Polarity	Specifies the polarity of the pulses at the output terminal of the counter when CtrOutEvent.OutputBehavior is Pulse. NI-DAQmx ignores this property if CtrOutEvent.OutputBehavior is Toggle. Details
Events:Counter Output Event:Toggle:Idle State	Specifies the initial state of the output terminal of the counter when CtrOutEvent.OutputBehavior is Toggle. The terminal enters this state when NI-DAQmx commits the task. Details
Events:Handshake Event:Output Terminal	Specifies the terminal to which to route the Handshake Event. Details
Events:Handshake Event:Output Behavior	Specifies the output behavior of the Handshake Event. Details
Events:Handshake Event:Delay Value	Specifies the number of seconds to delay after the Handshake Trigger deasserts before asserting the Handshake Event. Details
Events:Handshake Event:Interlocked:Asserted Level	Specifies the asserted level of the exported Handshake Event if HshkEvent.OutputBehavior is Interlocked. Details
Events:Handshake Event:Interlocked:Assert	Specifies to assert the Handshake Event when the task starts if

on Start	HshkEvent.OutputBehavior is Interlocked. Details
Events:Handshake Event:Interlocked:Deassert Delay Value	Specifies in seconds the amount of time to wait after the Handshake Trigger asserts before deasserting the Handshake Event if HshkEvent.OutputBehavior is Interlocked. Details
Events:Handshake Event:Pulse:Polarity	Specifies the polarity of the exported Handshake Event if HshkEvent.OutputBehavior is Pulse. Details
Events:Handshake Event:Pulse:Width Value	Specifies in seconds the pulse width of the exported Handshake Event if HshkEvent.OutputBehavior is Pulse. Details
Events:Ready For Transfer Event:Output Terminal	Specifies the terminal to which to route the Ready for Transfer Event. Details
Events:Ready For Transfer Event:Level:Active Level	Specifies the active level of the exported Ready for Transfer Event. Details
Events:Ready For Transfer Event:Deassert Condition	Specifies when the ready for transfer event deasserts. Details
Events:Ready For Transfer Event:Deassert Condition Custom Threshold	Specifies in samples the threshold below which the Ready for Transfer Event deasserts. This threshold is an amount of space available in the onboard memory of the device. RdyForXferEvent.DeassertCond must be Onboard Memory Custom Threshold to use a custom threshold. Details
Events:Data Active Event:Output Terminal	Specifies the terminal to which to export the Data Active Event. Details
Events:Data Active Event:Level:Active Level	Specifies the polarity of the exported Data Active Event. Details
Events:Ready For Start Event:Output Terminal	Specifies the terminal to which to route the Ready for Start Event. Details
Events:Ready For Start Event:Level:Active Level	Specifies the polarity of the exported Ready for Start Event. Details

Events:Synchronization Pulse Event:Output Terminal	Specifies the terminal to which to route the Synchronization Pulse Event. Details
Events:Watchdog Timer Expired Event:Output Terminal	Specifies the terminal to which to route the Watchdog Timer Expired Event. Details

Clocks:AI Convert Clock:Output Terminal Property

Short Name: AIConvClk.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the AI Convert Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:AI Convert Clock:Pulse:Polarity Property

Short Name: AIConvClk.Pulse.Polarity

Property of DAQmx Export Signal

Indicates the polarity of the exported AI Convert Clock. The polarity is fixed and independent of the active edge of the source of the AI Convert Clock.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:10MHz Reference Clock:Output Terminal Property

Short Name: 10MHzRefClk.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the 10MHz Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:20MHz Timebase:Output Terminal Property

Short Name: 20MHzTimebase.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the 20MHz Timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Sample Clock:Output Behavior Property

Short Name: SampClk.OutputBehavior

Property of DAQmx Export Signal

Specifies whether the exported Sample Clock issues a pulse at the beginning of a sample or changes to a high state for the duration of the sample.

E Series devices might require many AI Convert Clock pulses to acquire one sample. Each pulse of the Sample Clock initiates the acquisition of one sample per channel in the task. Each sample per channel requires a pulse from the AI Convert Clock.

This property is valid for the AI Sample Clock only.

Level (10210)	The exported Sample Clock goes high at the beginning of the sample and goes low when the last AI Convert begins.
Pulse (10265)	The exported Sample Clock pulses at the beginning of each sample.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Sample Clock:Output Terminal Property

Short Name: SampClk.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Sample Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Sample Clock:Delay Offset Property

Short Name: SampClk.DelayOffset

Property of DAQmx Export Signal

Specifies in seconds the amount of time to offset the exported Sample clock. Refer to timing diagrams for generation applications in the device documentation for more information about this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Sample Clock:Pulse:Polarity Property

Short Name: SampClk.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the exported Sample Clock if SampClk.OutputBehavior is Pulse.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Sample Clock Timebase:Output Terminal Property

Short Name: SampClkTimebase.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Sample Clock Timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Clocks:Divided Sample Clock Timebase:Output Terminal Property

Short Name: DividedSampClkTimebase.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Divided Sample Clock Timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Advance Trigger:Output Terminal Property

Short Name: AdvTrig.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Advance Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Advance Trigger:Pulse:Polarity Property

Short Name: AdvTrig.Pulse.Polarity

Property of DAQmx Export Signal

Indicates the polarity of the exported Advance Trigger.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Advance Trigger:Pulse:Width Units Property

Short Name: AdvTrig.Pulse.WidthUnits

Property of DAQmx Export Signal

Specifies the units of AdvTrig.Pulse.Width.

Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Advance Trigger:Pulse:Width Value Property

Short Name: AdvTrig.Pulse.Width

Property of DAQmx Export Signal

Specifies the width of an exported Advance Trigger pulse. Specify this value in the units you specify with AdvTrig.Pulse.WidthUnits.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Pause Trigger:Output Terminal Property

Short Name: PauseTrig.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Pause Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Pause Trigger:Level:Active Level Property

Short Name: PauseTrig.Lvl.ActiveLvl

Property of DAQmx Export Signal

Specifies the active level of the exported Pause Trigger.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Reference Trigger:Output Terminal Property

Short Name: RefTrig.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Reference Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Reference Trigger:Pulse:Polarity Property

Short Name: RefTrig.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the exported Reference Trigger.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Start Trigger:Output Terminal Property

Short Name: StartTrig.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Start Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Triggers:Start Trigger:Pulse:Polarity Property

Short Name: StartTrig.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the exported Start Trigger.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Advance Complete Event:Output Terminal Property

Short Name: AdvCmpltEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Advance Complete Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Advance Complete Event:Delay Value Property

Short Name: AdvCmpltEvent.Delay

Property of DAQmx Export Signal

Specifies the output signal delay in periods of the sample clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Advance Complete Event:Pulse:Polarity Property

Short Name: AdvCmpltEvent.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the exported Advance Complete Event.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Advance Complete Event:Pulse:Width Value Property

Short Name: AdvCmpltEvent.Pulse.Width

Property of DAQmx Export Signal

Specifies the width of the exported Advance Complete Event pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:AI Hold Complete Event:Output Terminal Property

Short Name: AIHoldCmpltEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the AI Hold Complete Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:AI Hold Complete Event:Pulse:Polarity Property

Short Name: AIHoldCmpltEvent.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of an exported AI Hold Complete Event pulse.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Change Detection Event:Output Terminal Property

Short Name: ChangeDetectEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Change Detection Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Change Detection Event:Pulse:Polarity Property

Short Name: ChangeDetectEvent.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of an exported Change Detection Event pulse.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Counter Output Event:Output Terminal Property

Short Name: CtrOutEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Counter Output Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Counter Output Event:Output Behavior Property

Short Name: CtrOutEvent.OutputBehavior

Property of DAQmx Export Signal

Specifies whether the exported Counter Output Event pulses or changes from one state to the other when the counter reaches terminal count.

Upon reaching terminal count, the counter can issue a pulse. Use CtrOutEvent.Pulse.Polarity to select a high or low pulse.

Upon reaching terminal count, the output terminal of the counter can change state, or toggle. For example, if the terminal is initially at a low state, it changes to high state and stays at the high state until the next terminal count. The terminal then changes to low state. Use CtrOutEvent.Toggle.IdleState to select the initial state of the terminal.

When counting up, a counter reaches terminal count when it reaches the maximum value (2^24 - 1 for a 24-bit counter). When counting down, a counter reaches terminal count when it reaches 0.

Pulse (10265)	Send a pulse to the terminal.
Toggle (10307)	Toggle the state of the terminal from low to high or from high to low.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Counter Output Event:Pulse:Polarity Property

Short Name: CtrOutEvent.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the pulses at the output terminal of the counter when CtrOutEvent.OutputBehavior is Pulse. NI-DAQmx ignores this property if CtrOutEvent.OutputBehavior is Toggle.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Counter Output Event:Toggle:Idle State Property

Short Name: CtrOutEvent.Toggle.IdleState

Property of DAQmx Export Signal

Specifies the initial state of the output terminal of the counter when CtrOutEvent.OutputBehavior is Toggle. The terminal enters this state when NI-DAQmx commits the task.

The initial state of the terminal affects whether the first toggle is from low state to high state or from high state to low state.

NI-DAQmx ignores this property if CtrOutEvent.OutputBehavior is Pulse.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Output Terminal Property

Short Name: HshkEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Handshake Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Output Behavior Property

Short Name: HshkEvent.OutputBehavior

Property of DAQmx Export Signal

Specifies the output behavior of the Handshake Event.

Pulse (10265)	Handshake Event pulses with the pulse width specified in HshkEvent.Pulse.Width.
Interlocked (12549)	Handshake Event deasserts after the Handshake Trigger asserts, plus the amount of time specified with HshkEvent.Interlocked.DeassertDelay.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Delay Value Property

Short Name: HshkEvent.Delay

Property of DAQmx Export Signal

Specifies the number of seconds to delay after the Handshake Trigger deasserts before asserting the Handshake Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Interlocked:Asserted Level Property

Short Name: HshkEvent.Interlocked.AssertedLvl

Property of DAQmx Export Signal

Specifies the asserted level of the exported Handshake Event if HshkEvent.OutputBehavior is Interlocked.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Interlocked:Assert on Start Property

Short Name: HshkEvent.Interlocked.AssertOnStart

Property of DAQmx Export Signal

Specifies to assert the Handshake Event when the task starts if HshkEvent.OutputBehavior is Interlocked.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Interlocked:Deassert Delay Value Property

Short Name: HshkEvent.Interlocked.DeassertDelay

Property of DAQmx Export Signal

Specifies in seconds the amount of time to wait after the Handshake Trigger asserts before deasserting the Handshake Event if HshkEvent.OutputBehavior is Interlocked.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Pulse:Polarity Property

Short Name: HshkEvent.Pulse.Polarity

Property of DAQmx Export Signal

Specifies the polarity of the exported Handshake Event if HshkEvent.OutputBehavior is Pulse.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Handshake Event:Pulse:Width Value Property

Short Name: HshkEvent.Pulse.Width

Property of DAQmx Export Signal

Specifies in seconds the pulse width of the exported Handshake Event if HshkEvent.OutputBehavior is Pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Transfer Event:Output Terminal Property

Short Name: RdyForXferEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Ready for Transfer Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Transfer Event:Level:Active Level Property

Short Name: RdyForXferEvent.Lvl.ActiveLvl

Property of DAQmx Export Signal

Specifies the active level of the exported Ready for Transfer Event.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Transfer Event:Deassert Condition Property

Short Name: RdyForXferEvent.DeassertCond

Property of DAQmx Export Signal

Specifies when the ready for transfer event deasserts.

Onboard Memory Full (10236)	Deassert the signal when the onboard memory fills.
Onboard Memory More than Half Full (10237)	Deassert the signal when more than half of the onboard memory of the device fills.
Onboard Memory Custom Threshold (12577)	Deassert the signal when the amount of space available in the onboard memory is below the value specified with RdyForXferEvent.DeassertCondCustomThreshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Transfer Event:Deassert Condition Custom Threshold Property

Short Name: RdyForXferEvent.DeassertCondCustomThreshold

Property of DAQmx Export Signal

Specifies in samples the threshold below which the Ready for Transfer Event deasserts. This threshold is an amount of space available in the onboard memory of the device. RdyForXferEvent.DeassertCond must be Onboard Memory Custom Threshold to use a custom threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Data Active Event:Output Terminal Property

Short Name: DataActiveEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to export the Data Active Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Data Active Event:Level:Active Level Property

Short Name: DataActiveEvent.Lvl.ActiveLvl

Property of DAQmx Export Signal

Specifies the polarity of the exported Data Active Event.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Start Event:Output Terminal Property

Short Name: RdyForStartEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Ready for Start Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Ready For Start Event:Level:Active Level Property

Short Name: RdyForStartEvent.Lvl.ActiveLvl

Property of DAQmx Export Signal

Specifies the polarity of the exported Ready for Start Event.

Active High (10095)	High state is the active state.
Active Low (10096)	Low state is the active state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Synchronization Pulse Event:Output Terminal Property

Short Name: SyncPulseEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Synchronization Pulse Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Events:Watchdog Timer Expired Event:Output Terminal Property

Short Name: WatchdogExpiredEvent.OutputTerm

Property of DAQmx Export Signal

Specifies the terminal to which to route the Watchdog Timer Expired Event.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Persisted Channel Properties

Use the DAQmx Persisted Channel properties to query information about programmatically saved global channels.

Property	Description
Active Channel	Specifies the saved global channel to which subsequent properties apply. Details
Author	Indicates the author of the global channel. Details
Allow Interactive Editing?	Indicates whether the global channel can be edited in the DAQ Assistant. Details
Allow Interactive Deletion?	Indicates whether the global channel can be deleted through MAX. Details

Active Channel Property

Short Name: ActiveChan

Property of DAQmx Persisted Channel

Specifies the saved global channel to which subsequent properties apply.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Author Property

Short Name: Author

Property of DAQmx Persisted Channel

Indicates the author of the global channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Editing? Property

Short Name: AllowInteractiveEditing

Property of DAQmx Persisted Channel

Indicates whether the global channel can be edited in the DAQ Assistant.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Deletion? Property

Short Name: AllowInteractiveDeletion

Property of DAQmx Persisted Channel

Indicates whether the global channel can be deleted through MAX.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Persisted Scale Properties

Use the DAQmx Persisted Scale properties to query information about programmatically saved custom scales.

Property	Description
Active Scale	Specifies the saved custom scale to which subsequent properties apply. Details
Author	Indicates the author of the custom scale. Details
Allow Interactive Editing?	Indicates whether the custom scale can be edited in the DAQ Assistant. Details
Allow Interactive Deletion?	Indicates whether the custom scale can be deleted through MAX. Details

Active Scale Property

Short Name: ActiveScale

Property of DAQmx Persisted Scale

Specifies the saved custom scale to which subsequent properties apply.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Author Property

Short Name: Author

Property of DAQmx Persisted Scale

Indicates the author of the custom scale.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Editing? Property

Short Name: AllowInteractiveEditing

Property of DAQmx Persisted Scale

Indicates whether the custom scale can be edited in the DAQ Assistant.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Deletion? Property

Short Name: AllowInteractiveDeletion

Property of DAQmx Persisted Scale

Indicates whether the custom scale can be deleted through MAX.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Persisted Task Properties

Use the DAQmx Persisted Task properties to query information about programmatically saved tasks.

Property	Description
Active Task	Specifies the saved task to which subsequent properties apply. Details
Author	Indicates the author of the task. Details
Allow Interactive Editing?	Indicates whether the task can be edited in the DAQ Assistant. Details
Allow Interactive Deletion?	Indicates whether the task can be deleted through MAX. Details

Active Task Property

Short Name: ActiveTask

Property of DAQmx Persisted Task

Specifies the saved task to which subsequent properties apply.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Author Property

Short Name: Author

Property of DAQmx Persisted Task

Indicates the author of the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Editing? Property

Short Name: AllowInteractiveEditing

Property of DAQmx Persisted Task

Indicates whether the task can be edited in the DAQ Assistant.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Allow Interactive Deletion? Property

Short Name: AllowInteractiveDeletion

Property of DAQmx Persisted Task

Indicates whether the task can be deleted through MAX.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Physical Channel Properties

Use the DAQmx Physical Channel properties to query information about physical channels. Use the DAQmx Channel properties to configure virtual channels.

Property	Description
Active Physical Channels	Specifies the physical channel from which to retrieve properties. Details
Analog Input:Input Configuration:Terminal Configurations	Indicates the list of terminal configurations supported by the channel. Details
Analog Output:Output Configuration:Terminal Configurations	Indicates the list of terminal configurations supported by the channel. Details
Analog Output:Advanced:Manual Control:Enable	Specifies if you can control the physical channel externally via a manual control located on the device. You cannot simultaneously control a channel manually and with NI-DAQmx. Details
Analog Output:Advanced:Manual Control:Amplitude	Indicates the current value of the front panel amplitude control for the physical channel in volts. Details
Analog Output:Advanced:Manual Control:Frequency	Indicates the current value of the front panel frequency control for the physical channel in hertz. Details
Digital Input:Port Width	Indicates in bits the width of digital input port. Details
Digital Input:Timing:Sample Clock Supported	Indicates if the sample clock timing type is supported for the digital input physical channel. Details
Digital Input:Timing:Change Detection Supported	Indicates if the change detection timing type is supported for the digital input physical channel. Details
Digital Output:Port Width	Indicates in bits the width of digital output port. Details

Digital Output:Timing:Sample Clock Supported	Indicates if the sample clock timing type is supported for the digital output physical channel. Details
TEDS:ManufacturerID	Indicates the manufacturer ID of the sensor. Details
TEDS:Model Number	Indicates the model number of the sensor. Details
TEDS:Serial Number	Indicates the serial number of the sensor. Details
TEDS:Version Number	Indicates the version number of the sensor. Details
TEDS:Version Letter	Indicates the version letter of the sensor. Details
TEDS:BitStream	Indicates the TEDS binary bitstream without checksums. Details
TEDS:TemplateIDs	Indicates the IDs of the templates in the bitstream in TEDS.BitStream. Details

Active Physical Channels Property

Short Name: ActivePhysicalChans

Property of DAQmx Physical Channel

Specifies the physical channel from which to retrieve properties.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Input:Input Configuration:Terminal Configurations Property

Short Name: AI.TermCfgs

Property of DAQmx Physical Channel

Indicates the list of terminal configurations supported by the channel.

NRSE (10078)	Non-Referenced Single-Ended.
RSE (10083)	Referenced Single-Ended.
Differential (10106)	Differential.
Pseudodifferential (12529)	Pseudodifferential.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Output Configuration:Terminal Configurations Property

Short Name: AO.TermCfgs

Property of DAQmx Physical Channel

Indicates the list of terminal configurations supported by the channel.

RSE (10083)	Referenced Single-Ended.
Differential (10106)	Differential.
Pseudodifferential (12529)	Pseudodifferential.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Advanced:Manual Control:Enable Property

Short Name: AO.ManualControl.Enable

Property of DAQmx Physical Channel

Specifies if you can control the physical channel externally via a manual control located on the device. You cannot simultaneously control a channel manually and with NI-DAQmx.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Advanced:Manual Control:Amplitude Property

Short Name: AO.ManualControl.Amplitude

Property of DAQmx Physical Channel

Indicates the current value of the front panel amplitude control for the physical channel in volts.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Analog Output:Advanced:Manual Control:Frequency Property

Short Name: AO.ManualControl.Freq

Property of DAQmx Physical Channel

Indicates the current value of the front panel frequency control for the physical channel in hertz.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Port Width Property

Short Name: DI.PortWidth

Property of DAQmx Physical Channel

Indicates in bits the width of digital input port.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Timing:Sample Clock Supported Property

Short Name: DI.SampClkSupported

Property of DAQmx Physical Channel

Indicates if the sample clock timing type is supported for the digital input physical channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Input:Timing:Change Detection Supported Property

Short Name: DI.ChangeDetectSupported

Property of DAQmx Physical Channel

Indicates if the change detection timing type is supported for the digital input physical channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Port Width Property

Short Name: DO.PortWidth

Property of DAQmx Physical Channel

Indicates in bits the width of digital output port.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Output:Timing:Sample Clock Supported Property

Short Name: DO.SampClkSupported

Property of DAQmx Physical Channel

Indicates if the sample clock timing type is supported for the digital output physical channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:ManufacturerID Property

Short Name: TEDS.MfgID

Property of DAQmx Physical Channel

Indicates the manufacturer ID of the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:Model Number Property

Short Name: TEDS.ModelNum

Property of DAQmx Physical Channel

Indicates the model number of the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:Serial Number Property

Short Name: TEDS.SerialNum

Property of DAQmx Physical Channel

Indicates the serial number of the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:Version Number Property

Short Name: TEDS.VersionNum

Property of DAQmx Physical Channel

Indicates the version number of the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:Version Letter Property

Short Name: TEDS.VersionLetter

Property of DAQmx Physical Channel

Indicates the version letter of the sensor.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:BitStream Property

Short Name: TEDS.BitStream

Property of DAQmx Physical Channel

Indicates the TEDS binary bitstream without checksums.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

TEDS:TemplateIDs Property

Short Name: TEDS.TemplateIDs

Property of DAQmx Physical Channel

Indicates the IDs of the templates in the bitstream in TEDS.BitStream.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Read Properties

Use the DAQmx Read properties to configure read operations, such as from what position in a buffer you want to read, and to query the current status of read operations.

Property	Description
RelativeTo	Specifies the point in the buffer at which to begin a read operation. If you als specify an offset with Offs the read operation begins that offset relative to the p you select with this prope The default value is Curre Read Position unless you configure a Reference Trigger for the task. If you configure a Reference Trigger, the default value First Pretrigger Sample. Details
Offset	Specifies an offset in samples per channel at which to begin a read operation. This offset is relative to the location yo specify with RelativeTo. Details
Channels to Read	Specifies a subset of channels in the task from which to read. Details
Waveform Attributes	Specifies the waveform d type attributes to return. Returning fewer attributes increases performance. Details
Read All Available Samples	Specifies whether

	subsequent read operatic read all samples currentl available in the buffer or for the buffer to become f before reading. NI-DAQm uses this setting for finite acquisitions and only whe the number of samples to read is -1. For continuous acquisitions when the number of samples to rea -1, a read operation alwa reads all samples current available in the buffer. De
Auto Start	Specifies if DAQmx Read automatically starts the ta if you did not start the tas explicitly by using DAQm Start Task. The default va is TRUE. When DAQmx Read starts a finite acquisition task, it also st the task after reading the sample. Details
OverWrite Mode	Specifies whether to overwrite samples in the buffer that you have not y read. Details
Status:Current Read Position	Indicates in samples per channel the current positi in the buffer. Details
Status:Available Samples Per Channel	Indicates the number of samples available to read channel. This value is the same for all channels in t task. Details
Status:Total Samples Per Channel Acquired	Indicates the total numbe

	samples acquired by eac channel. NI-DAQmx retu a single value because th value is the same for all channels. Details
Status:Overcurrent:Overcurrent Channels Exist	Indicates if the device(s) detected an overcurrent condition for any virtual channel in the task. Read this property clears the overcurrent status for all channels in the task. You must read this property before you read OvercurrentChans. Otherwise, you will receiv an error. Details
Status:Overcurrent:Overcurrent Channels	Indicates the names of a virtual channels in the tas for which an overcurrent condition has been detec You must read OvercurrentChansExist before you read this prop Otherwise, you will receiv an error. On some device you must restart the task all overcurrent channels t recover. Details
Status:Open Current Loop:Open Current Loop Channels Exist	Indicates if the device(s) detected an open current loop for any virtual chann the task. Reading this property clears the open current loop status for all channels in the task. You must read this property before you read

	OpenCurrentLoopChans. Otherwise, you will receiv an error. Details
Status:Open Current Loop:Open Current Loop Channels	Indicates the names of ar virtual channels in the tas for which the device(s) detected an open current loop. You must read OpenCurrentLoopChansE before you read this prop Otherwise, you will receiv an error. Details
Status:Overload:Overloaded Channels Exist	Indicates if the device(s) detected an overload in a virtual channel in the task Reading this property cle the overload status for all channels in the task. You must read this property before you read OverloadedChans. Otherwise, you will receiv an error. Details
Status:Overload:Overloaded Channels	Indicates the names of ar overloaded virtual channe in the task. You must rea OverloadedChansExist before you read this prop Otherwise, you will receiv an error. Details
Status:Advanced:ChangeDetection:Overflowed	Indicates if samples were missed because change detection events occurred faster than the device cou handle them. Some devic detect overflows different than others. Details

Advanced:Raw Data Width	Indicates in bytes the size a raw sample from the task. Details
Advanced:Number of Channels	Indicates the number of channels that DAQmx Re reads from the task. This value is the number of channels in the task or th number of channels you specify with ChannelsToRead. Details
Advanced:Digital Input:Number of Booleans Per Channel	Indicates the number of Booleans per channel tha NI-DAQmx returns in a sample for line-based rea If a channel has fewer lin than this number, the extr Booleans are FALSE. De
Advanced:Wait Mode	Specifies how DAQmx R waits for samples to becc available. Details
Advanced:Sleep Time	Specifies in seconds the amount of time to sleep a checking for available samples if WaitMode is Sleep. Details

RelativeTo Property

Short Name: RelativeTo

Property of DAQmx Read

Specifies the point in the buffer at which to begin a read operation. If you also specify an offset with Offset, the read operation begins at that offset relative to the point you select with this property. The default value is Current Read Position unless you configure a Reference Trigger for the task. If you configure a Reference Trigger, the default value is First Pretrigger Sample.

First Sample (10424)	Start reading samples relative to the first sample acquired.
Current Read Position (10425)	Start reading samples relative to the last sample returned by the previous read. For the first read operation, this position is the first sample acquired or the first pretrigger sample if you configured a reference trigger for the task.
Reference Trigger (10426)	Start reading samples relative to the first sample after the reference trigger occurred.
First Pretrigger Sample (10427)	Start reading samples relative to the first pretrigger sample. You specify the number of pretrigger samples to acquire when you configure a reference trigger.
Most Recent Sample (10428)	Start reading samples relative to the next sample acquired. For example, use this value and set Offset to -1 to read the last sample acquired.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Offset Property

Short Name: Offset

Property of DAQmx Read

Specifies an offset in samples per channel at which to begin a read operation. This offset is relative to the location you specify with RelativeTo.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Channels to Read Property

Short Name: ChannelsToRead

Property of DAQmx Read

Specifies a subset of channels in the task from which to read.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Waveform Attributes Property

Short Name: WfmAttr

Property of DAQmx Read

Specifies the waveform data type attributes to return. Returning fewer attributes increases performance.

Samples and Timing (10140)	Return the samples and timing information.
Samples, Timing, and Attributes (10141)	Return the samples, timing information, and other attributes, such as the name of the channel.
Samples (10287)	Return only samples.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Read All Available Samples Property

Short Name: ReadAllAvailSamp

Property of DAQmx Read

Specifies whether subsequent read operations read all samples currently available in the buffer or wait for the buffer to become full before reading. NI-DAQmx uses this setting for finite acquisitions and only when the number of samples to read is -1. For continuous acquisitions when the number of samples to read is -1, a read operation always reads all samples currently available in the buffer.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Auto Start Property

Short Name: AutoStart

Property of DAQmx Read

Specifies if DAQmx Read automatically starts the task if you did not start the task explicitly by using DAQmx Start Task. The default value is TRUE. When DAQmx Read starts a finite acquisition task, it also stops the task after reading the last sample.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

OverWrite Mode Property

Short Name: OverWrite

Property of DAQmx Read

Specifies whether to overwrite samples in the buffer that you have not yet read.

Do Not Overwrite Unread Samples (10159)	The acquisition stops when it encounters a sample in the buffer that you have not read.
Overwrite Unread Samples (10252)	When an acquisition encounters unread data in the buffer, the acquisition continues and overwrites the unread samples with new ones. You can read the new samples by setting RelativeTo to Most Recent Sample and setting Offset to the appropriate number of samples.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Current Read Position Property

Short Name: CurrReadPos

Property of DAQmx Read

Indicates in samples per channel the current position in the buffer.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Available Samples Per Channel Property

Short Name: AvailSampPerChan

Property of DAQmx Read

Indicates the number of samples available to read per channel. This value is the same for all channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Total Samples Per Channel Acquired Property

Short Name: TotalSampPerChanAcquired

Property of DAQmx Read

Indicates the total number of samples acquired by each channel. NI-DAQmx returns a single value because this value is the same for all channels.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overcurrent:Overcurrent Channels Exist Property

Short Name: OvercurrentChansExist

Property of DAQmx Read

Indicates if the device(s) detected an overcurrent condition for any virtual channel in the task. Reading this property clears the overcurrent status for all channels in the task. You must read this property before you read OvercurrentChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overcurrent:Overcurrent Channels Property

Short Name: OvercurrentChans

Property of DAQmx Read

Indicates the names of any virtual channels in the task for which an overcurrent condition has been detected. You must read OvercurrentChansExist before you read this property. Otherwise, you will receive an error. On some devices, you must restart the task for all overcurrent channels to recover.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Open Current Loop:Open Current Loop Channels Exist Property

Short Name: OpenCurrentLoopChansExist

Property of DAQmx Read

Indicates if the device(s) detected an open current loop for any virtual channel in the task. Reading this property clears the open current loop status for all channels in the task. You must read this property before you read OpenCurrentLoopChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Open Current Loop:Open Current Loop Channels Property

Short Name: OpenCurrentLoopChans

Property of DAQmx Read

Indicates the names of any virtual channels in the task for which the device(s) detected an open current loop. You must read OpenCurrentLoopChansExist before you read this property. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overload:Overloaded Channels Exist Property

Short Name: OverloadedChansExist

Property of DAQmx Read

Indicates if the device(s) detected an overload in any virtual channel in the task. Reading this property clears the overload status for all channels in the task. You must read this property before you read OverloadedChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overload:Overloaded Channels Property

Short Name: OverloadedChans

Property of DAQmx Read

Indicates the names of any overloaded virtual channels in the task. You must read OverloadedChansExist before you read this property. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Advanced:ChangeDetection:Overflowed Property

Short Name: ChangeDetect.Overflowed

Property of DAQmx Read

Indicates if samples were missed because change detection events occurred faster than the device could handle them. Some devices detect overflows differently than others.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Raw Data Width Property

Short Name: RawDataWidth

Property of DAQmx Read

Indicates in bytes the size of a raw sample from the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Number of Channels Property

Short Name: NumChans

Property of DAQmx Read

Indicates the number of channels that DAQmx Read reads from the task. This value is the number of channels in the task or the number of channels you specify with ChannelsToRead.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Digital Input:Number of Booleans Per Channel Property

Short Name: DI.NumBooleansPerChan

Property of DAQmx Read

Indicates the number of Booleans per channel that NI-DAQmx returns in a sample for line-based reads. If a channel has fewer lines than this number, the extra Booleans are FALSE.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Wait Mode Property

Short Name: WaitMode

Property of DAQmx Read

Specifies how DAQmx Read waits for samples to become available.

Wait For Interrupt (12523)	Check for available samples when the system receives an interrupt service request. This mode is the most CPU efficient, but results in lower possible sampling rates.
Poll (12524)	Repeatedly check for available samples as fast as possible. This mode allows for the highest sampling rates at the expense of CPU efficiency.
Yield (12525)	Repeatedly check for available samples, but yield control to other threads after each check. This mode offers a balance between sampling rate and CPU efficiency.
Sleep (12547)	Check for available samples once per the amount of time specified in SleepTime.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Sleep Time Property

Short Name: SleepTime

Property of DAQmx Read

Specifies in seconds the amount of time to sleep after checking for available samples if WaitMode is Sleep.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Real-Time Properties

Use the DAQmx Real-Time properties to configure error reporting and recovery options for deterministic applications.

Property	Description
Convert Late Errors To Warnings	Specifies if DAQmx Wait for Next Sample Clock and DAQmx Read convert late errors to warnings. NI-DAQmx returns no late warnings or errors until the number of warmup iterations you specify with NumOfWarmupIters execute. Details
Number Of Warmup Iterations	Specifies the number of loop iterations that must occur before DAQmx Wait for Next Sample Clock and DAQmx Read return any late warnings or errors. The system needs a number of iterations to stabilize. During this period, a large amount of jitter occurs, potentially causing reads and writes to be late. The default number of warmup iterations is 100. Specify a larger number if needed to stabilize the system. Details
Wait For Next Sample Clock Wait Mode	Specifies how DAQmx Wait for Next Sample Clock waits for the next Sample Clock pulse. Details
Report Missed Samples	Specifies whether DAQmx Read returns lateness errors or warnings when it detects missed Sample Clock pulses. This setting does not affect DAQmx Wait for Next Sample Clock. Set this property to TRUE for applications that need to detect lateness without using DAQmx Wait for Next Sample Clock. Details
Write Recovery Mode	Specifies how NI-DAQmx attempts to recover after missing a Sample Clock pulse when performing counter writes. Details

Convert Late Errors To Warnings Property

Short Name: ConvLateErrorsToWarnings

Property of DAQmx Real-Time

Specifies if DAQmx Wait for Next Sample Clock and DAQmx Read convert late errors to warnings. NI-DAQmx returns no late warnings or errors until the number of warmup iterations you specify with NumOfWarmupIters execute.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Number Of Warmup Iterations Property

Short Name: NumOfWarmupIters

Property of DAQmx Real-Time

Specifies the number of loop iterations that must occur before DAQmx Wait for Next Sample Clock and DAQmx Read return any late warnings or errors. The system needs a number of iterations to stabilize. During this period, a large amount of jitter occurs, potentially causing reads and writes to be late. The default number of warmup iterations is 100. Specify a larger number if needed to stabilize the system.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Wait For Next Sample Clock Wait Mode Property

Short Name: WaitForNextSampClkWaitMode

Property of DAQmx Real-Time

Specifies how DAQmx Wait for Next Sample Clock waits for the next Sample Clock pulse.

Wait For Interrupt (12523)	Check for Sample Clock pulses when the system receives an interrupt service request. This mode is the most CPU efficient, but results in lower possible sampling rates.
Poll (12524)	Repeatedly check for Sample Clock pulses as fast as possible. This mode allows for the highest sampling rates at the expense of CPU efficiency.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Report Missed Samples Property

Short Name: ReportMissedSamp

Property of DAQmx Real-Time

Specifies whether DAQmx Read returns lateness errors or warnings when it detects missed Sample Clock pulses. This setting does not affect DAQmx Wait for Next Sample Clock. Set this property to TRUE for applications that need to detect lateness without using DAQmx Wait for Next Sample Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Write Recovery Mode Property

Short Name: WriteRecoveryMode

Property of DAQmx Real-Time

Specifies how NI-DAQmx attempts to recover after missing a Sample Clock pulse when performing counter writes.

Wait For Interrupt (12523)	Attempt to recover when the system receives an interrupt service request. This mode is the most CPU efficient and best suited for recovery at lower pulse train frequencies.
Poll (12524)	Repeatedly attempt to recover as fast as possible. This mode has the highest probability of recovery success at the expense of CPU efficiency.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Scale Properties

Use the DAQmx Scale properties to configure custom scales.

Property	Description
Active Scale	Specifies the name of the custom scale to modify. Details
Description	Specifies a description for the scale. Details
Scaled Units	Specifies the units to use for scaled values. You can use an arbitrary string. Details
Pre-Scaled Units	Specifies the units of the values that you want to scale. Details
Scale Type	Indicates the method or equation form that the custom scale uses. Details
Linear:Slope	Specifies the slope, m, in the equation y=mx+b. Details
Linear:Y-Intercept	Specifies the y-intercept, b, in the equation y=mx+b. Details
Map:Scaled Maximum Value	Specifies the largest value in the range of scaled values. NI-DAQmx maps this value to Map.PreScaledMax. Reads coerce samples that are larger than this value to match this value. Writes generate errors for samples that are larger than this value. Details
Map:Pre-Scaled Maximum Value	Specifies the largest value in the range of pre-scaled values. NI-DAQmx maps this value to Map.ScaledMax. Details
Map:Scaled Minimum Value	Specifies the smallest value in the range of scaled values. NI-DAQmx maps this value to Map.PreScaledMin. Reads coerce samples that are smaller than this value to match this value. Writes generate errors for samples that are smaller than this value. Details
Map:Pre-Scaled Minimum Value	Specifies the smallest value in the range of pre-scaled values. NI-DAQmx maps this value to Map.ScaledMin. Details

Polynomial:Forward Coefficients	Specifies an array of coefficients for the polynomial that converts pre-scaled values to scaled values. Each element of the array corresponds to a term of the equation. For example, if index three of the array is 9, the fourth term of the equation is 9x^3. Details
Polynomial:Reverse Coefficients	Specifies an array of coefficients for the polynomial that converts scaled values to pre-scaled values. Each element of the array corresponds to a term of the equation. For example, if index three of the array is 9, the fourth term of the equation is 9y^3. Details
Table:Scaled Values	Specifies an array of scaled values. These values map directly to the values in Table.PreScaledVals. Details
Table:Pre-Scaled Values	Specifies an array of pre-scaled values. These values map directly to the values in Table.ScaledVals. Details

Active Scale Property

Short Name: ActiveScale

Property of DAQmx Scale

Specifies the name of the custom scale to modify.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Description Property

Short Name: Descr

Property of DAQmx Scale

Specifies a description for the scale.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Scaled Units Property

Short Name: ScaledUnits

Property of DAQmx Scale

Specifies the units to use for scaled values. You can use an arbitrary string.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Pre-Scaled Units Property

Short Name: PreScaledUnits

Property of DAQmx Scale

Specifies the units of the values that you want to scale.

Pascals (10081)	Pascals.
Deg C (10143)	Degrees Celsius.
Deg F (10144)	Degrees Fahrenheit.
Deg R (10145)	Degrees Rankine.
Degrees (10146)	Degrees.
g (10186)	1 g is approximately equal to 9.81 m/s/s.
Meters (10219)	Meters.
Radians (10273)	Radians.
Strain (10299)	Strain.
Kelvins (10325)	Kelvins.
Amps (10342)	Amperes.
Volts (10348)	Volts.
Seconds (10364)	Seconds.
Hz (10373)	Hertz.
Inches (10379)	Inches.
Ohms (10384)	Ohms.
m/s^2 (12470)	Meters per second per second.
From TEDS (12516)	Units defined by TEDS information associated with the channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Scale Type Property

Short Name: ScaleType

Property of DAQmx Scale

Indicates the method or equation form that the custom scale uses.

Linear (10447)	Scale values by using the equation y=mx+b, where x is a prescaled value and y is a scaled value.
Map Ranges (10448)	Scale values proportionally from a range of pre-scaled values to a range of scaled values.
Polynomial (10449)	Scale values by using an Nth order polynomial equation.
Table (10450)	Map an array of pre-scaled values to an array of corresponding scaled values, with all other values scaled proportionally.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Linear:Slope Property

Short Name: Lin.Slope

Property of DAQmx Scale

Specifies the slope, m, in the equation y=mx+b.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Linear:Y-Intercept Property

Short Name: Lin.YIntercept

Property of DAQmx Scale

Specifies the y-intercept, b, in the equation y=mx+b.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Map:Scaled Maximum Value Property

Short Name: Map.ScaledMax

Property of DAQmx Scale

Specifies the largest value in the range of scaled values. NI-DAQmx maps this value to Map.PreScaledMax. Reads coerce samples that are larger than this value to match this value. Writes generate errors for samples that are larger than this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Map:Pre-Scaled Maximum Value Property

Short Name: Map.PreScaledMax

Property of DAQmx Scale

Specifies the largest value in the range of pre-scaled values. NI-DAQmx maps this value to Map.ScaledMax.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Map:Scaled Minimum Value Property

Short Name: Map.ScaledMin

Property of DAQmx Scale

Specifies the smallest value in the range of scaled values. NI-DAQmx maps this value to Map.PreScaledMin. Reads coerce samples that are smaller than this value to match this value. Writes generate errors for samples that are smaller than this value.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Map:Pre-Scaled Minimum Value Property

Short Name: Map.PreScaledMin

Property of DAQmx Scale

Specifies the smallest value in the range of pre-scaled values. NI-DAQmx maps this value to Map.ScaledMin.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Polynomial:Forward Coefficients Property

Short Name: Poly.ForwardCoeff

Property of DAQmx Scale

Specifies an array of coefficients for the polynomial that converts pre-scaled values to scaled values. Each element of the array corresponds to a term of the equation. For example, if index three of the array is 9, the fourth term of the equation is 9x^3.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Polynomial:Reverse Coefficients Property

Short Name: Poly.ReverseCoeff

Property of DAQmx Scale

Specifies an array of coefficients for the polynomial that converts scaled values to pre-scaled values. Each element of the array corresponds to a term of the equation. For example, if index three of the array is 9, the fourth term of the equation is 9y^3.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Table:Scaled Values Property

Short Name: Table.ScaledVals

Property of DAQmx Scale

Specifies an array of scaled values. These values map directly to the values in Table.PreScaledVals.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Table:Pre-Scaled Values Property

Short Name: Table.PreScaledVals

Property of DAQmx Scale

Specifies an array of pre-scaled values. These values map directly to the values in Table.ScaledVals.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Switch Channel Properties

Use the DAQmx Switch Channel properties to modify the usage of a switch channel and to query the capabilities of a switch channel.

Property	Description
Active Switch Channel	Specifies the switch channel to which the subsequent properties apply. Details
Usage	Specifies how you can use the channel. Using this property acts as a safety mechanism to prevent you from connecting two source channels, for example. Details
Capability:Max AC Carry Current	Indicates in amperes the maximum AC current that the device can carry. Details
Capability:Max AC Switching Current	Indicates in amperes the maximum AC current that the device can switch. This current is always against an RMS voltage level. Details
Capability:Max AC Carry Power	Indicates in watts the maximum AC power that the device can carry. Details
Capability:Max AC Switching Power	Indicates in watts the maximum AC power that the device can switch. Details
Capability:Max DC Carry Current	Indicates in amperes the maximum DC current that the device can carry. Details
Capability:Max DC Switching Current	Indicates in amperes the maximum DC current that the device can switch. This current is always against a DC voltage level. Details
Capability:Max DC Carry Power	Indicates in watts the maximum DC power that the device can carry. Details
Capability:Max DC Switching Power	Indicates in watts the maximum DC power that the device can switch. Details
Capability:Max AC Voltage	Indicates in volts the maximum AC RMS voltage that the device can switch. Details
Capability:Max DC Voltage	Indicates in volts the maximum DC voltage that the device can switch. Details
Capability:Wire Mode	Indicates the number of wires that the channel

	switches. Details
Capability:Bandwidth	Indicates in Hertz the maximum frequency of a signal that can pass through the switch without significant deterioration. Details
Capability:Impedance	Indicates in ohms the switch impedance. This value is important in the RF domain and should match the impedance of the sources and loads. Details

Active Switch Channel Property

Short Name: ActiveSwitchChan

Property of DAQmx Switch Channel

Specifies the switch channel to which the subsequent properties apply.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Usage Property

Short Name: Usage

Property of DAQmx Switch Channel

Specifies how you can use the channel. Using this property acts as a safety mechanism to prevent you from connecting two source channels, for example.

Source (10439)	You can use the channel only as an input for a signal.
Load (10440)	You can use the channel only as the output for a signal passing through the switch.
Reserved for Routing (10441)	You can use the channel only to complete routes within a switch.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max AC Carry Current Property

Short Name: MaxACCarryCurrent

Property of DAQmx Switch Channel

Indicates in amperes the maximum AC current that the device can carry.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max AC Switching Current Property

Short Name: MaxACSwitchCurrent

Property of DAQmx Switch Channel

Indicates in amperes the maximum AC current that the device can switch. This current is always against an RMS voltage level.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max AC Carry Power Property

Short Name: MaxACCarryPwr

Property of DAQmx Switch Channel

Indicates in watts the maximum AC power that the device can carry.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max AC Switching Power Property

Short Name: MaxACSwitchPwr

Property of DAQmx Switch Channel

Indicates in watts the maximum AC power that the device can switch.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max DC Carry Current Property

Short Name: MaxDCCarryCurrent

Property of DAQmx Switch Channel

Indicates in amperes the maximum DC current that the device can carry.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max DC Switching Current Property

Short Name: MaxDCSwitchCurrent

Property of DAQmx Switch Channel

Indicates in amperes the maximum DC current that the device can switch. This current is always against a DC voltage level.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max DC Carry Power Property

Short Name: MaxDCCarryPwr

Property of DAQmx Switch Channel

Indicates in watts the maximum DC power that the device can carry.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max DC Switching Power Property

Short Name: MaxDCSwitchPwr

Property of DAQmx Switch Channel

Indicates in watts the maximum DC power that the device can switch.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max AC Voltage Property

Short Name: MaxACVoltage

Property of DAQmx Switch Channel

Indicates in volts the maximum AC RMS voltage that the device can switch.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Max DC Voltage Property

Short Name: MaxDCVoltage

Property of DAQmx Switch Channel

Indicates in volts the maximum DC voltage that the device can switch.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Wire Mode Property

Short Name: WireMode

Property of DAQmx Switch Channel

Indicates the number of wires that the channel switches.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Bandwidth Property

Short Name: Bandwidth

Property of DAQmx Switch Channel

Indicates in Hertz the maximum frequency of a signal that can pass through the switch without significant deterioration.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Impedance Property

Short Name: Impedance

Property of DAQmx Switch Channel

Indicates in ohms the switch impedance. This value is important in the RF domain and should match the impedance of the sources and loads.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Switch Device Properties

Use the DAQmx Switch Device properties to configure and query the capabilities of switch devices.

Property	Description
Active Device	Specifies the switch device to which the subsequent properties apply. Details
Settling Time	Specifies in seconds the amount of time to wait for the switch to settle (or debounce). NI-DAQmx adds this time to the settling time of the motherboard. Modify this property only if the switch does not settle within the settling time of the motherboard. Refer to device documentation for supported settling times. Details
Auto Connect Analog Bus	Specifies if NI-DAQmx routes multiplexed channels to the analog bus backplane. Only the SCXI-1127 and SCXI-1128 support this property. Details
Power Down Latching Relays After Settling	Specifies if DAQmx Switch Wait for Settling powers down latching relays after waiting for the device to settle. Details
Is Settled	Indicates when SettlingTime expires. Details
Capability:Relay List	Indicates a comma-delimited list of relay names. Details
Capability:Number of Relays	Indicates the number of relays on the device. This value matches the number of relay names in RelayList. Details
Capability:Switch Channel List	Indicates a comma-delimited list of channel names for the current topology of the device. Details
Capability:Number of Switch Channels	Indicates the number of switch channels for the current topology of the device. This value matches the number of channel names in SwitchChanList. Details
Capability:Number of Rows	Indicates the number of rows on a device in a matrix switch topology. Indicates the number of multiplexed channels on a device in a mux topology. Details

Capability:Number of Columns	Indicates the number of columns on a device in a matrix switch topology. This value is always 1 if the device is in a mux topology. Details
Topology	Indicates the current topology of the device. This value is one of the topology options in DAQmx Switch Set Topology and Reset. Details

Active Device Property

Short Name: ActiveDev

Property of DAQmx Switch Device

Specifies the switch device to which the subsequent properties apply.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Settling Time Property

Short Name: SettlingTime

Property of DAQmx Switch Device

Specifies in seconds the amount of time to wait for the switch to settle (or debounce). NI-DAQmx adds this time to the settling time of the motherboard. Modify this property only if the switch does not settle within the settling time of the motherboard. Refer to device documentation for supported settling times.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Auto Connect Analog Bus Property

Short Name: AutoConnAnlgBus

Property of DAQmx Switch Device

Specifies if NI-DAQmx routes multiplexed channels to the analog bus backplane. Only the SCXI-1127 and SCXI-1128 support this property.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Power Down Latching Relays After Settling Property

Short Name: PwrDownLatchRelaysAfterSettling

Property of DAQmx Switch Device

Specifies if DAQmx Switch Wait for Settling powers down latching relays after waiting for the device to settle.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Is Settled Property

Short Name: Settled

Property of DAQmx Switch Device

Indicates when SettlingTime expires.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Relay List Property

Short Name: RelayList

Property of DAQmx Switch Device

Indicates a comma-delimited list of relay names.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Number of Relays Property

Short Name: NumRelays

Property of DAQmx Switch Device

Indicates the number of relays on the device. This value matches the number of relay names in RelayList.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Switch Channel List Property

Short Name: SwitchChanList

Property of DAQmx Switch Device

Indicates a comma-delimited list of channel names for the current topology of the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Number of Switch Channels Property

Short Name: NumSwitchChans

Property of DAQmx Switch Device

Indicates the number of switch channels for the current topology of the device. This value matches the number of channel names in SwitchChanList.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Number of Rows Property

Short Name: NumRows

Property of DAQmx Switch Device

Indicates the number of rows on a device in a matrix switch topology. Indicates the number of multiplexed channels on a device in a mux topology.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Capability:Number of Columns Property

Short Name: NumColumns

Property of DAQmx Switch Device

Indicates the number of columns on a device in a matrix switch topology. This value is always 1 if the device is in a mux topology.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Topology Property

Short Name: Topology

Property of DAQmx Switch Device

Indicates the current topology of the device. This value is one of the topology options in DAQmx Switch Set Topology and Reset.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Switch Scan Properties

Use the DAQmx Switch Scan properties to configure the behavior of a switch scanning task.

Property	Description
Break Mode	Specifies the action to take between each entry in a scan list. Details
Repeat Mode	Specifies if the task advances through the scan list multiple times. Details
Is Waiting For Advance	Indicates if the switch hardware is waiting for an Advance Trigger. If the hardware is waiting, it completed the previous entry in the scan list. Details

Break Mode Property

Short Name: BreakMode

Property of DAQmx Switch Scan

Specifies the action to take between each entry in a scan list.

Break Before Make (10110)	When advancing to the next entry in the scan list, disconnect all previous connections before making any new connections.
No Action (10227)	When advancing to the next entry in the scan list, leave all previous connections intact.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Repeat Mode Property

Short Name: RepeatMode

Property of DAQmx Switch Scan

Specifies if the task advances through the scan list multiple times.

Continuous (10117)	The task returns to the beginning of the scan list when it reaches the end of the scan list.
Finite (10172)	The task advances through the scan list one time only. NI-DAQmx ignores any Advance Triggers after completing the scan list.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Is Waiting For Advance Property

Short Name: WaitingForAdv

Property of DAQmx Switch Scan

Indicates if the switch hardware is waiting for an Advance Trigger. If the hardware is waiting, it completed the previous entry in the scan list.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx System Properties

The DAQmx System properties return information about the NI-DAQmx software configuration on your system, including version number and the names of saved virtual channels and tasks.

Property	Description
Global Channels	Indicates an array that contains the names of all global channels saved on the system. Details
Scales	Indicates an array that contains the names of all custom scales saved on the system. Details
Tasks	Indicates an array that contains the names of all tasks saved on the system. Details
Device Names	Indicates the names of all devices installed in the system. Details
System:NI-DAQ Version:Major	Indicates the major portion of the installed version of NI-DAQ, such as 7 for version 7.0. Details
System:NI-DAQ Version:Minor	Indicates the minor portion of the installed version of NI-DAQ, such as 0 for version 7.0. Details

Global Channels Property

Short Name: GlobalChans

Property of DAQmx System

Indicates an array that contains the names of all global channels saved on the system.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Scales Property

Short Name: Scales

Property of DAQmx System

Indicates an array that contains the names of all custom scales saved on the system.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Tasks Property

Short Name: Tasks

Property of DAQmx System

Indicates an array that contains the names of all tasks saved on the system.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Device Names Property

Short Name: DevNames

Property of DAQmx System

Indicates the names of all devices installed in the system.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

System:NI-DAQ Version:Major Property

Short Name: MajorVersion

Property of DAQmx System

Indicates the major portion of the installed version of NI-DAQ, such as 7 for version 7.0.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

System:NI-DAQ Version:Minor Property

Short Name: MinorVersion

Property of DAQmx System

Indicates the minor portion of the installed version of NI-DAQ, such as 0 for version 7.0.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Task Properties

The DAQmx Task properties return information about a specified task.

Property	Description
Name	Indicates the name of the task. Details
Channels	Indicates the names of all virtual channels in the task. Details
Number of Channels	Indicates the number of virtual channels in the task. Details
Devices	Indicates an array containing the names of all devices in the task. Details
Number of Devices	Indicates the number of devices in the task. Details
Task Done	Indicates whether the task completed execution. Details

Name Property

Short Name: Name

Property of DAQmx Task

Indicates the name of the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Channels Property

Short Name: Channels

Property of DAQmx Task

Indicates the names of all virtual channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Number of Channels Property

Short Name: NumChans

Property of DAQmx Task

Indicates the number of virtual channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Devices Property

Short Name: Devices

Property of DAQmx Task

Indicates an array containing the names of all devices in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Number of Devices Property

Short Name: NumDevices

Property of DAQmx Task

Indicates the number of devices in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Task Done Property

Short Name: Done

Property of DAQmx Task

Indicates whether the task completed execution.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Timing Properties

Use the DAQmx Timing properties to configure the sample timing and duration of a task.

Property	Description
Sample Quantity:Sample Mode	Specifies if a task acquires or generates a finite number of samples or if it continuously acquires or generates samples. Details
Sample Quantity:Samples Per Channel	Specifies the number of samples to acquire or generate for each channel if SampQuant.SampMode is Finite Samples. If SampQuant.SampMode is Continuous Samples, NI-DAQmx uses this value to determine the buffer size. Details
Sample Timing Type	Specifies the type of sample timing to use for the task. Details
Sample Clock:Rate	Specifies the sampling rate in samples per channel per second. If you use an external source for the Sample Clock, set this input to the maximum expected rate of that clock. Details
Sample Clock:Maximum Rate	Indicates the maximum Sample Clock rate supported by the task, based on other timing settings. For output tasks, the maximum Sample Clock rate is the maximum rate of the DAC. For input tasks, NI-DAQmx calculates the maximum sampling rate differently for multiplexed devices than simultaneous sampling devices. Details
Sample Clock:Source	Specifies the terminal of the signal to use as the Sample Clock. Details
Sample Clock:Active Edge	Specifies on which edge of a clock pulse sampling takes place. This property is useful primarily when the signal you use as the Sample Clock is not a periodic clock. Details
Sample Clock:Underflow	Specifies the action to take when the

Behavior	onboard memory of the device becomes empty. Details
Sample Clock:Timebase Divisor	Specifies the number of Sample Clock Timebase pulses needed to produce a single Sample Clock pulse. Details
Sample Clock:Timebase:Rate	Specifies the rate of the Sample Clock Timebase. Some applications require that you specify a rate when you use any signal other than the onboard Sample Clock Timebase. NI-DAQmx requires this rate to calculate other timing parameters. Details
Sample Clock:Timebase:Source	Specifies the terminal of the signal to use as the Sample Clock Timebase. Details
Sample Clock:Timebase:Active Edge	Specifies on which edge to recognize a Sample Clock Timebase pulse. This property is useful primarily when the signal you use as the Sample Clock Timebase is not a periodic clock. Details
Sample Clock:Timebase:Master Timebase Divisor	Specifies the number of pulses of the Master Timebase needed to produce a single pulse of the Sample Clock Timebase. Details
Sample Clock:Digital Filter:Enable	Specifies whether to apply the pulse width filter to the signal. Details
Sample Clock:Digital Filter:Minimum Pulse Width	Specifies in seconds the minimum pulse width the filter recognizes. Details
Sample Clock:Digital Filter:Timebase:Source	Specifies the input terminal of the signal to use as the timebase of the pulse width filter. Details
Sample Clock:Digital Filter:Timebase:Rate	Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter. Details
Sample Clock:Digital Synchronization:Enable	Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device. Details

Handshake:Delay After Transfer	Specifies the number of seconds to wait after a handshake cycle before starting a new handshake cycle. Details
Handshake:Start Condition	Specifies the point in the handshake cycle that the device is in when the task starts. Details
Handshake:Sample Input Data When	Specifies on which edge of the Handshake Trigger an input task latches the data from the peripheral device. Details
Change Detection:Digital Input:Rising Edge Physical Channels	Specifies the names of the digital lines or ports on which to detect rising edges. The lines or ports must be used by virtual channels in the task. You also can specify a string that contains a list or range of digital lines or ports. Details
Change Detection:Digital Input:Falling Edge Physical Channels	Specifies the names of the digital lines or ports on which to detect falling edges. The lines or ports must be used by virtual channels in the task. You also can specify a string that contains a list or range of digital lines or ports. Details
On Demand:Simultaneous Analog Output Enable	Specifies whether to update all channels in the task simultaneously, rather than updating channels independently when you write a sample to that channel. Details
More:AI Convert:Active Devices	Specifies a subset of devices in the task to configure. NI-DAQmx configures all devices in the task if you do not set this property. Details
More:AI Convert:Rate	Specifies in Hertz the rate at which to clock the analog-to-digital converter. This clock is specific to the analog input section of multiplexed devices. Details
More:AI Convert:Maximum Rate	Indicates the maximum convert rate supported by the task, given the current devices and channel count. Details

More:AI Convert:Source	Specifies the terminal of the signal to use as the AI Convert Clock. Details
More:AI Convert:Active Edge	Specifies on which edge of the clock pulse an analog-to-digital conversion takes place. Details
More:AI Convert:Timebase Divisor	Specifies the number of AI Convert Clock Timebase pulses needed to produce a single AI Convert Clock pulse. Details
More:AI Convert:Timebase:Source	Specifies the terminal of the signal to use as the AI Convert Clock Timebase. Details
More:AI Convert:Delay From Sample Clock:Delay Units	Specifies the units of DelayFromSampClk.Delay. Details
More:AI Convert:Delay From Sample Clock:Delay	Specifies the amount of time to wait after receiving a Sample Clock edge before beginning to acquire the sample. This value is in the units you specify with DelayFromSampClk.DelayUnits. Details
More:Master Timebase:Rate	Specifies the rate of the Master Timebase. Details
More:Master Timebase:Source	Specifies the terminal of the signal to use as the Master Timebase. On an E Series device, you can choose only between the onboard 20MHz Timebase or the RTSI7 terminal. Details
More:Reference Clock:Rate	Specifies the frequency of the Reference Clock. Details
More:Reference Clock:Source	Specifies the terminal of the signal to use as the Reference Clock. Details
More:Synchronization Pulse:Source	Specifies the terminal of the signal to use as the synchronization pulse. The synchronization pulse resets the clock dividers and the ADCs/DACs on the device. Details
More:Synchronization	Indicates in seconds the delay required to

Pulse:Synchronization Time	reset the ADCs/DACs after the device receives the synchronization pulse. Details
More:Synchronization Pulse:Minimum Delay To Start	Specifies in seconds the amount of time that elapses after the master device issues the synchronization pulse before the task starts. Details
Advanced:Sample Timing Engine	Specifies which timing engine to use for the specified timing type. Refer to device documentation for information on supported timing engines. Details

Sample Quantity:Sample Mode Property

Short Name: SampQuant.SampMode

Property of DAQmx Timing

Specifies if a task acquires or generates a finite number of samples or if it continuously acquires or generates samples.

For an analog input task with a Reference Trigger, you must set this property to Finite Samples even though the task runs continuously until the Reference Trigger occurs.

Continuous Samples (10123)	Acquire or generate samples until you stop the task.
Finite Samples (10178)	Acquire or generate a finite number of samples.
Hardware Timed Single Point (12522)	Acquire or generate samples continuously using hardware timing without a buffer. Hardware timed single point sample mode is supported only for the sample clock and change detection timing types.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Quantity:Samples Per Channel Property

Short Name: SampQuant.SampPerChan

Property of DAQmx Timing

Specifies the number of samples to acquire or generate for each channel if SampQuant.SampMode is Finite Samples. If SampQuant.SampMode is Continuous Samples, NI-DAQmx uses this value to determine the buffer size.

To configure an analog output task to generate a finite number of cycles of a waveform, set this property to (desired number of cycles) * (number of samples per cycle).

This property affects the buffer allocation for the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Timing Type Property

Short Name: SampTimingType

Property of DAQmx Timing

Specifies the type of sample timing to use for the task.

Select Sample Clock when a hardware signal (usually a clock) must acquire or produce samples. To perform buffered edge counting, for example, select Sample Clock and use SampClk.Src to specify the source of the Sample Clock.

Select Handshake when you want to use bidirectional hardware signals to time the exchange of digital data between two devices.

Select On Demand when you want to acquire data only when DAQmx Read executes or to generate data only when DAQmx Write executes.

Select Implicit when you perform a buffered period or frequency counter measurement or when you generate a finite pulse train.

Sample Clock (10388)	Use a sample clock to determine how often to acquire or generate samples.
Handshake (10389)	Determine sample timing by using digital handshaking between the device and a peripheral device.
On Demand (10390)	Acquire or generate a sample on each read or write operation.
Implicit (10451)	Configure only the duration of the task.
Change Detection (12504)	Acquire samples when a change occurs in the state of one or more digital input lines. The lines must be contained within a digital input channel.
Burst Handshake (12548)	Determine sample timing using burst handshaking between the device and a peripheral device.
Pipelined Sample Clock	Device acquires or generates samples on each sample clock edge, but does not respond to certain triggers until a few sample clock edges later. Pipelining allows higher data

(14668)	transfer rates at the cost of increased trigger response latency. Refer to the device documentation for information about which triggers pipelining affects. This timing type allows handshaking with some devices using the Pause trigger, the Ready for Transfer event, or the Data Active event. Refer to the device documentation for more information.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Rate Property

Short Name: SampClk.Rate

Property of DAQmx Timing

Specifies the sampling rate in samples per channel per second. If you use an external source for the Sample Clock, set this input to the maximum expected rate of that clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Maximum Rate Property

Short Name: SampClk.MaxRate

Property of DAQmx Timing

Indicates the maximum Sample Clock rate supported by the task, based on other timing settings. For output tasks, the maximum Sample Clock rate is the maximum rate of the DAC. For input tasks, NI-DAQmx calculates the maximum sampling rate differently for multiplexed devices than simultaneous sampling devices.

For multiplexed devices, NI-DAQmx calculates the maximum sample clock rate based on the maximum AI Convert Clock rate unless you set AIConv.Rate. If you set that property, NI-DAQmx calculates the maximum sample clock rate based on that setting. Use AIConv.MaxRate to query the maximum AI Convert Clock rate. NI-DAQmx also uses the minimum sample clock delay to calculate the maximum sample clock rate unless you set DelayFromSampClk.Delay.

For simultaneous sampling devices, the maximum Sample Clock rate is the maximum rate of the ADC.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Source Property

Short Name: SampClk.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the Sample Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Active Edge Property

Short Name: SampClk.ActiveEdge

Property of DAQmx Timing

Specifies on which edge of a clock pulse sampling takes place. This property is useful primarily when the signal you use as the Sample Clock is not a periodic clock.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Underflow Behavior Property

Short Name: SampClk.UnderflowBehavior

Property of DAQmx Timing

Specifies the action to take when the onboard memory of the device becomes empty.

Halt Output and Error (14615)	Stop generating samples and return an error.
Pause until Data Available (14616)	Pause the task until samples are available in the FIFO.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Timebase Divisor Property

Short Name: SampClk.TimebaseDiv

Property of DAQmx Timing

Specifies the number of Sample Clock Timebase pulses needed to produce a single Sample Clock pulse.

The rate of the Sample Clock is equal to (frequency of Sample Clock Timebase) / (value of this property).

If the Sample Clock Timebase is not a periodic clock, the value of this property determines the number of Sample Clock Timebase edges that the device must receive before producing each Sample Clock pulse. Use SampClk.Timebase.ActiveEdge to specify the polarity of these edges.

Setting this property has a similar effect to setting SampClk.Rate. Use SampClk.Rate when you know the rate of the Sample Clock Timebase and you want to acquire or generate samples at the specified rate. Use this property when you have an external timebase that you want to divide down and use as the Sample Clock, but you do not know rate of the external timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Timebase:Rate Property

Short Name: SampClk.Timebase.Rate

Property of DAQmx Timing

Specifies the rate of the Sample Clock Timebase. Some applications require that you specify a rate when you use any signal other than the onboard Sample Clock Timebase. NI-DAQmx requires this rate to calculate other timing parameters.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Timebase:Source Property

Short Name: SampClk.Timebase.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the Sample Clock Timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Timebase:Active Edge Property

Short Name: SampClk.Timebase.ActiveEdge

Property of DAQmx Timing

Specifies on which edge to recognize a Sample Clock Timebase pulse. This property is useful primarily when the signal you use as the Sample Clock Timebase is not a periodic clock.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Timebase:Master Timebase Divisor Property

Short Name: SampClk.Timebase.MasterTimebaseDiv

Property of DAQmx Timing

Specifies the number of pulses of the Master Timebase needed to produce a single pulse of the Sample Clock Timebase.

The rate of the Sample Clock Timebase is equal to (frequency of Master Timebase) / (value of this property). The only valid values for this property are 1 and 200.

Setting this property has a similar effect to setting SampClk.Timebase.Rate. Use SampClk.Timebase.Rate when you know the rate of the Master Timebase and you want to produce a Sample Clock Timebase at the specified rate. Use this property when you have an external Master Timebase that you want to divide down and use as the Sample Clock Timebase, but you do not know rate of that external Master Timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Digital Filter:Enable Property

Short Name: SampClk.DigFltr.Enable

Property of DAQmx Timing

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Digital Filter:Minimum Pulse Width Property

Short Name: SampClk.DigFltr.MinPulseWidth

Property of DAQmx Timing

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Digital Filter:Timebase:Source Property

Short Name: SampClk.DigFltr.TimebaseSrc

Property of DAQmx Timing

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Digital Filter:Timebase:Rate Property

Short Name: SampClk.DigFltr.TimebaseRate

Property of DAQmx Timing

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Sample Clock:Digital Synchronization:Enable Property

Short Name: SampClk.DigSync.Enable

Property of DAQmx Timing

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Handshake:Delay After Transfer Property

Short Name: Hshk.DelayAfterXfer

Property of DAQmx Timing

Specifies the number of seconds to wait after a handshake cycle before starting a new handshake cycle.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Handshake:Start Condition Property

Short Name: Hshk.StartCond

Property of DAQmx Timing

Specifies the point in the handshake cycle that the device is in when the task starts.

Immediate (10198)	Device is waiting for space in the FIFO (for acquisition) or waiting for samples (for generation).
Wait For Handshake Trigger Assert (12550)	Device is waiting for the Handshake Trigger to assert.
Wait For Handshake Trigger Deassert (12551)	Device is waiting for the Handshake Trigger to deassert.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Handshake:Sample Input Data When Property

Short Name: Hshk.SampleInputDataWhen

Property of DAQmx Timing

Specifies on which edge of the Handshake Trigger an input task latches the data from the peripheral device.

Handshake Trigger Asserts (12552)	Latch data when the Handshake Trigger asserts.
Handshake Trigger Deasserts (12553)	Latch data when the Handshake Trigger deasserts.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Change Detection:Digital Input:Rising Edge Physical Channels Property

Short Name: ChangeDetect.DI.RisingEdgePhysicalChans

Property of DAQmx Timing

Specifies the names of the digital lines or ports on which to detect rising edges. The lines or ports must be used by virtual channels in the task. You also can specify a string that contains a list or range of digital lines or ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Change Detection:Digital Input:Falling Edge Physical Channels Property

Short Name: ChangeDetect.DI.FallingEdgePhysicalChans

Property of DAQmx Timing

Specifies the names of the digital lines or ports on which to detect falling edges. The lines or ports must be used by virtual channels in the task. You also can specify a string that contains a list or range of digital lines or ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

On Demand:Simultaneous Analog Output Enable Property

Short Name: SimultaneousAOEnable

Property of DAQmx Timing

Specifies whether to update all channels in the task simultaneously, rather than updating channels independently when you write a sample to that channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Active Devices Property

Short Name: ActiveDevs

Property of DAQmx Timing

Specifies a subset of devices in the task to configure. NI-DAQmx configures all devices in the task if you do not set this property.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Rate Property

Short Name: AIConv.Rate

Property of DAQmx Timing

Specifies in Hertz the rate at which to clock the analog-to-digital converter. This clock is specific to the analog input section of multiplexed devices.

By default, NI-DAQmx selects the maximum convert rate supported by the device, plus up to 10 microseconds per channel settling time. Other task settings, such as high channel counts or setting DelayFromSampClk.Delay, can result in a faster default convert rate.

CompactDAQ applies up to 10 microseconds of settling time for all C Series devices even if the maximum convert rates of the devices differ.

If you connect signal conditioning accessories with track and hold capabilities, such as an SCXI module, to the device, NI-DAQmx uses the fastest convert rate possible that meets the settling requirements for the slowest module sampled. Refer to the device documentation for the signal conditioning accessory for more information.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Maximum Rate Property

Short Name: AIConv.MaxRate

Property of DAQmx Timing

Indicates the maximum convert rate supported by the task, given the current devices and channel count.

This rate is generally faster than the default AI Convert Clock rate selected by NI-DAQmx, because NI-DAQmx adds in an additional 10 microseconds per channel settling time to compensate for most potential system settling constraints.

For single channel tasks, the maximum AI Convert Clock rate is the maximum rate of the ADC. For multiple channel tasks, the maximum AI Convert Clock rate is the maximum convert rate of the analog hardware, including the ADC, filters, multiplexers, and amplifiers. Signal conditioning accessories can further constrain the maximum AI Convert Clock based on timing and settling requirements.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Source Property

Short Name: AIConv.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the AI Convert Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Active Edge Property

Short Name: AIConv.ActiveEdge

Property of DAQmx Timing

Specifies on which edge of the clock pulse an analog-to-digital conversion takes place.

This property is useful primarily when the signal you use as the AI Convert Clock is not a periodic clock. For example, set this property to Rising to perform an analog to digital conversion on each rising edge of an aperiodic signal.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Timebase Divisor Property

Short Name: AIConv.TimebaseDiv

Property of DAQmx Timing

Specifies the number of AI Convert Clock Timebase pulses needed to produce a single AI Convert Clock pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Timebase:Source Property

Short Name: AIConv.Timebase.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the AI Convert Clock Timebase.

Same as Master Timebase (10282)	Use the same source as the Master Timebase.
Same as Sample Timebase (10284)	Use the same source as Sample Clock timebase.
20MHz Timebase (12537)	Use the onboard 20MHz timebase.
80MHz Timebase (14636)	Use the onboard 80MHz timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Delay From Sample Clock:Delay Units Property

Short Name: DelayFromSampClk.DelayUnits

Property of DAQmx Timing

Specifies the units of DelayFromSampClk.Delay.

NI-DAQmx uses the AI Convert Clock timebase to produce the delay.

If you set this property to Ticks and N is the value of DelayFromSampClk.Delay, N pulses of the AI Convert Clock Timebase occur after receiving a Sample Clock pulse before the acquisition of the sample begins.

If you set this property to Seconds, that number of seconds elapses after receiving a Sample Clock pulse before the acquisition of the sample begins.

Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:AI Convert:Delay From Sample Clock:Delay Property

Short Name: DelayFromSampClk.Delay

Property of DAQmx Timing

Specifies the amount of time to wait after receiving a Sample Clock edge before beginning to acquire the sample. This value is in the units you specify with DelayFromSampClk.DelayUnits.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Master Timebase:Rate Property

Short Name: MasterTimebase.Rate

Property of DAQmx Timing

Specifies the rate of the Master Timebase.

This property is useful only when the source of the Master Timebase is not the onboard 20 MHz timebase. NI-DAQmx requires the Master Timebase rate to calculate other timing parameters.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Master Timebase:Source Property

Short Name: MasterTimebase.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the Master Timebase. On an E Series device, you can choose only between the onboard 20MHz Timebase or the RTSI7 terminal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Reference Clock:Rate Property

Short Name: RefClk.Rate

Property of DAQmx Timing

Specifies the frequency of the Reference Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Reference Clock:Source Property

Short Name: RefClk.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the Reference Clock.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Synchronization Pulse:Source Property

Short Name: SyncPulse.Src

Property of DAQmx Timing

Specifies the terminal of the signal to use as the synchronization pulse. The synchronization pulse resets the clock dividers and the ADCs/DACs on the device.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Synchronization Pulse:Synchronization Time Property

Short Name: SyncPulse.SyncTime

Property of DAQmx Timing

Indicates in seconds the delay required to reset the ADCs/DACs after the device receives the synchronization pulse.

This time is the minimum delay required by the device between the receipt of the synchronization pulse and the start of the acquisition. Read this property for all slave devices and set SyncPulse.MinDelayToStart for the master device to the maximum of these delays.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Synchronization Pulse:Minimum Delay To Start Property

Short Name: SyncPulse.MinDelayToStart

Property of DAQmx Timing

Specifies in seconds the amount of time that elapses after the master device issues the synchronization pulse before the task starts.

Read SyncPulse.SyncTime for all slave devices, and set this property for the master device to the maximum of those values.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Sample Timing Engine Property

Short Name: SampTimingEngine

Property of DAQmx Timing

Specifies which timing engine to use for the specified timing type. Refer to device documentation for information on supported timing engines.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Timing Source Properties

Use the DAQmx Timing Source properties to retrieve information about timing sources for Timed Loops.

Property	Description
Active Timing Source	Specifies the timing source from which to retrieve properties. Details
Timing Source Type	Indicates the type of timing source. Details
Control Loop From Task:Sleep Time	Indicates in microseconds the amount of time the Timed Loop sleeps after each sample clock pulse. Details
Frequency:Counter	Indicates the counter the timing source uses. Details
Frequency:Frequency	Indicates the frequency of the timing source. Details
Digital Change Detection:Rising Edge Physical Channels	Indicates the names of the digital lines or ports on which to detect rising edges. Details
Digital Change Detection:Falling Edge Physical Channels	Indicates the names of the digital lines or ports on which to detect falling edges. Details
Digital Edge using Counter:Counter	Indicates the counter the timing source uses. Details
Digital Edge using Counter:Edge	Indicates on which edges of the digital signal each iteration of the Timed Loop executes. Details
Digital Edge using Counter:Edge Count	Indicates the number of edges of the digital signal that must occur for each iteration of the Timed Loop to execute. Details
Digital Edge using Counter:Terminal	Indicates the terminal to which you connect the digital signal you want to use for the timing source. Details
Signal From Task:Signal	Indicates the signal the timing source uses. Details

Active Timing Source Property

Short Name: ActiveTimingSrc

Property of DAQmx Timing Source

Specifies the timing source from which to retrieve properties.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Timing Source Type Property

Short Name: TimingSrcType

Property of DAQmx Timing Source

Indicates the type of timing source.

Frequency (12532)	Causes the Timed Loop to execute at a constant frequency.
Digital Change Detection (12533)	Causes the Timed Loop to execute on rising and/or falling edges of one or more digital lines.
Digital Edge using Counter (12534)	Causes the Timed Loop to execute on rising or falling edges of a digital signal.
Signal From Task (12535)	Use the signal indicated by SignalFromTask.Signal to determine when the Timed Loop executes.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Control Loop From Task:Sleep Time Property

Short Name: ControlLoopFromTask.SleepTime

Property of DAQmx Timing Source

Indicates in microseconds the amount of time the Timed Loop sleeps after each sample clock pulse.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Frequency:Counter Property

Short Name: Freq.Counter

Property of DAQmx Timing Source

Indicates the counter the timing source uses.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Frequency:Frequency Property

Short Name: Freq.Freq

Property of DAQmx Timing Source

Indicates the frequency of the timing source.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Change Detection:Rising Edge Physical Channels Property

Short Name: DigChangeDetect.RisingEdgePhysicalChans

Property of DAQmx Timing Source

Indicates the names of the digital lines or ports on which to detect rising edges.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Change Detection:Falling Edge Physical Channels Property

Short Name: DigChangeDetect.FallingEdgePhysicalChans

Property of DAQmx Timing Source

Indicates the names of the digital lines or ports on which to detect falling edges.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Edge using Counter:Counter Property

Short Name: DigitalEdgeCtr.Counter

Property of DAQmx Timing Source

Indicates the counter the timing source uses.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Edge using Counter:Edge Property

Short Name: DigitalEdgeCtr.Edge

Property of DAQmx Timing Source

Indicates on which edges of the digital signal each iteration of the Timed Loop executes.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Edge using Counter:Edge Count Property

Short Name: DigitalEdgeCtr.EdgeCount

Property of DAQmx Timing Source

Indicates the number of edges of the digital signal that must occur for each iteration of the Timed Loop to execute.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Digital Edge using Counter:Terminal Property

Short Name: DigitalEdgeCtr.Term

Property of DAQmx Timing Source

Indicates the terminal to which you connect the digital signal you want to use for the timing source.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Signal From Task:Signal Property

Short Name: SignalFromTask.Signal

Property of DAQmx Timing Source

Indicates the signal the timing source uses.

Sample Clock (12487)	Timed Loop executes on each active edge of the Sample Clock.
Counter Output Event (12494)	Timed Loop executes each time the Counter Output Event occurs.
Change Detection Event (12511)	Timed Loop executes each time the Change Detection Event occurs.
Sample Complete Event (12530)	Timed Loop executes each time the Sample Complete Event occurs.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Trigger Properties

Use the DAQmx Trigger properties to configure triggering for a task.

Property	Description
Start:Trigger Type	Specifies the type of trigger to use to start a task. Details
Start:Digital Edge:Source	Specifies the name of a terminal where there is a digital signal to use as the source of the Start Trigger. Details
Start:Digital Edge:Edge	Specifies on which edge of a digital pulse to start acquiring or generating samples. Details
Start:Digital Edge:Digital Filter:Enable	Specifies whether to apply the pulse width filter to the signal. Details
Start:Digital Edge:Digital Filter:Minimum Pulse Width	Specifies in seconds the minimum pulse width the filter recognizes. Details
Start:Digital Edge:Digital Filter:Timebase:Source	Specifies the input terminal of the signal to use as the timebase of the pulse width filter. Details
Start:Digital Edge:Digital Filter:Timebase:Rate	Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter. Details
Start:Digital Edge:Digital Synchronization:Enable	Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device. Details
Start:Digital Pattern:Source	Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the

	pattern. If a port is included, the order of the physical channels within the port is in ascending order. Details
Start:Digital Pattern:Pattern	Specifies the digital pattern that must be met for the Start Trigger to occur. Details
Start:Digital Pattern:Trigger When	Specifies whether the Start Trigger occurs when the physical channels specified with Start.DigPattern.Src match or differ from the digital pattern specified with Start.DigPattern.Pattern. Details
Start:Analog Edge:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Start Trigger. Details
Start:Analog Edge:Slope	Specifies on which slope of the trigger signal to start acquiring or generating samples. Details
Start:Analog Edge:Level	Specifies at what threshold in the units of the measurement or generation to start acquiring or generating samples. Use Start.AnlgEdge.Slope to specify on which slope to trigger on this threshold. Details
Start:Analog Edge:Hysteresis	Specifies a hysteresis level in the units of the measurement or generation. If Start.AnlgEdge.Slope is Rising, the trigger does not deassert until the source signal passes below Start.AnlgEdge.Lvl minus the hysteresis. If

	Start.AnlgEdge.Slope is Falling, the trigger does not deassert until the source signal passes above Start.AnlgEdge.Lvl plus the hysteresis. Details
Start:Analog Edge:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
Start:Analog Window:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Start Trigger. Details
Start:Analog Window:Trigger When	Specifies whether the task starts acquiring or generating samples when the signal enters or leaves the window you specify with Start.AnlgWin.Btm and Start.AnlgWin.Top. Details
Start:Analog Window:Top	Specifies the upper limit of the window. Specify this value in the units of the measurement or generation. Details
Start:Analog Window:Bottom	Specifies the lower limit of the window. Specify this value in the units of the measurement or generation. Details
Start:Analog Window:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
Start:More:Delay	Specifies an amount of time to wait after the Start Trigger is received before acquiring or generating the first sample. This value is in the units you specify

	with Start.DelayUnits. Details
Start:More:Delay Units	Specifies the units of Start.Delay. Details
Start:More:Retriggerable	Specifies whether to enable retriggerable counter pulse generation. When you set this property to TRUE, the device generates pulses each time it receives a trigger. The device ignores a trigger if it is in the process of generating pulses. Details
Reference:Trigger Type	Specifies the type of trigger to use to mark a reference point for the measurement. Details
Reference:Pretrigger Samples per Channel	Specifies the minimum number of pretrigger samples to acquire from each channel before recognizing the reference trigger. Post-trigger samples per channel are equal to SampQuant.SampPerChan minus the number of pretrigger samples per channel. Details
Reference:Digital Edge:Source	Specifies the name of a terminal where there is a digital signal to use as the source of the Reference Trigger. Details
Reference:Digital Edge:Edge	Specifies on what edge of a digital pulse the Reference Trigger occurs. Details
Reference:Digital Pattern:Source	Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the pattern. If a port is included, the order of the physical channels

	within the port is in ascending order. Details
Reference:Digital Pattern:Pattern	Specifies the digital pattern that must be met for the Reference Trigger to occur. Details
Reference:Digital Pattern:Trigger When	Specifies whether the Reference Trigger occurs when the physical channels specified with Ref.DigPattern.Src match or differ from the digital pattern specified with Ref.DigPattern.Pattern. Details
Reference:Analog Edge:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Reference Trigger. Details
Reference:Analog Edge:Slope	Specifies on which slope of the source signal the Reference Trigger occurs. Details
Reference:Analog Edge:Level	Specifies in the units of the measurement the threshold at which the Reference Trigger occurs. Use Ref.AnlgEdge.Slope to specify on which slope to trigger at this threshold. Details
Reference:Analog Edge:Hysteresis	Specifies a hysteresis level in the units of the measurement. If Ref.AnlgEdge.Slope is Rising, the trigger does not deassert until the source signal passes below Ref.AnlgEdge.Lvl minus the hysteresis. If Ref.AnlgEdge.Slope is Falling, the trigger does not deassert until the source signal passes above Ref.AnlgEdge.Lvl plus the hysteresis. Details

Reference:Analog Edge:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
Reference:Analog Window:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Reference Trigger. Details
Reference:Analog Window:Trigger When	Specifies whether the Reference Trigger occurs when the source signal enters the window or when it leaves the window. Use Ref.AnlgWin.Btm and Ref.AnlgWin.Top to specify the window. Details
Reference:Analog Window:Top	Specifies the upper limit of the window. Specify this value in the units of the measurement. Details
Reference:Analog Window:Bottom	Specifies the lower limit of the window. Specify this value in the units of the measurement. Details
Reference:Analog Window:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
More:Advance:Trigger Type	Specifies the type of trigger to use to advance to the next entry in a switch scan list. Details
More:Advance:Digital Edge:Source	Specifies the name of a terminal where there is a digital signal to use as the source of the Advance Trigger. Details
More:Advance:Digital Edge:Edge	Specifies on which edge of a digital signal to advance to the next entry in a scan list. Details

More:Advance:Digital Edge:Digital Filter:Enable	Specifies whether to apply the pulse width filter to the signal. Details
More:Handshake:Trigger Type	Specifies the type of Handshake Trigger to use. Details
More:Handshake:Interlocked:Source	Specifies the source terminal of the Handshake Trigger. Details
More:Handshake:Interlocked:Asserted Level	Specifies the asserted level of the Handshake Trigger. Details
More:Pause:Trigger Type	Specifies the type of trigger to use to pause a task. Details
More:Pause:Analog Level:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the trigger. Details
More:Pause:Analog Level:Pause When	Specifies whether the task pauses above or below the threshold you specify with Pause.AnlgLvl.Lvl. Details
More:Pause:Analog Level:Level	Specifies the threshold at which to pause the task. Specify this value in the units of the measurement or generation. Use Pause.AnlgLvl.When to specify whether the task pauses above or below this threshold. Details
More:Pause:Analog Level:Hysteresis	Specifies a hysteresis level in the units of the measurement or generation. If Pause.AnlgLvl.When is Above Level, the trigger does not deassert until the source signal passes below Pause.AnlgLvl.Lvl minus the hysteresis. If Pause.AnlgLvl.When is Below Level, the trigger does not

	deassert until the source signal passes above Pause.AnlgLvl.Lvl plus the hysteresis. Details
More:Pause:Analog Level:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
More:Pause:Analog Window:Source	Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the trigger. Details
More:Pause:Analog Window:Pause When	Specifies whether the task pauses while the trigger signal is inside or outside the window you specify with Pause.AnlgWin.Btm and Pause.AnlgWin.Top. Details
More:Pause:Analog Window:Top	Specifies the upper limit of the window. Specify this value in the units of the measurement or generation. Details
More:Pause:Analog Window:Bottom	Specifies the lower limit of the window. Specify this value in the units of the measurement or generation. Details
More:Pause:Analog Window:Coupling	Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel. Details
More:Pause:Digital Level:Source	Specifies the name of a terminal where there is a digital signal to use as the source of the Pause Trigger. Details
More:Pause:Digital Level:Pause When	Specifies whether the task pauses while the signal is high or low. Details
More:Pause:Digital Level:Digital	Specifies whether to apply the

Filter:Enable	pulse width filter to the signal. Details
More:Pause:Digital Level:Digital Filter:Minimum Pulse Width	Specifies in seconds the minimum pulse width the filter recognizes. Details
More:Pause:Digital Level:Digital Filter:Timebase:Source	Specifies the input terminal of the signal to use as the timebase of the pulse width filter. Details
More:Pause:Digital Level:Digital Filter:Timebase:Rate	Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter. Details
More:Pause:Digital Level:Digital Synchronization:Enable	Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device. Details
More:Pause:Digital Pattern:Source	Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the pattern. If a port is included, the lines within the port are in ascending order. Details
More:Pause:Digital Pattern:Pattern	Specifies the digital pattern that must be met for the Pause Trigger to occur. Details
More:Pause:Digital Pattern:Pause When	Specifies if the Pause Trigger occurs when the physical channels specified with Pause.DigPattern.Src match or differ from the digital pattern specified with Pause.DigPattern.Pattern. Details
More:Arm Start:Trigger Type	Specifies the type of trigger to use to arm the task for a Start

	Trigger. If you configure an Arm Start Trigger, the task does not respond to a Start Trigger until the device receives the Arm Start Trigger. Details
More:Arm Start:Digital Edge:Source	Specifies the name of a terminal where there is a digital signal to use as the source of the Arm Start Trigger. Details
More:Arm Start:Digital Edge:Edge	Specifies on which edge of a digital signal to arm the task for a Start Trigger. Details
More:Arm Start:Digital Edge:Digital Filter:Enable	Specifies whether to apply the pulse width filter to the signal. Details
More:Arm Start:Digital Edge:Digital Filter:Minimum Pulse Width	Specifies in seconds the minimum pulse width the filter recognizes. Details
More:Arm Start:Digital Edge:Digital Filter:Timebase:Source	Specifies the input terminal of the signal to use as the timebase of the pulse width filter. Details
More:Arm Start:Digital Edge:Digital Filter:Timebase:Rate	Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter. Details
More:Arm Start:Digital Edge:Digital Synchronization:Enable	Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device. Details

Start:Trigger Type Property

Short Name: Start.TrigType

Property of DAQmx Trigger

Specifies the type of trigger to use to start a task.

Analog Edge (10099)	Trigger when an analog signal signal crosses a threshold.
Analog Window (10103)	Trigger when an analog signal enters or leaves a range of values. The range is in the units of the measurement.
Digital Edge (10150)	Trigger on the rising or falling edge of a digital signal.
None (10230)	Disable triggering for the task.
Digital Pattern (10398)	Trigger when digital physical channels match a digital pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Source Property

Short Name: Start.DigEdge.Src

Property of DAQmx Trigger

Specifies the name of a terminal where there is a digital signal to use as the source of the Start Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Edge Property

Short Name: Start.DigEdge.Edge

Property of DAQmx Trigger

Specifies on which edge of a digital pulse to start acquiring or generating samples.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Digital Filter:Enable Property

Short Name: Start.DigEdge.DigFltr.Enable

Property of DAQmx Trigger

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Digital Filter:Minimum Pulse Width Property

Short Name: Start.DigEdge.DigFltr.MinPulseWidth

Property of DAQmx Trigger

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Digital Filter:Timebase:Source Property

Short Name: Start.DigEdge.DigFltr.TimebaseSrc

Property of DAQmx Trigger

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Digital Filter:Timebase:Rate Property

Short Name: Start.DigEdge.DigFltr.TimebaseRate

Property of DAQmx Trigger

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Edge:Digital Synchronization:Enable Property

Short Name: Start.DigEdge.DigSync.Enable

Property of DAQmx Trigger

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Pattern:Source Property

Short Name: Start.DigPattern.Src

Property of DAQmx Trigger

Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the pattern. If a port is included, the order of the physical channels within the port is in ascending order.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Pattern:Pattern Property

Short Name: Start.DigPattern.Pattern

Property of DAQmx Trigger

Specifies the digital pattern that must be met for the Start Trigger to occur.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Digital Pattern:Trigger When Property

Short Name: Start.DigPattern.TrigWhen

Property of DAQmx Trigger

Specifies whether the Start Trigger occurs when the physical channels specified with Start.DigPattern.Src match or differ from the digital pattern specified with Start.DigPattern.Pattern.

Pattern Does Not Match (10253)	Trigger when the physical channels do not match the specified pattern.
Pattern Matches (10254)	Trigger when the physical channels match the specified pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Edge:Source Property

Short Name: Start.AnlgEdge.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Start Trigger.

For E Series devices, if you use a channel name, the channel must be the first one in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Edge:Slope Property

Short Name: Start.AnlgEdge.Slope

Property of DAQmx Trigger

Specifies on which slope of the trigger signal to start acquiring or generating samples.

Falling (10171)	Trigger on the falling slope of the signal.
Rising (10280)	Trigger on the rising slope of the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Edge:Level Property

Short Name: Start.AnlgEdge.Lvl

Property of DAQmx Trigger

Specifies at what threshold in the units of the measurement or generation to start acquiring or generating samples. Use Start.AnlgEdge.Slope to specify on which slope to trigger on this threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Edge:Hysteresis Property

Short Name: Start.AnlgEdge.Hyst

Property of DAQmx Trigger

Specifies a hysteresis level in the units of the measurement or generation. If Start.AnlgEdge.Slope is Rising, the trigger does not deassert until the source signal passes below Start.AnlgEdge.Lvl minus the hysteresis. If Start.AnlgEdge.Slope is Falling, the trigger does not deassert until the source signal passes above Start.AnlgEdge.Lvl plus the hysteresis.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Edge:Coupling Property

Short Name: Start.AnlgEdge.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Window:Source Property

Short Name: Start.AnlgWin.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Start Trigger.

For E Series devices, if you use a channel name, the channel must be the first one in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Window:Trigger When Property

Short Name: Start.AnlgWin.TrigWhen

Property of DAQmx Trigger

Specifies whether the task starts acquiring or generating samples when the signal enters or leaves the window you specify with Start.AnlgWin.Btm and Start.AnlgWin.Top.

Entering Window (10163)	Trigger when the signal enters the window.
Leaving Window (10208)	Trigger when the signal leaves the window.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Window:Top Property

Short Name: Start.AnlgWin.Top

Property of DAQmx Trigger

Specifies the upper limit of the window. Specify this value in the units of the measurement or generation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Window:Bottom Property

Short Name: Start.AnlgWin.Btm

Property of DAQmx Trigger

Specifies the lower limit of the window. Specify this value in the units of the measurement or generation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:Analog Window:Coupling Property

Short Name: Start.AnlgWin.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:More:Delay Property

Short Name: Start.Delay

Property of DAQmx Trigger

Specifies an amount of time to wait after the Start Trigger is received before acquiring or generating the first sample. This value is in the units you specify with Start.DelayUnits.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:More:Delay Units Property

Short Name: Start.DelayUnits

Property of DAQmx Trigger

Specifies the units of Start.Delay.

Sample Clock Periods (10286)	Complete periods of the Sample Clock.
Ticks (10304)	Timebase ticks.
Seconds (10364)	Seconds.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Start:More:Retriggerable Property

Short Name: Start.Retriggerable

Property of DAQmx Trigger

Specifies whether to enable retriggerable counter pulse generation. When you set this property to TRUE, the device generates pulses each time it receives a trigger. The device ignores a trigger if it is in the process of generating pulses.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Trigger Type Property

Short Name: Ref.TrigType

Property of DAQmx Trigger

Specifies the type of trigger to use to mark a reference point for the measurement.

Analog Edge (10099)	Trigger when an analog signal signal crosses a threshold.
Analog Window (10103)	Trigger when an analog signal enters or leaves a range of values. The range is in the units of the measurement.
Digital Edge (10150)	Trigger on the rising or falling edge of a digital signal.
None (10230)	Disable triggering for the task.
Digital Pattern (10398)	Trigger when digital physical channels match a digital pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Pretrigger Samples per Channel Property

Short Name: Ref.PretrigSamples

Property of DAQmx Trigger

Specifies the minimum number of pretrigger samples to acquire from each channel before recognizing the reference trigger. Post-trigger samples per channel are equal to SampQuant.SampPerChan minus the number of pretrigger samples per channel.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Digital Edge:Source Property

Short Name: Ref.DigEdge.Src

Property of DAQmx Trigger

Specifies the name of a terminal where there is a digital signal to use as the source of the Reference Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Digital Edge:Edge Property

Short Name: Ref.DigEdge.Edge

Property of DAQmx Trigger

Specifies on what edge of a digital pulse the Reference Trigger occurs.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Digital Pattern:Source Property

Short Name: Ref.DigPattern.Src

Property of DAQmx Trigger

Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the pattern. If a port is included, the order of the physical channels within the port is in ascending order.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Digital Pattern:Pattern Property

Short Name: Ref.DigPattern.Pattern

Property of DAQmx Trigger

Specifies the digital pattern that must be met for the Reference Trigger to occur.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Digital Pattern:Trigger When Property

Short Name: Ref.DigPattern.TrigWhen

Property of DAQmx Trigger

Specifies whether the Reference Trigger occurs when the physical channels specified with Ref.DigPattern.Src match or differ from the digital pattern specified with Ref.DigPattern.Pattern.

Pattern Does Not Match (10253)	Trigger when the physical channels do not match the specified pattern.
Pattern Matches (10254)	Trigger when the physical channels match the specified pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Edge:Source Property

Short Name: Ref.AnlgEdge.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Reference Trigger.

For E Series devices, if you use a channel name, the channel must be the only channel in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Edge:Slope Property

Short Name: Ref.AnlgEdge.Slope

Property of DAQmx Trigger

Specifies on which slope of the source signal the Reference Trigger occurs.

Falling (10171)	Trigger on the falling slope of the signal.
Rising (10280)	Trigger on the rising slope of the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Edge:Level Property

Short Name: Ref.AnlgEdge.Lvl

Property of DAQmx Trigger

Specifies in the units of the measurement the threshold at which the Reference Trigger occurs. Use Ref.AnlgEdge.Slope to specify on which slope to trigger at this threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Edge:Hysteresis Property

Short Name: Ref.AnlgEdge.Hyst

Property of DAQmx Trigger

Specifies a hysteresis level in the units of the measurement. If Ref.AnlgEdge.Slope is Rising, the trigger does not deassert until the source signal passes below Ref.AnlgEdge.Lvl minus the hysteresis. If Ref.AnlgEdge.Slope is Falling, the trigger does not deassert until the source signal passes above Ref.AnlgEdge.Lvl plus the hysteresis.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Edge:Coupling Property

Short Name: Ref.AnlgEdge.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Window:Source Property

Short Name: Ref.AnlgWin.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the Reference Trigger.

For E Series devices, if you use a channel name, the channel must be the only channel in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Window:Trigger When Property

Short Name: Ref.AnlgWin.TrigWhen

Property of DAQmx Trigger

Specifies whether the Reference Trigger occurs when the source signal enters the window or when it leaves the window. Use Ref.AnlgWin.Btm and Ref.AnlgWin.Top to specify the window.

Entering Window (10163)	Trigger when the signal enters the window.
Leaving Window (10208)	Trigger when the signal leaves the window.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Window:Top Property

Short Name: Ref.AnlgWin.Top

Property of DAQmx Trigger

Specifies the upper limit of the window. Specify this value in the units of the measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Window:Bottom Property

Short Name: Ref.AnlgWin.Btm

Property of DAQmx Trigger

Specifies the lower limit of the window. Specify this value in the units of the measurement.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Reference:Analog Window:Coupling Property

Short Name: Ref.AnlgWin.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Advance:Trigger Type Property

Short Name: Adv.TrigType

Property of DAQmx Trigger

Specifies the type of trigger to use to advance to the next entry in a switch scan list.

Digital Edge (10150)	Advance to the next entry in a scan list on the rising or falling edge of a digital signal.
None (10230)	Advance through all entries in the scan list as fast as possible.
Software (10292)	Advance to the next entry in a scan list when you call DAQmx Send Software Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Advance:Digital Edge:Source Property

Short Name: Adv.DigEdge.Src

Property of DAQmx Trigger

Specifies the name of a terminal where there is a digital signal to use as the source of the Advance Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Advance:Digital Edge:Edge Property

Short Name: Adv.DigEdge.Edge

Property of DAQmx Trigger

Specifies on which edge of a digital signal to advance to the next entry in a scan list.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Advance:Digital Edge:Digital Filter:Enable Property

Short Name: Adv.DigEdge.DigFltr.Enable

Property of DAQmx Trigger

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Handshake:Trigger Type Property

Short Name: Hshk.TrigType

Property of DAQmx Trigger

Specifies the type of Handshake Trigger to use.

None (10230)	Start the measurement or generation immediately when you start the task.
Interlocked (12549)	Use the Handshake Trigger as a control signal for asynchronous handshaking, such as 8255 handshaking.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Handshake:Interlocked:Source Property

Short Name: Hshk.Interlocked.Src

Property of DAQmx Trigger

Specifies the source terminal of the Handshake Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Handshake:Interlocked:Asserted Level Property

Short Name: Hshk.Interlocked.AssertedLvl

Property of DAQmx Trigger

Specifies the asserted level of the Handshake Trigger.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Trigger Type Property

Short Name: Pause.TrigType

Property of DAQmx Trigger

Specifies the type of trigger to use to pause a task.

Analog Level (10101)	Pause the measurement or generation while an analog signal is above or below a level.
Analog Window (10103)	Pause the measurement or generation while an analog signal is either inside or outside of a range of values.
Digital Level (10152)	Pause the measurement or generation while a digital signal is at either a high or low state.
None (10230)	Do not pause the measurement or generation.
Digital Pattern (10398)	Pause the measurement or generation while digital physical channels either match or do not match a digital pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Level:Source Property

Short Name: Pause.AnlgLvl.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the trigger.

For E Series devices, if you use a channel name, the channel must be the only channel in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Level:Pause When Property

Short Name: Pause.AnlgLvl.When

Property of DAQmx Trigger

Specifies whether the task pauses above or below the threshold you specify with Pause.AnlgLvl.Lvl.

Above Level (10093)	Pause the measurement or generation while the signal is above the threshold.
Below Level (10107)	Pause the measurement or generation while the signal is below the threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Level:Level Property

Short Name: Pause.AnlgLvl.Lvl

Property of DAQmx Trigger

Specifies the threshold at which to pause the task. Specify this value in the units of the measurement or generation. Use Pause.AnlgLvl.When to specify whether the task pauses above or below this threshold.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Level:Hysteresis Property

Short Name: Pause.AnlgLvl.Hyst

Property of DAQmx Trigger

Specifies a hysteresis level in the units of the measurement or generation. If Pause.AnlgLvl.When is Above Level, the trigger does not deassert until the source signal passes below Pause.AnlgLvl.Lvl minus the hysteresis. If Pause.AnlgLvl.When is Below Level, the trigger does not deassert until the source signal passes above Pause.AnlgLvl.Lvl plus the hysteresis.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Level:Coupling Property

Short Name: Pause.AnlgLvl.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Window:Source Property

Short Name: Pause.AnlgWin.Src

Property of DAQmx Trigger

Specifies the name of a virtual channel or terminal where there is an analog signal to use as the source of the trigger.

For E Series devices, if you use a channel name, the channel must be the only channel in the task. The only terminal you can use for E Series devices is PFI0.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Window:Pause When Property

Short Name: Pause.AnlgWin.When

Property of DAQmx Trigger

Specifies whether the task pauses while the trigger signal is inside or outside the window you specify with Pause.AnlgWin.Btm and Pause.AnlgWin.Top.

Inside Window (10199)	Pause the measurement or generation while the trigger is inside the window.
Outside Window (10251)	Pause the measurement or generation while the signal is outside the window.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Window:Top Property

Short Name: Pause.AnlgWin.Top

Property of DAQmx Trigger

Specifies the upper limit of the window. Specify this value in the units of the measurement or generation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Window:Bottom Property

Short Name: Pause.AnlgWin.Btm

Property of DAQmx Trigger

Specifies the lower limit of the window. Specify this value in the units of the measurement or generation.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Analog Window:Coupling Property

Short Name: Pause.AnlgWin.Coupling

Property of DAQmx Trigger

Specifies the coupling for the source signal of the trigger if the source is a terminal rather than a virtual channel.

AC (10045)	Alternating Current.
DC (10050)	Direct Current.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Source Property

Short Name: Pause.DigLvl.Src

Property of DAQmx Trigger

Specifies the name of a terminal where there is a digital signal to use as the source of the Pause Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Pause When Property

Short Name: Pause.DigLvl.When

Property of DAQmx Trigger

Specifies whether the task pauses while the signal is high or low.

High (10192)	High state.
Low (10214)	Low state.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Digital Filter:Enable Property

Short Name: Pause.DigLvl.DigFltr.Enable

Property of DAQmx Trigger

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Digital Filter:Minimum Pulse Width Property

Short Name: Pause.DigLvl.DigFltr.MinPulseWidth

Property of DAQmx Trigger

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Digital Filter:Timebase:Source Property

Short Name: Pause.DigLvl.DigFltr.TimebaseSrc

Property of DAQmx Trigger

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Digital Filter:Timebase:Rate Property

Short Name: Pause.DigLvl.DigFltr.TimebaseRate

Property of DAQmx Trigger

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Level:Digital Synchronization:Enable Property

Short Name: Pause.DigLvl.DigSync.Enable

Property of DAQmx Trigger

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Pattern:Source Property

Short Name: Pause.DigPattern.Src

Property of DAQmx Trigger

Specifies the physical channels to use for pattern matching. The order of the physical channels determines the order of the pattern. If a port is included, the lines within the port are in ascending order.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Pattern:Pattern Property

Short Name: Pause.DigPattern.Pattern

Property of DAQmx Trigger

Specifies the digital pattern that must be met for the Pause Trigger to occur.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Pause:Digital Pattern:Pause When Property

Short Name: Pause.DigPattern.When

Property of DAQmx Trigger

Specifies if the Pause Trigger occurs when the physical channels specified with Pause.DigPattern.Src match or differ from the digital pattern specified with Pause.DigPattern.Pattern.

Pattern Does Not Match (10253)	Trigger when the physical channels do not match the specified pattern.
Pattern Matches (10254)	Trigger when the physical channels match the specified pattern.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Trigger Type Property

Short Name: ArmStart.TrigType

Property of DAQmx Trigger

Specifies the type of trigger to use to arm the task for a Start Trigger. If you configure an Arm Start Trigger, the task does not respond to a Start Trigger until the device receives the Arm Start Trigger.

Digital Edge (10150)	Trigger on a rising or falling edge of a digital signal.
None (10230)	Disable the trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Source Property

Short Name: ArmStart.DigEdge.Src

Property of DAQmx Trigger

Specifies the name of a terminal where there is a digital signal to use as the source of the Arm Start Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Edge Property

Short Name: ArmStart.DigEdge.Edge

Property of DAQmx Trigger

Specifies on which edge of a digital signal to arm the task for a Start Trigger.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Digital Filter:Enable Property

Short Name: ArmStart.DigEdge.DigFltr.Enable

Property of DAQmx Trigger

Specifies whether to apply the pulse width filter to the signal.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Digital Filter:Minimum Pulse Width Property

Short Name: ArmStart.DigEdge.DigFltr.MinPulseWidth

Property of DAQmx Trigger

Specifies in seconds the minimum pulse width the filter recognizes.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Digital Filter:Timebase:Source Property

Short Name: ArmStart.DigEdge.DigFltr.TimebaseSrc

Property of DAQmx Trigger

Specifies the input terminal of the signal to use as the timebase of the pulse width filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Digital Filter:Timebase:Rate Property

Short Name: ArmStart.DigEdge.DigFltr.TimebaseRate

Property of DAQmx Trigger

Specifies in hertz the rate of the pulse width filter timebase. NI-DAQmx uses this value to compute settings for the filter.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

More:Arm Start:Digital Edge:Digital Synchronization:Enable Property

Short Name: ArmStart.DigEdge.DigSync.Enable

Property of DAQmx Trigger

Specifies whether to synchronize recognition of transitions in the signal to the internal timebase of the device.

This property does not affect the minimum pulse width recognized by the device, but setting this property to TRUE does limit the speed at which the device recognizes transitions to less than the frequency of the internal timebase.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Watchdog Properties

Use the DAQmx Watchdog properties to configure the watchdog timer of a device.

Property	Description
Timeout	Specifies in seconds the amount of time until the watchdog timer expires. A value of -1 means the internal timer never expires. Set this input to -1 if you use an Expiration Trigger to expire the watchdog task. Details
Expiration Trigger:Trigger Type	Specifies the type of trigger to use to expire a watchdog task. Details
Expiration Trigger:Digital Edge:Source	Specifies the name of a terminal where a digital signal exists to use as the source of the Expiration Trigger. Details
Expiration Trigger:Digital Edge:Edge	Specifies on which edge of a digital signal to expire the watchdog task. Details
Expiration States:Active Physical Channels	Specifies a physical channel or list of physical channels to modify. You cannot modify the expiration state of dedicated digital input physical channels. Details
Expiration States:Digital Output:Expiration State	Specifies the state to which to set the digital physical channels when the watchdog task expires. You cannot modify the expiration state of dedicated digital input physical channels. Details
Status:Expired	Indicates if the watchdog timer expired. You can read this property only while the task is running. Details

Timeout Property

Short Name: Timeout

Property of DAQmx Watchdog

Specifies in seconds the amount of time until the watchdog timer expires. A value of -1 means the internal timer never expires. Set this input to -1 if you use an Expiration Trigger to expire the watchdog task.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Expiration Trigger:Trigger Type Property

Short Name: ExpirTrig.TrigType

Property of DAQmx Watchdog

Specifies the type of trigger to use to expire a watchdog task.

Digital Edge (10150)	Trigger on a rising or falling edge of a digital signal.
None (10230)	Disable the trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Expiration Trigger:Digital Edge:Source Property

Short Name: ExpirTrig.DigEdge.Src

Property of DAQmx Watchdog

Specifies the name of a terminal where a digital signal exists to use as the source of the Expiration Trigger.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Expiration Trigger:Digital Edge:Edge Property

Short Name: ExpirTrig.DigEdge.Edge

Property of DAQmx Watchdog

Specifies on which edge of a digital signal to expire the watchdog task.

Falling (10171)	Falling edge(s).
Rising (10280)	Rising edge(s).

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Expiration States:Active Physical Channels Property

Short Name: ExpirStates.ActivePhysicalChans

Property of DAQmx Watchdog

Specifies a physical channel or list of physical channels to modify. You cannot modify the expiration state of dedicated digital input physical channels.

Remarks

The following table lists the characteristics of this property.

Permissions	write only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Expiration States:Digital Output:Expiration State Property

Short Name: ExpirStates.DO.State

Property of DAQmx Watchdog

Specifies the state to which to set the digital physical channels when the watchdog task expires. You cannot modify the expiration state of dedicated digital input physical channels.

No Change (10160)	Do not change the state of the lines. On some devices, you can select this value only for entire ports.
High (10192)	Logic high.
Low (10214)	Logic low.
Tristate (10310)	High-impedance state. You can select this state only on devices with bidirectional lines. You cannot select this state for dedicated digital output lines. On some devices, you can select this value only for entire ports.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Expired Property

Short Name: Expired

Property of DAQmx Watchdog

Indicates if the watchdog timer expired. You can read this property only while the task is running.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

DAQmx Write Properties

Use the DAQmx Write properties to configure write options, such as to what position in a buffer you want to write, and to query the current status of write operations.

Property	Description
Relative To	Specifies the point in the buffer at which to write data. If you also specify an offset with Offset, the write operation begins at that offset relative to this point you select with this property. Details
Offset	Specifies in samples per channel an offset at which a write operation begins. This offset is relative to the location you specify with RelativeTo. Details
Regeneration Mode	Specifies whether to allow NI-DAQmx to generate the same data multiple times. Details
Status:Current Write Position	Indicates the position in the buffer of the next sample to generate. This value is identical for all channels in the task. Details
Status:Overcurrent:Overcurrent Channels Exist	Indicates if the device(s) detected an overcurrent condition for any channel in the task. Reading this property clears the overcurrent status for all channels in the task. You must read this property before you read OvercurrentChans. Otherwise, you will receive an error. Details
Status:Overcurrent:Overcurrent Channels	Indicates the names of any virtual channels in the task for which an overcurrent condition has been detected. You must read OvercurrentChansExist before you read this property. Otherwise, you will

	receive an error. Details
Status:Open Current Loop:Open Current Loop Channels Exist	Indicates if the device(s) detected an open current loop for any channel in the task. Reading this property clears the open current loop status for all channels in the task. You must read this property before you read OpenCurrentLoopChans. Otherwise, you will receive an error. Details
Status:Open Current Loop:Open Current Loop Channels	Indicates the names of any virtual channels in the task for which the device(s) detected an open current loop. You must read OpenCurrentLoopChansExist before you read this property. Otherwise, you will receive an error. Details
Status:Power Supply Fault:Power Supply Fault Channels Exist	Indicates if the device(s) detected a power supply fault for any channel in the task. Reading this property clears the power supply fault status for all channels in the task. You must read this property before you read PowerSupplyFaultChans. Otherwise, you will receive an error. Details
Status:Power Supply Fault:Power Supply Fault Channels	Indicates the names of any virtual channels in the task that have a power supply fault. You must read PowerSupplyFaultChansExist before you read this property. Otherwise, you will receive an error. Details
Status:Space Available in Buffer	Indicates in samples per channel the amount of available space in the buffer. Details
Status:Total Samples Per Channel Generated	Indicates the total number of samples generated by each channel in the task. This value is identical for all channels in the task. Details

Advanced:Raw Data Width	Indicates in bytes the required size of a raw sample to write to the task. Details
Advanced:Number of Channels	Indicates the number of channels that DAQmx Write writes to the task. This value is the number of channels in the task. Details
Advanced:Wait Mode	Specifies how DAQmx Write waits for space to become available in the buffer. Details
Advanced:Sleep Time	Specifies in seconds the amount of time to sleep after checking for available buffer space if WaitMode is Sleep. Details
Advanced:Next Write Is Last	Specifies that the next samples written are the last samples you want to generate. Use this property when performing continuous generation to prevent underflow errors after writing the last sample. RegenMode must be Do Not Allow Regeneration to use this property. Details
Advanced:Digital Output:Number of Booleans Per Channel	Indicates the number of Booleans expected per channel in a sample for line-based writes. If a channel has fewer lines than this number, NI-DAQmx ignores the extra Booleans. Details

Relative To Property

Short Name: RelativeTo

Property of DAQmx Write

Specifies the point in the buffer at which to write data. If you also specify an offset with Offset, the write operation begins at that offset relative to this point you select with this property.

First Sample (10424)	Write samples relative to the first sample.
Current Write Position (10430)	Write samples relative to the current position in the buffer.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Offset Property

Short Name: Offset

Property of DAQmx Write

Specifies in samples per channel an offset at which a write operation begins. This offset is relative to the location you specify with RelativeTo.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Regeneration Mode Property

Short Name: RegenMode

Property of DAQmx Write

Specifies whether to allow NI-DAQmx to generate the same data multiple times.

If you enable regeneration and write new data to the buffer, NI-DAQmx can generate a combination of old and new data, a phenomenon called glitching.

Allow Regeneration (10097)	Allow NI-DAQmx to regenerate samples that the device previously generated. When you choose this value, the write marker returns to the beginning of the buffer after the device generates all samples currently in the buffer.
Do Not Allow Regeneration (10158)	Do not allow NI-DAQmx to regenerate samples the device previously generated. When you choose this value, NI-DAQmx waits for you to write more samples to the buffer or until the timeout expires.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Current Write Position Property

Short Name: CurrWritePos

Property of DAQmx Write

Indicates the position in the buffer of the next sample to generate. This value is identical for all channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overcurrent:Overcurrent Channels Exist Property

Short Name: OvercurrentChansExist

Property of DAQmx Write

Indicates if the device(s) detected an overcurrent condition for any channel in the task. Reading this property clears the overcurrent status for all channels in the task. You must read this property before you read OvercurrentChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Overcurrent:Overcurrent Channels Property

Short Name: OvercurrentChans

Property of DAQmx Write

Indicates the names of any virtual channels in the task for which an overcurrent condition has been detected. You must read OvercurrentChansExist before you read this property. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Open Current Loop:Open Current Loop Channels Exist Property

Short Name: OpenCurrentLoopChansExist

Property of DAQmx Write

Indicates if the device(s) detected an open current loop for any channel in the task. Reading this property clears the open current loop status for all channels in the task. You must read this property before you read OpenCurrentLoopChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Open Current Loop:Open Current Loop Channels Property

Short Name: OpenCurrentLoopChans

Property of DAQmx Write

Indicates the names of any virtual channels in the task for which the device(s) detected an open current loop. You must read OpenCurrentLoopChansExist before you read this property. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Power Supply Fault:Power Supply Fault Channels Exist Property

Short Name: PowerSupplyFaultChansExist

Property of DAQmx Write

Indicates if the device(s) detected a power supply fault for any channel in the task. Reading this property clears the power supply fault status for all channels in the task. You must read this property before you read PowerSupplyFaultChans. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Power Supply Fault:Power Supply Fault Channels Property

Short Name: PowerSupplyFaultChans

Property of DAQmx Write

Indicates the names of any virtual channels in the task that have a power supply fault. You must read PowerSupplyFaultChansExist before you read this property. Otherwise, you will receive an error.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Space Available in Buffer Property

Short Name: SpaceAvail

Property of DAQmx Write

Indicates in samples per channel the amount of available space in the buffer.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Status:Total Samples Per Channel Generated Property

Short Name: TotalSampPerChanGenerated

Property of DAQmx Write

Indicates the total number of samples generated by each channel in the task. This value is identical for all channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Raw Data Width Property

Short Name: RawDataWidth

Property of DAQmx Write

Indicates in bytes the required size of a raw sample to write to the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Number of Channels Property

Short Name: NumChans

Property of DAQmx Write

Indicates the number of channels that DAQmx Write writes to the task. This value is the number of channels in the task.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Wait Mode Property

Short Name: WaitMode

Property of DAQmx Write

Specifies how DAQmx Write waits for space to become available in the buffer.

Poll (12524)	Repeatedly check for available buffer space as fast as possible. This mode allows for the highest sampling rates at the expense of CPU efficiency.
Yield (12525)	Repeatedly check for available buffer space, but yield control to other threads after each check. This mode offers a balance between sampling rate and CPU efficiency.
Sleep (12547)	Check for available buffer space once per the amount of time specified in SleepTime.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Sleep Time Property

Short Name: SleepTime

Property of DAQmx Write

Specifies in seconds the amount of time to sleep after checking for available buffer space if WaitMode is Sleep.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Next Write Is Last Property

Short Name: NextWriteIsLast

Property of DAQmx Write

Specifies that the next samples written are the last samples you want to generate. Use this property when performing continuous generation to prevent underflow errors after writing the last sample. RegenMode must be Do Not Allow Regeneration to use this property.

Remarks

The following table lists the characteristics of this property.

Permissions	read/write
Resettable	yes
Settable while task is running	device-specific
Available in Run-Time Engine	yes

Advanced:Digital Output:Number of Booleans Per Channel Property

Short Name: DO.NumBooleansPerChan

Property of DAQmx Write

Indicates the number of Booleans expected per channel in a sample for line-based writes. If a channel has fewer lines than this number, NI-DAQmx ignores the extra Booleans.

Remarks

The following table lists the characteristics of this property.

Permissions	read only
Resettable	no
Settable while task is running	device-specific
Available in Run-Time Engine	yes