LabVIEW Drivers

*scan*Delay USB

User Manual

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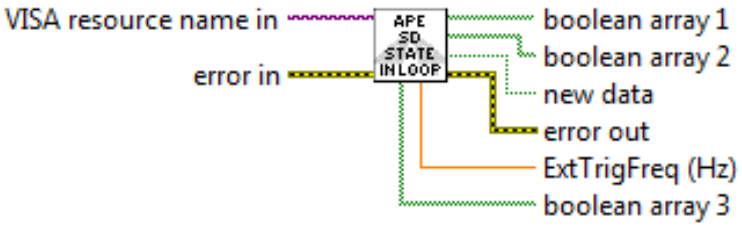
1 LabVIEW Drivers

1.1 APE ScanDelay StatusIntr.vi



This VI provides status and error codes.

Inputs

VISA resource name in	specifies the resource to be opened
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

boolean array 1	Bit0 - parse error Bit1 - parameter error Bit2 - FRAM error Bit3 - I2C1 error Bit4 - I2C2 error Bit5 .. Bit7 - reserved
boolean array 2	Bit0 - output stage active Bit1 - data logging trigger (data logging requested) Bit2 - data logging in progress Bit3 - external trigger detected Bit4 .. Bit7 - reserved
new data	new data package ready
error out	contains error information This output provides standard error out functionality.
ExtTrigFreq	shows repetition rate of extern trigger signal
boolean array 3	reserved

1.2 ScanDelayFindResource.vi

This VI locates connected devices.

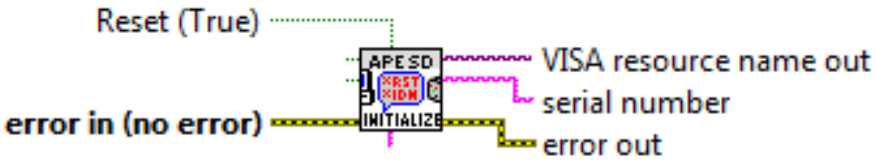
Inputs

error in	error conditions that occur before this node runs
	This input provides standard error out functionality.

Outputs

resource array	array with localized devices
return count	number of localized devices
error out	contains error information
	This output provides standard error out functionality.

1.3 Initialize.vi



This VI initializes the ***scan*Delay** controller and prepares it for further control.

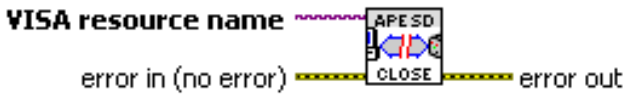
Inputs

Reset	initialization
error in	error conditions that occur before this node runs
	This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
Serial Number	serial number of the device
error out	contains error information
	This output provides standard error out functionality.

1.4 Close.vi



A device session indicated by VISA resources is closed.

Inputs

VISA resource name in	specifies the resource to be opened
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

error out	contains error information This output provides standard error out functionality.

1.5 ScanDelaySetScannerFrequency.vi

This VI will set the motor scan frequency of the ***scan*Delay**.

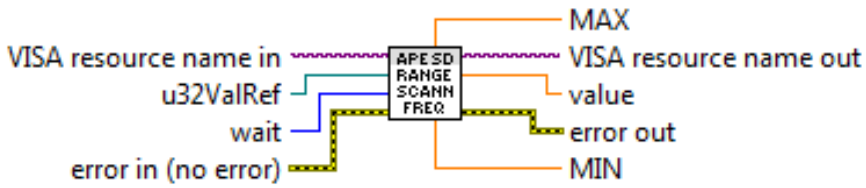
Inputs

VISA resource name in	specifies the resource to be opened
value	the current scan frequency in Hz
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.6 GetMinMaxCurrScannerFrequency.vi



This VI returns the current value and the minimum and maximum values of the motor frequency.

Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum scan frequency
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current scan frequency
error out	contains error information This output provides standard error out functionality.
MIN	the minimum scan frequency

1.7 ScanDelayGetScannerFrequency.vi

This VI scans the current motor frequency of the ***scan*Delay**.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current motor frequency
error out	contains error information This output provides standard error out functionality.

1.8 ScanDelaySetSampleFrequency.vi

This VI sets the sampling rate of the A-D converter.

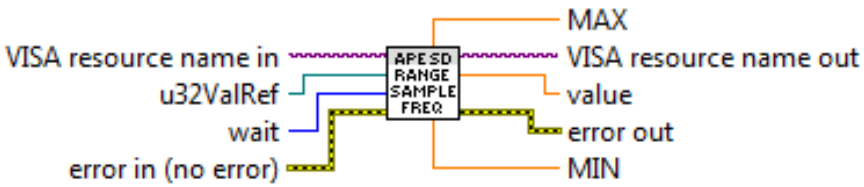
Inputs

VISA resource name in	specifies the resource to be opened
value	the current sampling frequency
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.9 GetMinMaxCurrSampleFrequency.vi



This VI returns the current value and the minimum and maximum values of the sampling frequency.

Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum sampling frequency
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current sampling frequency
error out	contains error information This output provides standard error out functionality.
MIN	the minimum sampling frequency

1.10 ScanDelayGetSampleFrequency.vi

This VI scans the adjusted sampling frequency of the A-D converter.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current sample frequency
error out	contains error information This output provides standard error out functionality.

1.11 ScanDelayToggleMotor.vi

The motor output stages are turned on/off.

Inputs

VISA resource name in	specifies the resource to be opened
enable power amplifier	sets the requested on/off-position (1=on, 0=off)
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.12 ScanDelayMotorStatus.vi

The status of the motor output stages is scanned.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
motor status	the current on/off position (1=on, 0=off)
error out	contains error information This output provides standard error out functionality.

1.13 ScanDelaySetAmplitude.vi

This VI sets the scan amplitude.

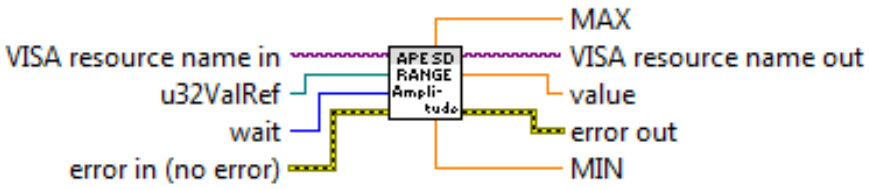
Inputs

VISA resource name in	specifies the resource to be opened
value	the current scan amplitude in picoseconds
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.14 GetMinMaxCurrAmplitude.vi



This VI returns the current value and the minimum and maximum values of the amplitude.

Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum amplitude
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current amplitude
error out	contains error information This output provides standard error out functionality.
MIN	the minimum amplitude

1.15 ScanDelayGetAmplitude.vi

This VI scans the adjusted amplitude.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current amplitude
error out	contains error information This output provides standard error out functionality.

1.16 ScanDelaySetOffset.vi

This VI sets the offset for the amplitude.

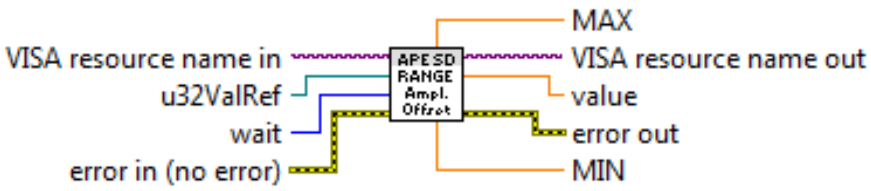
Inputs

VISA resource name in	specifies the resource to be opened
value	the current offset in picoseconds
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.17 GetMinMaxCurrOffset.vi



This VI returns the current value and the minimum and maximum values of the amplitude's offset.

Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum offset
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current offset
error out	contains error information This output provides standard error out functionality.
MIN	the minimum offset

1.18 ScanDelayGetOffset.vi

This VI scans the adjusted offset.

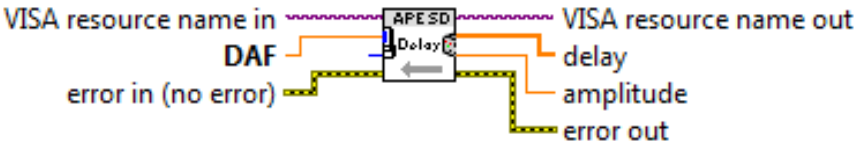
Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current offset
error out	contains error information This output provides standard error out functionality.

1.19 ScanDelayGetDelay.vi



This VI scans the motor's position.

Inputs

VISA resource name in	specifies the resource to be opened
DAF	calibration factor (can be read with "ScanDelayGetDAF.vi")
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
Delay	data block (motor's position)
Amplitude	maximum amplitude in data block
error out	contains error information This output provides standard error out functionality.

1.20 ScanDelayGetDAF.vi

This VI scans the calibration factor.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
calibration factor	the current calibration factor
error out	contains error information This output provides standard error out functionality.

1.21 ScanDelaySetMonitorGain.vi

This VI sets the gain for analog delay output.

Inputs

VISA resource name in	specifies the resource to be opened
gain	gain factor (1/10/100)
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.22 ScanDelayGetMonitorGain.vi

This VI scans the gain factor for analog delay output.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current gain factor
error out	contains error information This output provides standard error out functionality.

1.23 ScanDelaySetTriggerIn.vi

This VI sets the frequency divider for the trigger signal.

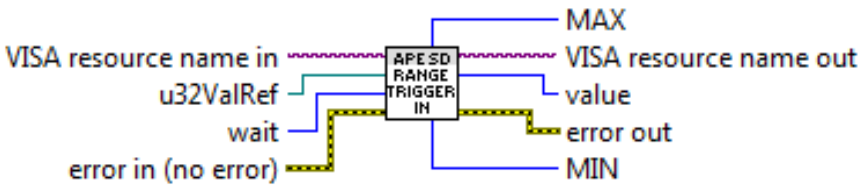
Inputs

VISA resource name in	specifies the resource to be opened
value	the current frequency divider
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.24 GetMinMaxCurrTriggerIn.vi



This VI returns the current value and the minimum and maximum values of the frequency divider.

Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum value of the frequency divider
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current value of the frequency divider
error out	contains error information This output provides standard error out functionality.
MIN	the minimum value of the frequency divider

1.25 ScanDelayGetTriggerIn.vi

This VI scans the current <value> of the frequency divider.

Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs
	This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current value for the frequency divider
error out	contains error information
	This output provides standard error out functionality.

1.26 ScanDelaySetTriggerOut.vi

This VI sets the trigger output signal to <value>.

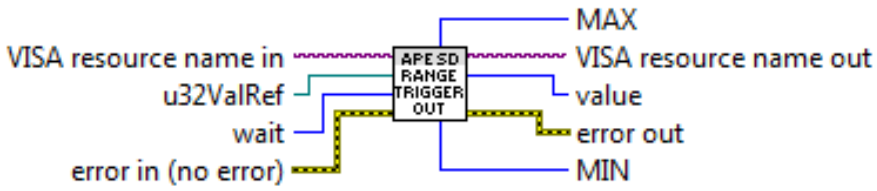
Inputs

VISA resource name in	specifies the resource to be opened
value	the current position (1...1999)
wait	waiting period
error in	error conditions that occur before this node runs
	This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information
	This output provides standard error out functionality.

1.27 GetMinMaxCurrTriggerOut.vi



This VI returns the current value and the minimum and maximum values of the trigger signal's position.

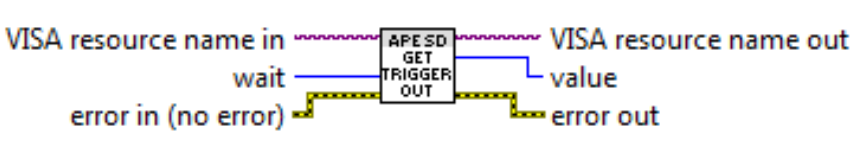
Inputs

VISA resource name in	specifies the resource to be opened
u32ValRef	reference of a control for which the min-max values and the current value should be set (optional)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

MAX	the maximum position
VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current position
error out	contains error information This output provides standard error out functionality.
MIN	the minimum position

1.28 ScanDelayGetTriggerOut.vi



This VI scans the current position of the trigger signal.

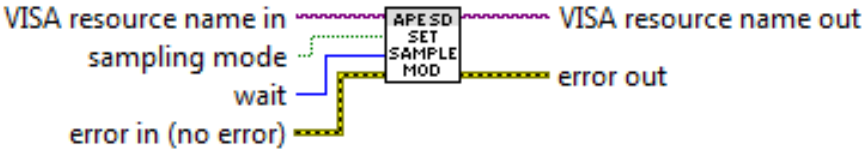
Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
value	the current position
error out	contains error information This output provides standard error out functionality.

1.29 ScanDelaySetSampleMod.vi



This VI switches between continuous and variable sample mode. In the continuous mode the sampling rate is not variable by the user which ensures that every period is sweeped.

Inputs

VISA resource name in	specifies the resource to be opened
sampling mode	turn continuous sampling mode on/off (1=continuous sampling mode, 0=variable sampling mode)
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

1.30 ScanDelayGetSampleMod.vi

This VI returns the current sampling mode.

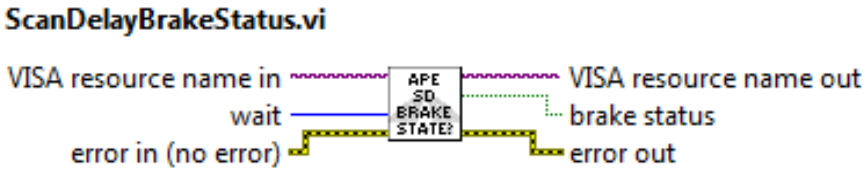
Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
sampling mode	the current sampling mode status (1=continuous sampling mode, 0=variable sampling mode)
error out	contains error information This output provides standard error out functionality.

1.31 ScanDelayBrakeStatus.vi



This VI returns the current brake status.

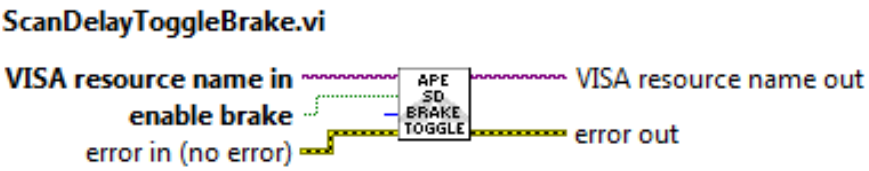
Inputs

VISA resource name in	specifies the resource to be opened
wait	waiting period
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
brake status	the current on/off position (1=on, 0=off)
error out	contains error information This output provides standard error out functionality.

1.32 ScanDelayToggleBrake.vi



This VI enables the scanner brake.

Inputs

VISA resource name in	specifies the resource to be opened
enable brake	sets the requested scanner brake status (1=on, 0=off)
error in	error conditions that occur before this node runs This input provides standard error out functionality.

Outputs

VISA resource name out	copy of the VISA resource name that VISA functions return
error out	contains error information This output provides standard error out functionality.

2 Technical Support

For technical questions or problems within Germany, please contact:

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