

# LabWindows/CVI, VxiPnp driver history for the R&S® Power Supplies NGL / NGM / NGP / NGU

R&S®NGL



R&S®NGP



R&S®NGM



R&S®NGU



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# 1 Supported Instruments

In the following table, the supported R&S instruments and firmware versions are listed:

Which instruments are supported?		
Instrument	Supported Firmware	Remarks
NGL20x	3.060	
NGM20x	3.060	
NGP8xx	2.025	
NGUx01	4.000	

## 2 Revision history

### 2.1 Version 1.4.0 / 07 – 2023

- \* Update for NGL, NGM firmware version 3.060
- \* Update for NGU firmware version 4.0
- \* Update for NGP firmware version 2.025
- \* New core 4.5.0

\* New:

- rsngx\_ReadVoltageCurrentPair
- rsngx\_ConfigureVoltageRange
- rsngx\_ConfigureCurrentRange
- rsngx\_ConfigureOutputReducedSlewRateEnabled
- rsngx\_ConfigureOutputCapacitanceMode
- rsngx\_ConfigureCurrentAutorangeMinimum
- rsngx\_ConfigureCurrentAutorangeOverApproach
- rsngx\_ConfigureCurrentAutorangeThresholds
- rsngx\_ResetVoltageTrippedState
- rsngx\_QueryVoltageTrippedState
- rsngx\_ConfigureModulationEnabled
- rsngx\_ReadLogData
- rsngx\_ConfigureFastLogSampleTime
- rsngx\_ConfigureFastLogExternalFileSettings
- rsngx\_ConfigureArbitraryTriggerGroupChannel
- rsngx\_ConfigureArbitraryTriggerPointChannel
- rsngx\_ConfigureArbitraryPriorityMode
- rsngx\_ReadArbitraryCPMData
- rsngx\_WriteArbitraryCPMData
- rsngx\_ReadArbitraryVPMDData
- rsngx\_WriteArbitraryVPMDData
- rsngx\_ClearArbitrarySequence
- rsngx\_DiscardLANSettings
- rsngx\_ResetLANSettings
- rsngx\_ConfigureLANHostname
- rsngx\_QueryLANMACAddress
- rsngx\_QueryLANEditedMode
- rsngx\_QueryWLANIPAddress

- rsngx\_ConfigureVNCSettings
- rsngx\_ConfigureSoundCompleteBeepEnabled
- rsngx\_GetSoundCompleteBeep
- rsngx\_ConfigureSoundWarningBeepEnabled
- rsngx\_GetSoundWarningBeep
- rsngx\_ConfigureSoundOutputBeepEnabled
- rsngx\_SaveSystemSettingsFile
- rsngx\_RestartInstrument
- rsngx\_QuerySystemUptime
- rsngx\_InstrumentOptions
- rsngx\_HasOptionInstalled

\* Updated:

- RSNGX\_ATTR\_SELECT\_CHANNEL - command changes INSTRUMENT[:SELECT]
- rsngx\_ConfigureOutputRemoteSenseDetection - Detection control updated
- rsngx\_QueryOutputRemoteSenseDetection - Detection control updated
- rsngx\_TransferArbitrarySequenceTable - Changed to event, API changed
- rsngx\_ConfigureDigitalIOTriggerLineMode - Mode parameter updated
- rsngx\_ConfigureDigitalIOTriggerLineChannel - 'None' value added
- rsngx\_ConfigureLANNetworkSettings - Added NGL, NGM, NGU support
- rsngx\_ApplyLANNetworkSettings - Added NGL, NGM, NGU support
- rsngx\_ConfigureWLANNetworkSettings - IP address removed, attribute is read only now

## 2.2 Version 1.3.2 / 05 - 2021

\* Removed range checking for Voltage, Current, Impedance and Duration parameters

\* Updated:

- rsngx\_ConfigureVoltageLevel - Voltage level range removed
- rsngx\_ConfigureVoltageSafetyLimit - Level range removed
- rsngx\_ConfigureCurrentLevel - Removed range for level
- rsngx\_ConfigureCurrentSafetyLimit - Removed range for limits
- rsngx\_ConfigureResistance - Removed range for level
- rsngx\_ConfigureOutputImpedance - removed range impedance
- rsngx\_ConfigureOVP - Level removed range
- rsngx\_ConfigureOPP - Removed range for level
- rsngx\_ConfigureRamp - Duration range removed
- rsngx\_ConfigureLogging - Removed Duration range

## 2.3 Version 1.3.0 / 03 - 2021

\* Added support for new instrument NGU

\* Update for firmware version 3.0

\* New core 3.13.0

\* New:

- rsngx\_ConfigureVoltageCurrentNegative
- rsngx\_ConfigureVoltageNegative
- rsngx\_ConfigureSourcePriorityMode
- rsngx\_ConfigureNumberOfPowerLineCycles
- rsngx\_ConfigureModulationGain
- rsngx\_QueryMeasurementDataDVM
- rsngx\_ConfigureEnergyCounterUnit
- rsngx\_QueryMeasurementStatisticsDataAll
- rsngx\_ConfigureFastLogTarget

- rsngx\_ConfigureArbitraryControl
- rsngx\_ConfigureDigitalIOFaultSignal
- rsngx\_ConfigureDigitalIOOutputSignal
- rsngx\_ConfigureBatterySimulatorLimits
- rsngx\_ConfigureBatteryModelLimits
- rsngx\_ConfigureInterfaceUSBClass

\* Updated:

- rsngx\_ConfigureFastLogSettings - sample rate
- rsngx\_ConfigureDigitalIOFault - source mode
- rsngx\_ConfigureTriggerSettings - Output channel

## 2.4 Version 1.2.0 / 03 – 2020

\* Added support for new instrument NGP800

\* Update for firmware version 2.0

\* New core 3.7.0

\* New:

- Tracking (Class)
  - Block (Class)
  - Analog Input (Class)
  - Adjustment (Class)
  - Digital Trigger IO (Class)
  - Communications (Class)
  - Sound (Class)
  - rsngx\_ConfigureOutputRemoteSenseDetection
  - rsngx\_QueryOutputRemoteSenseDetection
  - rsngx\_ResetOCP
  - rsngx\_ConfigureOCPFuse
  - rsngx\_ConfigureOCPFuseInitialDelay
  - rsngx\_ConfigureOCPFuseLinking
  - rsngx\_QueryOCPLinkedFusesList
  - rsngx\_QueryOCPFuseTripped
  - rsngx\_ResetOCPFuse
  - rsngx\_ResetProtectionTrippedState
  - rsngx\_ConfigureLogLocation
  - rsngx\_ConfigureSystemTouchEnabled
  - rsngx\_ConfigureSoundBeeperSettings
  - rsngx\_GetSoundBeep
- \* Updated:
- rsngx\_QueryMeasurementStatisticsData - Help updated

## 2.5 Version 1.1.0 / 07 – 2019

\* Update for firmware version 2.0

\* New core 3.6.1

\* Added support for Fast Log, Digital I/O and Battery Simulator subsystems.

\* New:

- rsngx\_ConfigureOutputMode
- rsngx\_ConfigureOutputTriggerSettings
- rsngx\_ConfigureDVMMMeasurementSettings
- rsngx\_QueryMeasurementStatisticsData
- rsngx\_ResetMeasurementStatistics
- rsngx\_QueryMeasurementCount
- rsngx\_ConfigureTriggerSettings

- rsngx\_ConfigureTriggerDIOPin
- rsngx\_QueryOCPLinking
- \* Modified:
  - rsngx\_ConfigureFuse - Replaced with rsngx\_ConfigureOCP
  - rsngx\_ConfigureFuseInitialDelay - Replaced with rsngx\_ConfigureOCPInitialDelay
  - rsngx\_ConfigureFuseLinking - Replaced with rsngx\_ConfigureOCPLinking
  - rsngx\_QueryFuseTripped - Replaced with rsngx\_QueryOCPTripped
  - rsngx\_ConfigureArbitrary - Endpoint removed
- \* Deleted:
  - rsngx\_ConfigureOVPMODE
  - rsngx\_ConfigureChannelLoggingEnabled
  - rsngx\_ConfigureImageFormat

## **2.6 Version 1.0.0 / 02 - 2019**

- \* Initial release

# 3 Getting Started

## 3.1 LabWindows/CVI driver

The Rohde & Schwarz **rsngx** Instrument driver can be used in LabWindows/CVI 6 and later. In order to be able to compile an application it is required to add following files to your LabWindows/CVI project:

- *rsngx.c + rsngx.h*
- *rsngx\_attributes.c + rsngx\_attributes.h*
- *rsngx\_utility.c + rsngx\_utility.h*
- *rscore.c + rscore.h*
- *rsngx\_callbacks.c*
- *rsngx.fp + rsngx.sub*

## 3.2 VXIplug&play driver in C/C++, LabWindows/CVI

The compiled source code from LabWindows/CVI driver is used. The compiled ANSI-C libraries exist for Windows 7 64-bit and newer.

Add the following files to your 64-bit target project:

- C:\Program Files\IVI Foundation\VISA\Win64\Include\rsngx.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib\_x64\msc\rsngx64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rsngx\_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rsngx\rsngx.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rsngx\rsngx.sub (in CVI only)

## 3.3 VXIplug&play driver in MATLAB

MATLAB instrument driver **rsngx.mdd** can be found here:

**C:\Program Files\IVI Foundation\VISA\Win64\rsngx\rsngx.mdd**

For more, refer to [1MA171 - How to use R&S instrument in MATLAB](#)

## 3.4 Linux and Mac OS X

To be able to use Rohde & Schwarz **rsngx** Instrument driver in Linux or macOS, the functioning VISA is required. Check out [R&S VISA](#) for Linux or macOS.

## 3.5 Additional Help

LabWindows/CVI and VXIplug&play instrument driver contains the documentation in a compressed HTML format (Windows CHM help file **rsngx\_vxi.chm**):

**C:\Program Files\IVI Foundation\VISA\Win64\rsngx\rsngx\_vxi.chm**

## 4 Customer support

### **Technical support – where and when you need it**

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

### **Contact information**

Contact our customer support center at [www.rohde-schwarz.com/support](http://www.rohde-schwarz.com/support) or follow this QR code:

