

# R&S®NRP-Z11/-Z21/-Z22/-Z23/-Z24

## 3 Path Diode Power Sensors

### Release Notes

### Firmware Version 04.16

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81671 Munich, Germany

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The following abbreviations are used throughout this document:

R&S®NRP-Z11/-Z21/-Z22/-Z23/-Z24 is abbreviated as R&S NRP-Z11/-Z21/-Z22/-Z23/-Z24.

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# 1 Information on the Current Version and History

## 1.1 Version 04.16

Released: January 2012

### New Functionality

- -

### Fixed Issues

- The sensor now sends always results after an `init:cont` on command. In some cases (`SYSTEM:RUTime > 0` and sensor was IDLE for a long time) this did not work properly.
- Continuous Average measurements with an activated automatic averaging never exceed the `SENSe:AVERAge:COUNT:AUTO:MTIME` Timeout Parameter.
- The sensor works now properly in NRPV's and NRP2's Freerun Mode. In some cases (trace measurement, `Time/DIV < 20µs`) the sensor stopped measuring.
- In some cases it was not possible to hold a NRP2 Freerun Trace Measurement
- Correct display of a Trace with `TIME/DIV < 200µs` (video point width < sample rate)
- Autotrigger Timeout (`TRIGger:ATRigger:STATE` is set ON) is now fixed to 300ms
- Trace HiRes Measurement with multiple sweeps was also configured if `TRIGger:SOURce` was set to `INTernal`
- Traces with `10µs/DIV` are displayed correct
- Average Reset after sending `TRIGger:DELay` parameter (makes sense, if `TRACe:AVERAge:TCONtrol` is set to `MOVing`)

## 1.2 Version 04.13a

Released: September 2010

### New Functionality

- -

**Fixed Issues**

- The firmware update file “NRPZ11\_SensorFW\_BL\_04\_13a.nrp” contains now the Bootloader Version 01.84.
- Bootloader 01.84 fixes the sensor detection problem when attaching a sensor to the R&S CMW

## 1.3 Version 04.13

Released: December 2008

**New Functionality**

- New parameter Trigger Dropout Time for a stable internal triggering  
**TRIGger:DTIME**
- New command to request if auto triggering was executed in trace/scope mode  
**TRIGger:ATRigger:EXECuted?**

**Fixed Issues**

- With **TRIGger:ATRigger:State On** and **TRIGger:IMMEDIATE** in trace mode, only one trace snapshot is taken for a correct reporting of the trace.
- When setting a frequency out of range of the sensor specification with **SENSe:FREQuency** the sensor selects the lower or upper limit of the sensor specification instead of ignoring the setting
- Correct calculation of the result with measurements in buffered mode when **SENSe:AVERAge:STATe OFF**
- Sensors fully supported with the SMA/SMF-K28.

## 1.4 Version 04.08

Released: June 2008

**New Functionality**

- The sensors now fully support the NRP-Power analysis with the R&S®SMF Scalar network analysis can be performed by means of the SMF100A signal generator with the SMF-K28 power analysis option plus an NRP-Zx power sensor. All available features of the power analysis are supported by the NRP-Zx power sensors

**Fixed Issues**

- Calibration data can be read out with NRVC again.

## 2 Firmware Update

### 2.1 Important Notes

This package contains the firmware for the power sensor R&S® NRP-Z11/-Z21/-Z22/-Z23/-Z24. Each firmware update consists of one file: application firmware and boot loader are merged together. This file should be downloaded into the sensors to get the latest functionality. The firmware release 04.16 is suitable for all power sensors R&S® NRP-Z11/-Z21/-Z22/-Z23/-Z24 already delivered. The firmware for the R&S® NRP base unit as well as the firmware for other R&S® NRP-Zxx power sensors is available as a separate package.

### 2.2 Installation Software

Use the Firmware Update program tool from the R&S® NRP toolkit to load the new firmware for the power sensor R&S® NRP-Z11/-Z21/-Z22/-Z23/-Z24. The toolkit is supplied on a CD-ROM together with the sensors. It is also available on the internet under [www.nrp.rohde-schwarz.com](http://www.nrp.rohde-schwarz.com).

### 2.3 Prerequisites concerning the PC

Either Microsoft Windows 2000, Windows XP (32 Bit), Microsoft Windows Vista (32 or 64 Bit), Microsoft Windows 7 (32 or 64 Bit), or x86 Linux (with kernel 2.6.8 or more recent) must be installed as the operating system of the PC. 64-bit versions of Microsoft Windows XP are not supported.

For the update process, one free USB port is required. The R&S® NRP toolkit needs about 25 MByte of free space on the hard disk and must be installed prior to the update process.

### 2.4 Connection between PC and R&S® NRP-Zxx

For the connection between the PC and the R&S® NRP sensor, use the R&S® NRP-Z3 active USB adapter or the R&S® NRP-Z4 passive USB adaptor.

## 2.5 Procedure of a firmware update

- Preparation  
Install the R&S®NRP toolkit software onto the PC prior to operation of the sensor.
  
- Connection
  - ✓ Connect the R&S®NRP power sensor to the PC using either R&S®NRP-Z3 or R&S®NRP-Z4.
  - ✓ Unplug any other R&S®NRP power sensor or R&S®NRP base unit from the PC.
  - ✓ After connecting the power sensor, the PC should identify the new USB hardware and assign the appropriate device driver from the R&S®NRP Toolkit (brief message appears in a small window after first connect to the used PC).

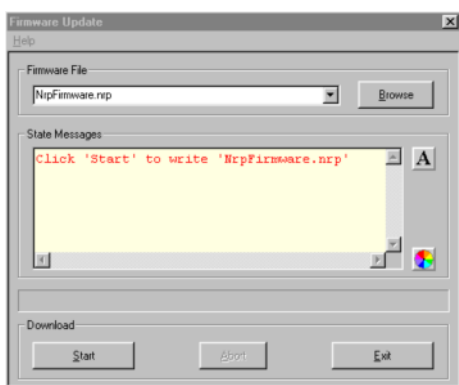
*If you forgot to install the R&S®NRP Toolkit software beforehand, Windows will not succeed to find a USB driver for the power sensor. If this happens, the R&S®NRP-Zxx is highlighted by a yellow exclamation mark in the Windows device manager. In this case, proceed as follows:*

- *Abort the dialog for driver installation.*
- *Install the R&S®NRP Toolkit from the CD-ROM.  
Then manually assign the USB driver from the toolkit to the R&S®NRP.*
- *Go to Control Panel – Add/Remove Hardware and start the hardware assistant to search for new components.*
- *Select the R&S®NRP-Zxx in the list of hardware components and complete the driver installation.*
- *Unplug the power sensor and reconnect it.*

## 2.6 Updating the application firmware



- ✓ Start **NRP Toolkit – Firmware Update** from the Windows Start menu.



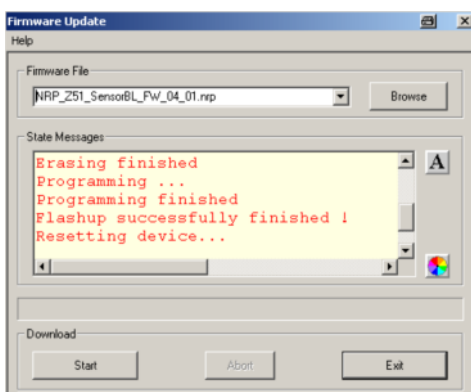
The dialog box on the left is displayed next.

- ✓ Search for the file named **NRPZ11\_SensorFW\_BL\_04\_16.nrp** (NRPZ2x\_SensorFW\_BL\_04\_16.nrp) by using the **Browse** button or enter the file name (including the directory path) of the application firmware in the **Firmware File** box
- ✓ Click the **Start** button to start the file transfer. The update is performed automatically.



*Note:*

- ✓ *Do not disconnect the power sensor from the PC.*
- ✓ *Neither connect nor disconnect the power supply for the active adapter R&S® NRP-Z3.*
- ✓ ***Always wait until the reset of the device is finished!***
- ✓ *Exit the Firmware Update program only after it has been completely executed.*



- ✓ During the update process, the State Messages box informs you of the progress. The update has been completed successfully if the message **'Device <Type Designation><Serial Number> is active'** appears.
- ✓ After a successful update you can use the power sensor immediately for measuring.



### Potential problems

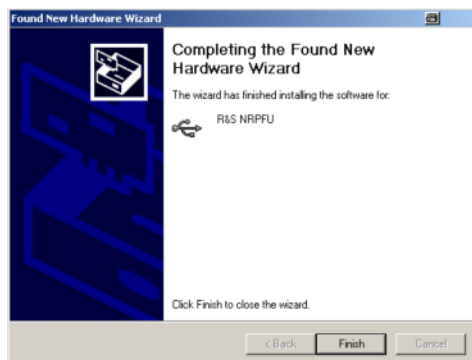
- ✘ *Error in the compatibility and consistency checks*

*In this case, the update is aborted and an error message is displayed.*

- *Unplug and reconnect the USB sensor*
- *Restart the firmware update*

- ✘ *When performing the firmware upgrade the first time on a PC, the installation of the unknown USB device R&S NRPFU is required. The **Found New Hardware Wizard** opens:*

- *Click the **Next** button*
- *Click the **Finish** button*
- *Abort and close the firmware update tool*
- *Unplug and reconnect the USB sensor*
- *Restart the firmware upgrade*





## 3 Customer Support

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

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

### Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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