R&S®NRX
Power Meter
Getting Started

1424707002
Version 09

ROHDE&SCHWARZ
Make ideas real

This document describes the following R&S®NRX models and options:

- R&S®NRX (1424.7005K02)
- R&S®NRX-B1 (1424.7805K02)
- R&S®NRX-B4 (1424.8901K02)
- R&S®NRX-B8 (1424.8301K02)
- R&S®NRX-B9 (1424.8601K02)
- R&S®NRX-K2 (1424.9208K02)
- R&S®NRX-K4 (1424.9308K02)

Mühldorfstr. 15, 81671 München, Germany
Phone: +49 89 41 29 - 0
Email: info@rohde-schwarz.com
Internet: www.rohde-schwarz.com

1424.7070.02 | Version 09 | R&S®NRX

Throughout this manual, products from Rohde & Schwarz are indicated without the ® symbol , e.g. R&S®NRX is indicated as R&S NRX.

Contents

1 Safety and regulatory information

The product documentation helps you use the product safely and efficiently. Follow the instructions provided here and in the following chapters.

Intended use

Combined with the supported R&S power sensors, the R&S NRX base unit is intended for power measurements in development and production. The supported R&S power sensors are listed in the data sheet. Observe the operating conditions and performance limits stated in the data sheet.

Target audience

The target audience is developers and technicians. The required skills and experience in power measurements depend on the used operating concept. While manual operation is suitable for beginners, remote control requires expertise in power measurements.

Depending on the used R&S power sensor, the applications vary greatly. A profound knowledge of the intended application and test setup is recommended.

Where do I find safety information?

Safety information is part of the product documentation. It warns you of potential dangers and gives instructions on how to prevent personal injury or damage caused by dangerous situations. Safety information is provided as follows:

- In Chapter 1.1, "Safety Instructions", on page 5. The same information is provided in many languages as printed "Safety Instructions". The printed "Safety Instructions" are delivered with the product.
- Throughout the documentation, safety instructions are provided when you need to take care during setup or operation.

1.1 Safety Instructions

Products from the Rohde & Schwarz group of companies are manufactured according to the highest technical standards. To use the products safely, follow the instructions provided here and in the product documentation. Keep the product documentation nearby and offer it to other users.

Use the product only for its intended use and within its performance limits. Intended use and limits are described in the product documentation such as the data sheet, manuals and the printed "Safety Instructions". If you are unsure about the appropriate use, contact Rohde & Schwarz customer service.

Using the product requires specialists or specially trained personnel. These users also need sound knowledge of at least one of the languages in which the user interfaces and the product documentation are available.

Never open the casing of the product. Only service personnel authorized by Rohde & Schwarz are allowed to repair the product. If any part of the product is damaged or broken, stop using the product. Contact Rohde & Schwarz customer service at http://www.customersupport.rohde-schwarz.com.

Lifting and carrying the product

The maximum weight of the product is provided in the data sheet. To move the product safely, you can use lifting or transporting equipment such as lift trucks and forklifts. Follow the instructions provided by the equipment manufacturer.

Choosing the operating site

Only use the product indoors. The product casing is not waterproof. Water that enters can electrically connect the casing with live parts, which can lead to electric shock, serious personal injury or death if you touch the casing. If Rohde & Schwarz provides accessories designed for your product, e.g. a carrying bag, you can use the product outdoors.

Unless otherwise specified, you can operate the product up to an altitude of 2000 m above sea level. The product is suitable for pollution degree 2 environments where nonconductive contamination can occur. For more information on environmental conditions such as ambient temperature and humidity, see the data sheet.

Setting up the product

Always place the product on a stable, flat and level surface with the bottom of the product facing down. If the product is designed for different positions, secure the product so that it cannot fall over.

If the product has foldable feet, always fold the feet completely in or out to ensure stability. The feet can collapse if they are not folded out completely or if the product is moved without lifting it. The foldable feet are designed to carry the weight of the product, but not an extra load.

If stacking is possible, keep in mind that a stack of products can fall over and cause injury.

If you mount products in a rack, ensure that the rack has sufficient load capacity and stability. Observe the specifications of the rack manufacturer. Always install the products from the bottom shelf to the top shelf so that the rack stands securely. Secure the product so that it cannot fall off the rack.

Connecting to power

The product is an overvoltage category II product. Connect the product to a fixed installation used to supply energy-consuming equipment such as household appliances and similar loads. Keep in mind that electrically powered products have risks, such as electric shock, fire, personal injury or even death.

Take the following measures for your safety:

- Before switching on the product, ensure that the voltage and frequency indicated on the product match the available power source. If the power adapter does not adjust automatically, set the correct value and check the rating of the fuse.
- Only use the power cable delivered with the product. It complies with country-specific safety requirements. Only insert the plug into an outlet with protective conductor terminal.
- Only use intact cables and route them carefully so that they cannot be damaged. Check the power cables regularly to ensure that they are undamaged. Also ensure that nobody can trip over loose cables.
- If the product needs an external power supply, use the power supply that is delivered with the product or that is recommended in the product documentation or a power supply that conforms to the country-specific regulations.
- Only connect the product to a power source with a fuse protection of maximum 20 A.
- Ensure that you can disconnect the product from the power source at any time. Pull the power plug to disconnect the product. The power plug must be easily accessible. If the product is integrated into a system that does not meet these requirements, provide an easily accessible circuit breaker at the system level.

Cleaning the product

Use a dry, lint-free cloth to clean the product. When cleaning, keep in mind that the casing is not waterproof. Do not use liquid cleaning agents.

Meaning of safety labels

Safety labels on the product warn against potential hazards.

	Potential hazard Read the product documentation to avoid personal injury or product damage.
	Electrical hazard Indicates live parts. Risk of electric shock, fire, personal injury or even death.
	Hot surface Do not touch. Risk of skin burns. Risk of fire.
	Protective conductor terminal Connect this terminal to a grounded external conductor or to protective ground. This connection protects you against electric shock if an electric problem occurs.

1.2 Labels on the product

Labels on the casing inform about:

- Personal safety, see "Meaning of safety labels" on page 8
- Environment safety, see Table 1-1
- Identification of the product, see Chapter 5.2.7, "Name plate", on page 30.

Table 1-1: Labels regarding environment safety

	Labeling in line with EN 50419 for disposal of electrical and electronic equipment after the product has come to the end of its service life. For more information, see the product user manual, chapter "Disposal".

1.3 Warning messages in the documentation

A warning message points out a risk or danger that you need to be aware of. The signal word indicates the severity of the safety hazard and how likely it will occur if you do not follow the safety precautions.

WARNING

Potentially hazardous situation. Could result in death or serious injury if not avoided.

CAUTION

Potentially hazardous situation. Could result in minor or moderate injury if not avoided.

NOTICE

Potential risks of damage. Could result in damage to the supported product or to other property.

1.4 Korea certification class B

이 기기는 가정용(B급) 전자파 적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

2 Documentation overview

This section provides an overview of the R&S NRX user documentation. Unless specified otherwise, you find the documents on the R&S NRX product page at:

www.rohde-schwarz.com/manual/NRX

2.1 Getting started manual

Introduces the R&S NRX and describes how to set up and start working with the product. A printed version is delivered with the instrument.

2.2 User manual

Contains the description of all instrument modes and functions. It also provides an introduction to remote control, a complete description of the remote control commands with programming examples, and information on maintenance, instrument interfaces and error messages. Includes the contents of the getting started manual .

The user manual is provided on the R&S NRX for download under:

[System] > "Instrument Info" > "Help & Copyrights"

2.3 Instrument security procedures

Deals with security issues when working with the R&S NRX in secure areas. It is available for download on the Internet.

2.4 Printed safety instructions

Provides safety information in many languages. The printed document is delivered with the product.

2.5 Data sheets and brochures

The data sheet contains the technical specifications of the R&S NRX. It also lists the firmware applications and their order numbers, and optional accessories.

The brochure provides an overview of the instrument and deals with the specific characteristics.

See www.rohde-schwarz.com/brochure-datasheet/NRX

2.6 Release notes and open source acknowledgment (OSA)

The release notes list new features, improvements and known issues of the current firmware version.

The open source acknowledgment and the license texts of open source software packages used in the R&S NRX software are provided under:

[System] > "Instrument Info" > "Help & Copyrights"

See www.rohde-schwarz.com/firmware/NRX

3 Key features

The R&S NRX supports:

- Easy RF power measurements
- Multi-channel measurements
- RF pulse analysis
- System integration

The R&S NRX is a versatile, user-friendly base unit.

- Straightforward numerical and graphical display of measured values, plus intuitive operation with touchscreen-based graphical user interface
- Supports up to four R&S NRP and R&S NRQ6 power sensors.
- Supports all sensor-dependent measurement functions
- Hardware interfaces for remote control and triggering
- Code emulation of the R&S NRP2
- Optional high-precision CW and pulse mode reference source module
- Optional power reflection measurements with R&S NRT-Zxx directional power sensors

See also the R&S NRX fact sheet at www.rohde-schwarz.com.

4 Preparing for use

Here, you can find basic information about setting up the product for the first time.

4.1 Lifting and carrying

See "Lifting and carrying the product" on page 6.

The R&S NRX weighs below 3 kg, details are provided in the data sheet. Due to the low weight, you can move the R&S NRX easily.

4.2 Unpacking and checking

1. Unpack the product carefully.
2. Retain the original packing material. Use it when transporting or shipping the product later.
3. Using the delivery notes, check the equipment for completeness.
4. Check the equipment for damage.

   If the delivery is incomplete or equipment is damaged, contact Rohde & Schwarz.

4.3 Choosing the operating site

Specific operating conditions ensure proper operation and avoid damage to the product and connected devices. For information on environmental conditions such as ambient temperature and humidity, see the data sheet.

See also "Choosing the operating site" on page 6.

Electromagnetic compatibility classes

The electromagnetic compatibility (EMC) class indicates where you can operate the product. The EMC class of the product is given in the data sheet under "General data".

- Class B equipment is suitable for use in:
  - Residential environments
  - Environments that are directly connected to a low-voltage supply network that supplies residential buildings
- Class A equipment is intended for use in industrial environments. It can cause radio disturbances in residential environments due to possible conducted and radiated disturbances. It is therefore not suitable for class B environments.
  If class A equipment causes radio disturbances, take appropriate measures to eliminate them.

4.4 Setting up the product

See also:

- "Setting up the product" on page 6
- "Intended use" on page 5

4.4.1 Placing the product on a bench top

The R&S NRX is a small and lightweight product. You can stack the R&S NRX with other products, but place the R&S NRX on top. In the following procedure, the weight indication for stacking refers to the most common design of larger Rohde & Schwarz instruments. Verify the load suitable for your product before stacking.

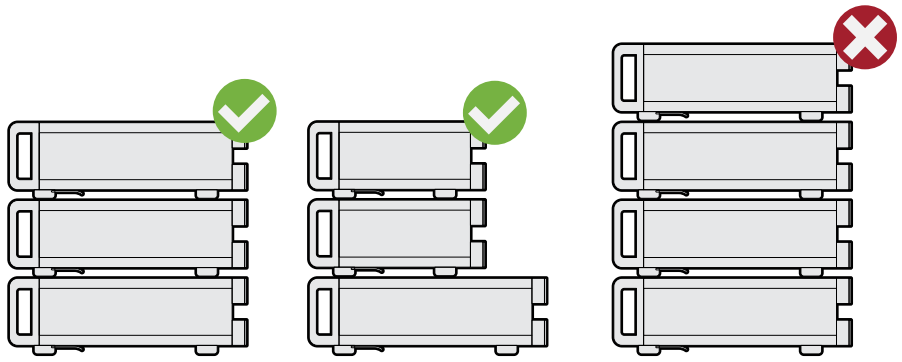
To place the product on a bench top

1. Place the product on a stable, flat and level surface. Ensure that the surface can support the weight of the product. For information on the weight, see the data sheet.
2. **CAUTION!** Foldable feet can collapse. See "Setting up the product" on page 6.

   Always fold the feet completely in or out. With folded-out feet, do not place anything on top or underneath the product.
3. **WARNING!** A stack of products can fall over and cause injury. Never stack more than three products on top of each other. Instead, mount them in a rack.

   Stack as follows:

   - If the products have foldable feet, fold them in completely.
   - It is best if all products have the same dimensions (width and length). If the products have different dimensions, stack according to size and place the smallest product on top.
   - Do not exceed the permissible total load placed on the product at the bottom of the stack:
     – 50 kg when stacking products of identical dimensions (left figure).
     – 25 kg when stacking smaller products on top (middle figure).



Left = Stacked correctly, same dimensions
Middle = Stacked correctly, different dimensions
Right = Stacked incorrectly, too many products

4. **NOTICE!** Overheating can damage the product.

   Prevent overheating as follows:

   - Keep a minimum distance of 10 cm between the fan openings of the product and any object in the vicinity.

- Do not place the product next to heat-generating equipment such as radiators or other products.

4.4.2 Mounting the product in a rack

To prepare the rack

1. Observe the requirements and instructions in "Setting up the product" on page 6.
2. **NOTICE!** Insufficient airflow can cause overheating and damage the product.
   Design and implement an efficient ventilation concept for the rack.

To mount the product in a rack

1. Use an adapter kit to prepare the product for rack mounting.
   a) Order the rack adapter kit designed for the product. For the order number, see data sheet.
   b) Mount the adapter kit. Follow the assembly instructions provided with the adapter kit.
2. Grab the product by the handles and push it onto the shelf until the rack brackets fit closely to the rack.
3. Tighten all screws on the rack brackets to secure the product in the rack.

To unmount the product from a rack

1. Loosen the screws at the rack brackets.
2. Remove the product from the rack.
3. If placing the product on a bench top again, unmount the adapter kit from the product. Follow the instructions provided with the adapter kit.

4.5 Considerations for test setup

Cable selection and electromagnetic interference (EMI)

Electromagnetic interference (EMI) can affect the measurement results.

To suppress electromagnetic radiation during operation:

- Use high-quality shielded cables, for example, double-shielded RF and LAN cables.
- Always terminate open cable ends.
- Ensure that connected external devices comply with EMC regulations.
- Do not use USB connecting cables exceeding 5 m.

Preventing electrostatic discharge (ESD)

Electrostatic discharge is most likely to occur when you connect or disconnect a DUT.

► **NOTICE!** Risk of electrostatic discharge. Electrostatic discharge can damage the electronic components of the product and the device under test (DUT).

Ground yourself to prevent electrostatic discharge damage:

a) Use a wrist strap and cord to connect yourself to ground.
b) Use a conductive floor mat and heel strap combination.

4.6 Connecting to power

The R&S NRX can be used with different AC power voltages and adapts itself automatically to them. Adjusting the R&S NRX to a particular AC supply voltage is therefore not required. Refer to the data sheet for the requirements of voltage and frequency.

For safety information, see "Connecting to power" on page 7.

1. Plug the AC power cable into the AC power connector on the rear panel of the product. Only use the AC power cable delivered with the product.
2. Plug the AC power cable into a power outlet with ground contact.

   The required ratings are listed next to the AC power connector and in the data sheet.

Further information:

- Chapter 5.2.5, "AC supply and power switch", on page 29

4.7 Connecting power sensors

The R&S NRX supports a wide range of R&S power sensors. See the data sheet for detailed information.

Depending on the power sensor, you have different choices for connecting power sensors.

4.7.1 Sensor connectors A to D

See Chapter 5.1.1, "Sensor connectors A and B", on page 23 and Chapter 5.2.8, "Sensor connectors C and D", on page 31.

Suitable for:

- R&S NRP power sensors: R&S NRP xxS/T/A USB and R&S NRPxxSN/TN/AN LAN models
- R&S NRQ6
- R&S NRP-Zxx power sensors

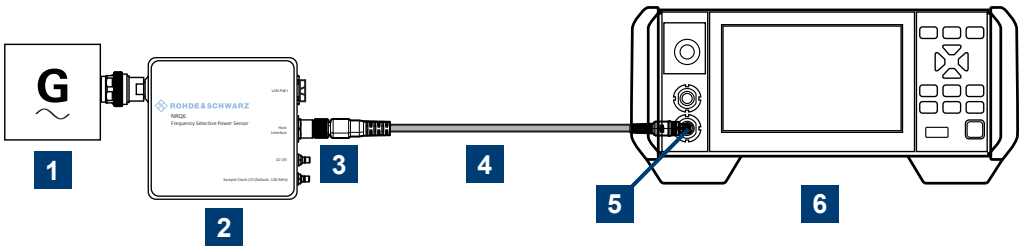


Figure 4-1: Setup with an R&S power sensor (example)

1 = Signal source
2 = R&S power sensor
3 = Host Interface connector
4 = R&S NRP-ZK8
5 = Sensor connector of the R&S NRX
6 = R&S NRX

Use an R&S NRP-ZK8 cable to connect an R&S power sensor to the R&S NRX. If you use an R&S NRP-ZK6 cable, the reference clock and trigger are not supported.

1. 8-pin female connector of R&S NRP-ZK8:
   a) Insert the screw-lock cable connector into the host interface of the R&S power sensor.

b) Tighten the union nut manually.

2. 8-pin male connector of R&S NRP-ZK8:
   a) Insert this connector into one of the sensor ports of the R&S NRX.
3. Connect the RF connector of the R&S power sensor to the signal source. For details, see the user manual of the R&S power sensor.

   Note: Incorrectly connecting/disconnecting an R&S power sensor can damage the power sensor or lead to erroneous results.

4.7.2 Optional interface for R&S NRT-Z sensors (R&S NRX-B9)

See Chapter 5.1.2, "Module bay", on page 24.

Suitable for R&S NRT-Zxx directional power sensors.

Communication between the R&S NRT-Zxx directional power sensor and a base unit is only possible with a baud rate setting of 38400 Bd. This setting is the factory default that must be restored if the setting was changed. If the R&S NRT-Zxx directional power sensor is not recognized by the base unit, check that the baud rate setting of the R&S NRT-Zxx directional power sensor is 38400 Bd.

See the manual of the R&S NRT-Zxx directional power sensor for details.

The arrow on the power sensor casing shows the forward power flow.

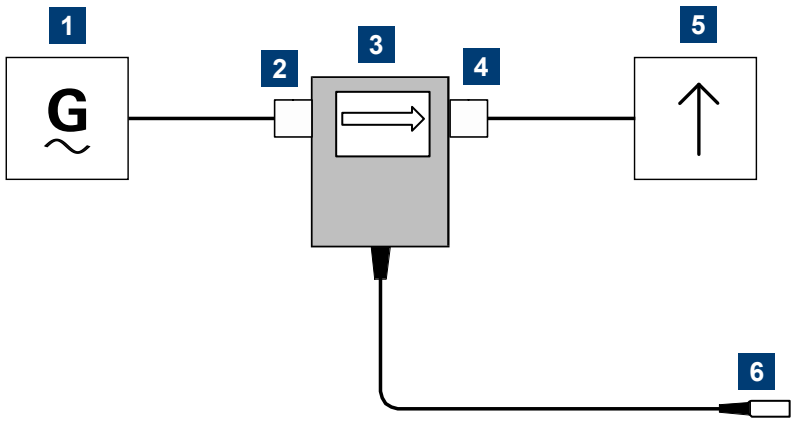


Figure 4-2: Connecting to source and load

1 = source
2 = port 1 (RF connector)
3 = R&S NRT-Zxx directional power sensor

4 = port 2 (RF connector)
5 = load
6 = host interface connector

To connect the R&S NRT-Zxx directional power sensor

Connect the R&S NRT-Zxx directional power sensor between source and load of your test setup as follows.

1. Connect RF connector (2, port 1) to the source.
   a) Insert RF connector (2) straight into the RF connector of the source. Take care not to tilt the R&S NRT-Zxx directional power sensor.
   b) Tighten the RF connector securely by hand.
2. Connect RF connector (4, port 2) to the load.
   a) Insert RF connector (4) straight into the RF connector of the load. Take care not to tilt the R&S NRT-Zxx directional power sensor.
   b) Tighten the RF connector tightly by hand.
   During the measurement, the RF power flow can be high. Power leakage has the risk of electric shock and severe skin burns.
3. Connect the host interface connector of the R&S NRT-Zxx directional power sensor (6) to the interface for R&S NRT-Z sensors (R&S NRX-B9).

To disconnect the R&S NRT-Zxx directional power sensor

1. **CAUTION!** Risk of electric shock and severe skin burns. During the measurement, the RF power flow can be high.
   Switch off the RF power before touching the RF connectors.
2. Unscrew the RF connectors by hand.
3. Disconnect the cable of the R&S NRT-Zxx directional power sensor (6) from the interface for R&S NRT-Z sensors (R&S NRX-B9).

4.7.3 LAN interface

See Chapter 5.2.2, "Ethernet interface", on page 29.

Suitable for LAN power sensors.

4.7.4 USB 2.0 host interfaces

See Chapter 5.1.5, "USB host interface", on page 27 and Chapter 5.2.4, "USB host interface", on page 29.

Suitable for USB power sensors. You can increase the number of connected power sensors by using USB hubs.

4.8 Connecting USB and external devices

Apart from connecting power sensors, you can use the USB interfaces to connect USB devices. You can increase the number of connected devices by using USB hubs.

Due to the large number of available USB devices, there is almost no limit to the possible expansions. In the following, useful USB devices are listed exemplarily:

- Memory stick for easy transfer of data to/from a computer (e.g. firmware updates).
- Mouse if you prefer this way of operation over a touchscreen.

4.9 Switching on or off

Table 4-1: Overview of power states

Status	LED	Position of power switch
Off	Off	[0]
Standby	orange	[I]
Ready	green	[I]

To switch on the product

The product is off but connected to power.

1. Set the switch on the power supply to position [I]. See Chapter 5.2.5, "AC supply and power switch", on page 29.

   The LED of the [standby] key is orange. See Chapter 5.1.6, "On/standby key", on page 27.

2. Press the [standby] key.

   The LED changes to green. The product boots.
   If the previous session ended regularly, the product uses the settings from the last session.

3. If you want to return to a defined initial state, perform a preset.

To shut down the product

The product is in the ready state.

► Press the [standby] key.

   The operating system shuts down. The LED changes to orange.

To disconnect from power

The product is in the standby state.

1. **NOTICE!** Risk of data loss. If you disconnect the product from power when it is in the ready state, you can lose settings and data. Shut it down first.

   Set the switch on the power supply to position [0].

   The LED of the standby key is switched off.

2. Disconnect the product from the power source.

Further information:

- Chapter 5.1.6, "On/standby key", on page 27

5 Instrument tour

The meanings of the labels on the product are described in Chapter 1.2, "Labels on the product", on page 8.

5.1 Front panel tour

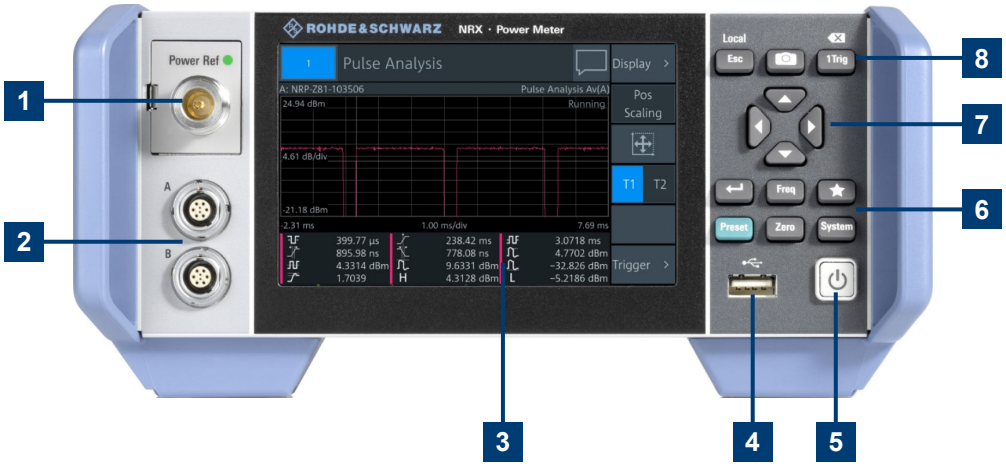


Figure 5-1: Front panel of the R&S NRX

1 = Module bay for optional connectors, see Chapter 5.1.2, "Module bay", on page 24.
2 = Sensor connectors A and B, see Chapter 5.1.1, "Sensor connectors A and B", on page 23.
3 = Touchscreen, see Chapter 5.1.3, "Touchscreen", on page 25.
4 = USB host interface, see Chapter 5.1.5, "USB host interface", on page 27.
5 = On/standby key, see Chapter 5.1.6, "On/standby key", on page 27.
6, 8 = Keys, see Chapter 5.1.4, "Keys", on page 25.
7 = Cursor keys, see "Cursor keys" on page 27.

5.1.1 Sensor connectors A and B

See (2) in Figure 5-1.

Sensor connectors A and B are used to connect the R&S NRP power sensors and the R&S NRQ6. For details on the supported power sensors, see the data sheet.

The complete functional range, including external trigger and reference clock for the synchronization of connected sensors, is provided by these connectors.

Further information:

- Chapter 4.7, "Connecting power sensors", on page 18

5.1.2 Module bay

See (1) in Figure 5-1.

Two options fit in this bay. If you have both options, you can exchange them, see "To exchange the option" on page 25.

If no option is installed, the module bay is closed by a cover.

Sensor check source (R&S NRX-B1)

Used as a power reference for testing the connected power sensors and the cabling. The LED of the sensor check source (R&S NRX-B1) shows the state, see Table 5-1.

You can remove the option and send it to Rohde & Schwarz for calibration. Contact the Rohde & Schwarz customer service.

Table 5-1: Possible states

Illumination	State	Signal output setting
Off	No signal is generated.	"Off"
Steady green	Continuous wave is output.	"CW"
Blinking green	Pulse signal is output.	"Pulse"
Blinking red	Settings conflict exists. For example if "Pulse" is set and the power level is set to 20 dBm.	"CW" or "Pulse"

Interface for R&S NRT-Z sensors (R&S NRX-B9)

Provides an optional power sensor interface to connect an R&S NRT-Zxx power sensor. For supported power sensors, see the data sheet.

To exchange the option

1. Press the latch to the right, using your thumb nail or a small pen.

2. Pull the option from its casing.
3. Insert the other option.
4. Press until you hear a click when the latch locks.

Further information:

- Chapter 4.7, "Connecting power sensors", on page 18
- Chapter 4.7.2, "Optional interface for R&S NRT-Z sensors (R&S NRX-B9)", on page 19

5.1.3 Touchscreen

See (3) in Figure 5-1.

The R&S NRX displays results in panes. Depending on the measurement mode, values are displayed digitally or graphically.

False triggers can occur

If an object (e.g. a human finger) that is charged with static electricity is brought near the touch panel, false triggers can occur.

This behavior is caused by the principle of operation of a PCAP (projected capacitive) touch panel.

5.1.4 Keys

See (4) in Figure 5-1.

Esc [Esc] / Local

If you press shortly:

- Changes to the next-higher hierarchy level.
- Escapes from the entry mode in text boxes and lists.
- Closes dialogs without losing any entries that have been made.
- Switches from remote control mode (all controls disabled) to manual operation.

If you press and hold:

- Goes to the start dialog that shows an overview of the active measurements.

Screenshot

Creates a screenshot of the current display.

1 Trig [1Trig] / Delete

- Controls the measurements depending on the trigger mode:
  - For all trigger modes except "Single", starts and stops the measurement.
  - For the "Single" trigger mode, enables and triggers the measurement.

  Changes of the trigger state apply to all measurements.
- Resets the auxiliary values that provide additional information about the measured values.
- Deletes numbers or text in a field so that you can enter a new value.

Enter

- Confirms entries in text fields, dialogs and selections in lists.
- Shows a frame around the control in focus. You can change the focus using the Cursor keys.

Freq [Freq]

Sets the carrier frequency of the applied signal. This value is used for frequency-response correction of the measurement result.

Favorites

Reserved for future use.

Preset [Preset]

Opens the "Save / Recall / Preset" dialog.

If you press [Preset] again, the preset function starts.

If you press the [Preset] key during booting, the R&S NRX starts with the factory default state.

Zero **[Zero]**
Pressing [Zero] opens the "Zeroing Sensors" dialog.

If you press [Zero] again, "Zero All Sensors" starts.

Also displays status information:
- Zeroing status
- Sensor status

System **[System]**
Opens the "System Overview" dialog.

Cursor keys
See (5) in Figure 5-1.

The cursor keys are context-sensitive. The control in focus is indicated by a focus frame. Use the cursor keys as follows:
- Selecting an element in the navigation pane.
- Selecting the active pane.
- Selecting an element from a list.
- Moving the cursor in text boxes.
- Changing the value of an entry in a text box.

5.1.5 USB host interface

See (6) in Figure 5-1.

USB 2.0 (universal serial bus) interface of the type A (host USB). Used to connect:

- USB power sensors
- External devices like a keyboard, mouse, or memory stick

Further information:
- Chapter 4.7.4, "USB 2.0 host interfaces", on page 21
- Chapter 4.8, "Connecting USB and external devices", on page 21

5.1.6 On/standby key

See (7) in Figure 5-1.

The on/standby key switches between standby and ready state, if the power switch is set to [I].

Further information:

- Chapter 5.2.5, "AC supply and power switch", on page 29
- Chapter 4.9, "Switching on or off", on page 21

5.2 Rear panel tour

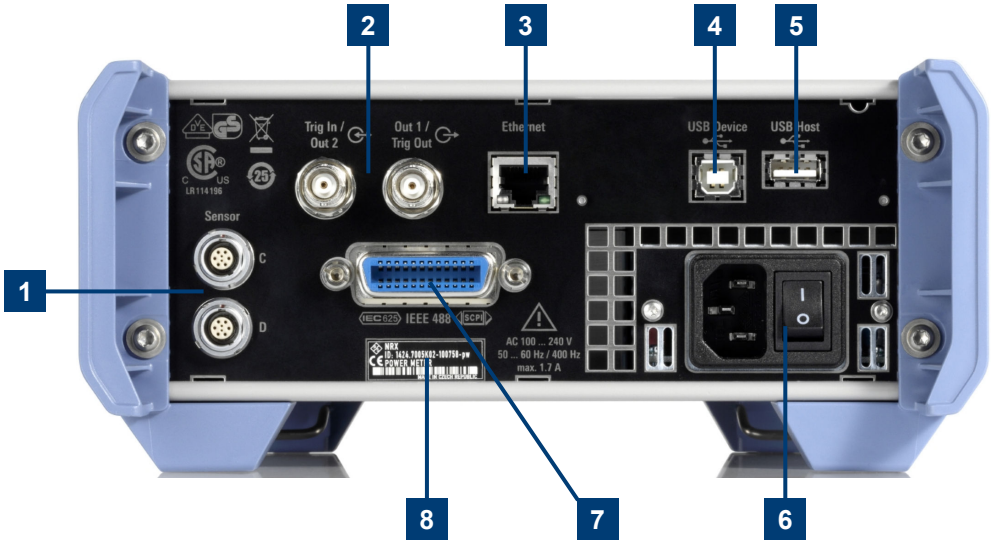


Figure 5-2: Rear panel of the R&S NRX

1 = Sensor connectors C and D (optional), used to connect R&S power sensors, see Chapter 5.2.8, "Sensor connectors C and D", on page 31.
2 = Trig In / Out 2 and Out 1 / Trig Out connectors, see Chapter 5.2.1, "Trig In / Out 2 and Out 1 / Trig Out connectors", on page 28.
3 = Ethernet interface, see Chapter 5.2.2, "Ethernet interface", on page 29.
4 = USB device interface, see Chapter 5.2.3, "USB device interface", on page 29.
5 = USB host interface, see Chapter 5.2.4, "USB host interface", on page 29.
6 = AC supply and power switch, see Chapter 5.2.5, "AC supply and power switch", on page 29.
7 = IEC 625/IEEE 488 interface, optional, see Chapter 5.2.6, "IEC 625/IEEE 488 interface", on page 30.
8 = Name plate, see Chapter 5.2.7, "Name plate", on page 30

5.2.1 Trig In / Out 2 and Out 1 / Trig Out connectors

See (1) in Figure 5-2.

The Out 1 / Trig Out BNC connectors supply an analog signal with a voltage between 0 V and 2.5 V. It can be used to output a voltage that is proportional to

the measured value (e.g. for level regulation) or a digital signal for limit monitoring.

The Trig In / Out 2 BNC connectors can be used either as an external trigger input with a switchable impedance (10 kΩ or 50 Ω) or as a second analog output.

By default, both connectors are disabled.

5.2.2 Ethernet interface

See (2) in Figure 5-2.

The Ethernet connector is an RJ45 socket for remote controlling the R&S NRX via a network.

5.2.3 USB device interface

See (3) in Figure 5-2.

USB 2.0 (universal serial bus) interface of the type B (receptacle). Used to connect the R&S NRX to a computer for USB remote control.

5.2.4 USB host interface

See (4) in Figure 5-2.

See Chapter 5.1.5, "USB host interface", on page 27.

5.2.5 AC supply and power switch

See (5) in Figure 5-2.

Observe the safety instructions in "Connecting to power" on page 7.

When the R&S NRX is connected to the AC supply, it automatically sets itself to the correct range for the applied voltage. The range is printed on the casing. There is no need to set the voltage manually.

Further information:

- Chapter 4.6, "Connecting to power", on page 17

5.2.6 IEC 625/IEEE 488 interface

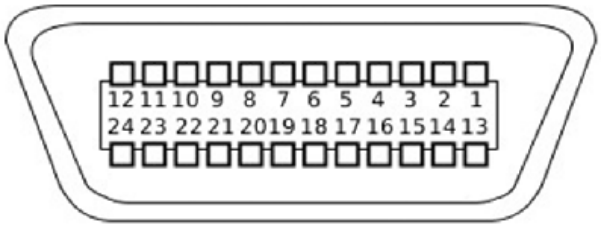
See (6) in Figure 5-2.

Requires GPIB/IEEE488 interface (R&S NRX-B8).

IEC bus (IEEE 488) interface for remote control of the R&S NRX. Used to connect a controller to remote control the R&S NRX. Use a shielded cable for the connection.

Characteristics of the IEC bus (IEEE 488) interface:

- 8-bit parallel data transfer
- Bidirectional data transfer
- Three-wire handshake
- High data transfer rate
- Maximum length of connecting cables 15 m (single connection 2 m)



5.2.7 Name plate

See (7) in Figure 5-2.

Shows the type, identification and name of the R&S NRX. The device ID consists of:

<stock number> - <serial number> - <checksum>

The framed 6 digits in Figure 5-3 are the individual serial number.

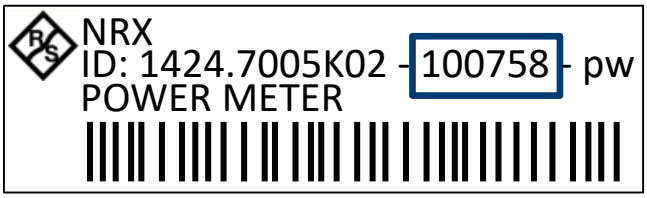


Figure 5-3: Name plate

The name plate also shows the parts of the default hostname. The default hostname consists of <type>-<serial number>.

For the R&S NRX with the name plate shown in Figure 5-3, the default hostname is:

NRX-100758

5.2.8 Sensor connectors C and D

See (8) in Figure 5-2.

Requires 3rd and 4th R&S NRP sensor connector (R&S NRX-B4).

For more details, see Chapter 5.1.1, "Sensor connectors A and B", on page 23.

6 Contacting 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, or follow this QR code:

Figure 6-1: QR code to the Rohde & Schwarz support page

Index