

R&S®NPA-Zx

Test adapter for R&S®NPA Power Analyzers Installation Instructions



1179759102

Version 01

ROHDE & SCHWARZ

Make ideas real



This document describes the following R&S®NPA-Zx test adapter models:

- R&S®NPA-Z1, EU socket (order number 3657.8911.02)
- R&S®NPA-Z2, UK socket (order number 3657.8911.03)
- R&S®NPA-Z3, US socket (order number 3657.8911.04)
- R&S®NPA-Z4, CHN/AUS socket (order number 3657.8911.05)

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Throughout this manual, products from Rohde & Schwarz are indicated without the ® symbol, e.g. R&S®NPA-Z1 is indicated as R&S NPA-Z1.

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1 Safety information (multilingual)

This option or accessory is designed for a specific Rohde & Schwarz product. Multilingual safety information is delivered with the product. Follow the provided installation instructions.

Esta opción o este accesorio están diseñados para un producto Rohde & Schwarz concreto. El producto va acompañado de información de seguridad en varios idiomas. Siga las instrucciones de instalación puestas a disposición.

Diese Option oder dieses Zubehör ist für ein bestimmtes Rohde & Schwarz Produkt vorgesehen. Mit dem Produkt werden mehrsprachige Sicherheitsinformationen geliefert. Befolgen Sie die mitgelieferten Installationsanweisungen.

Cette option ou cet accessoire est conçu pour un produit Rohde & Schwarz spécifique. Des informations de sécurité multilingues sont fournies avec le produit. Suivez les instructions d'installation fournies.

Questa funzione opzionale o accessoria è progettata per un prodotto Rohde & Schwarz specifico. Con il prodotto sono fornite informazioni sulla sicurezza in formato multilingue. Seguire le istruzioni di installazione allegate.

Esta(e) opção ou acessório foi concebida(o) para um produto específico da Rohde & Schwarz. Serão fornecidas informações de segurança multilingues com o produto. Siga as instruções de instalação fornecidas.

Αυτή η προαιρετική επιλογή ή εξάρτημα έχει σχεδιαστεί για συγκεκριμένο προϊόν Rohde & Schwarz. Μαζί με το προϊόν παρέχονται πληροφορίες ασφαλείας σε πολλές γλώσσες. Ακολουθήστε τις παρεχόμενες οδηγίες εγκατάστασης.

Din l-għażla jew aċċessorju huma mfassla għal prodott Rohde & Schwarz speċifiku. L-informazzjoni multilingwi dwar is-sikurezza hija pprovduta mal-prodott. Segwi l-istruzzjonijiet ipprovduti għall-installazzjoni.

Deze optie of dit accessoire is ontwikkeld voor een specifiek product van Rohde & Schwarz. Het product wordt geleverd met veiligheidsinformatie in meerdere talen. Volg de meegeleverde installatie-instructies.

Denne mulighed eller tilbehørsdel er designet til et specifikt Rohde & Schwarz produkt. En flersproget sikkerhedsanvisning leveres sammen med produktet. Følg de medfølgende installationsanvisninger.

Detta tillval eller tillbehör är avsett för en särskild produkt från Rohde & Schwarz. Säkerhetsinformation på flera språk medföljer produkten. Följ de medföljande installationsanvisningarna.

Tämä vaihtoehto tai lisävaruste on suunniteltu tietyille Rohde & Schwarz -yrityksen tuotteelle. Tuotteen mukana on toimitettu monikieliset turvallisuusohjeet. Noudata annettuja asennusohjeita.

Dette alternativet eller ekstrautstyret er utformet for et spesifikt Rohde & Schwarz produkt. Flerspråklig sikkerhetsinformasjon leveres med produktet. Overhold installasjonsveiledningen som følger med.

See valik või lisaseade on mõeldud konkreetsele Rohde & Schwarz tootele. Tootegea on kaasas mitmekeelne ohutusteave. Järgige kaasasolevaid paigaldusjuhiseid.

Šī opcija vai piederums ir izstrādāts īpaši Rohde & Schwarz produktam. Produktam pievienota drošības informācija vairākās valodās. Ievērojiet sniegtos uzstādīšanas norādījumus.

Ši parinktis ar priedas skirti konkrečiam Rohde & Schwarz gaminiui. Su gaminiu pateikiama saugos informacijos keliomis kalbomis. Laikykitės pateikiamų montavimo nurodymų.

Þessi auka- eða fylgibúnaður er hannaður fyrir tiltekna Rohde & Schwarz vöru. Öryggisupplýsingar á mörgum tungumálum fylgja með vörunni. Fylgið meðfylgjandi uppsetningarleiðbeiningum.

Tá an rogha nó an oiriúint seo ceaptha le haghaidh táirge Rohde & Schwarz sonrach. Cuirtear eolas sábháilteachta ilteangach ar fáil leis an táirge. Lean na treoracha suiteála a thugtar.

Эта опция или принадлежность предназначена для конкретного продукта Rohde & Schwarz. В комплект поставки продукта входят инструкции по технике безопасности на нескольких языках. Соблюдайте прилагаемые инструкции по установке.

Ця опція або приладдя призначені для конкретного виробу Rohde & Schwarz. Інструкції з техніки безпеки кількома мовами постачаються разом із виробом. Дотримуйтеся наданих інструкцій зі встановлення.

Ta opcja lub akcesorium jest przeznaczona do określonego produktu Rohde & Schwarz. Dostarczany produkt zawiera informacje w wielu językach dotyczące bezpieczeństwa. Należy postępować zgodnie z dostarczonymi instrukcjami instalacji.

Tato varianta nebo příslušenství je určeno pro konkrétní produkt Rohde & Schwarz. S produktem jsou dodávány vícejazyčné bezpečnostní informace. Řiďte se příloženými pokyny k instalaci.

Táto verzia alebo príslušenstvo je navrhnutá pre špecifický výrobok Rohde & Schwarz. S výrobkom sa dodávajú viacjazyčné bezpečnostné pokyny. Riadte sa dodanými pokynmi na inštaláciu.

Ta možnost ali dodatek je zasnovan za določen izdelek podjetja Rohde & Schwarz. Izdelku so priložena varnostna navodila v več jezikih. Upoštevajte priložena navodila za namestitev.

Ezt a beállítást vagy tartozékot egy adott Rohde & Schwarz termékhez tervezték. A termékhez többnyelvű biztonsági információkat mellékelünk. Kövesse a mellékelt szerelési utasításokat.

Тази опция или аксесоар са проектирани за специфичен продукт на Rohde & Schwarz. Многоезикова информация за безопасност се доставя с продукта. Следвайте предоставените инструкции за монтаж.

Ova opcija ili oprema namijenjena je za određeni proizvod tvrtke Rohde & Schwarz. Uz proizvod su dostavljene sigurnosne napomene na više jezika. Pratite isporučene upute za ugradnju.

Ova opcija ili pribor je dizajniran za određeni Rohde & Schwarz proizvod. Proizvodu su priložene sigurnosne informacije na više jezika. Slijedite priložena uputstva za instalaciju.

Ova opcija ili dodatni pribor je projektovan za određeni Rohde & Schwarz proizvod. Bezbednosne informacije na više jezika se isporučuju uz proizvod. Sledite dostavljena uputstva za instalaciju.

Această opțiune sau acest accesoriu a fost conceput pentru un produs specific Rohde & Schwarz. Informațiile multilingve privind siguranța sunt livrate împreună cu produsul. Urmați instrucțiunile de instalare furnizate.

Ky opsion ose aksesori është krijuar për një produkt specifik Rohde & Schwarz. Bashkë me produktin jepen edhe informacionet e sigurisë në shumë gjuhë. Ndiqni udhëzimet e dhëna të instalimit.

Оваа опција или додаток се наменети за одреден производ на Rohde & Schwarz. Со производот се испорачани повеќејазични безбедносни упатства. Следете ги дадените упатства за инсталација.

Bu opsiyon veya aksesuar, belirli bir Rohde & Schwarz ürünü için tasarlanmıştır. Çok dilli güvenlik uyarıları ürünle birlikte teslim edilir. Size sağlanan kurulum talimatlarına uyun.

Şu opsiya ýa-da esbap Rohde & Schwarz anyk önüm üçin niýetlenilen. Dürli dil-däki howpsuzlyk barada maglumat önüm bilen bile üpjün edilyär. Üpjün edilen gurnama ugrukdymalaryny ýerine ýetiriň.

इस विकल्प या एक्सेसरी को एक विशेष Rohde & Schwarz उत्पाद के लिए डिज़ाइन किया गया है. उत्पाद के साथ बहुभाषी सुरक्षा जानकारी दी जाती है. प्रदान किए गए इंस्टालेशन अनुदेशों का पालन करें.

本选件或附件专门设计用于特定的 Rohde & Schwarz 产品。产品随附多种语言版本的安全资讯。谨遵文件中的安装说明。

本オプションアクセサリは、特定の Rohde & Schwarz 製品向けに設計されています。多言語で記載された安全情報が製品に付属します。付属のインストール手順に従ってください。

이 옵션 또는 액세서리는 특정 Rohde & Schwarz 제품용으로 설계되었습니다. 제품과 함께 다국어로 작성된 안전 정보가 제공됩니다. 함께 제공된 설치 지침을 따르십시오.

本選配或配件專門設計用於特定的 Rohde & Schwarz 產品。產品隨附多種語言版本的安全資訊。遵守文件中的安裝說明。

Tùy chọn hoặc phụ kiện này dành riêng cho một sản phẩm Rohde & Schwarz cụ thể. Thông tin an toàn đa ngôn ngữ được cung cấp kèm theo sản phẩm. Thực hiện theo hướng dẫn lắp đặt kèm theo.

ตัวเลือกหรืออุปกรณ์เสริมนี้ออกแบบมาสำหรับผลิตภัณฑ์ Rohde & Schwarz โดยเฉพาะ โดยจะมีการจัดส่งข้อมูลด้านความปลอดภัยหลายภาษามาให้พร้อมกับผลิตภัณฑ์ ปฏิบัติตามคำแนะนำในการติดตั้งที่ให้ไว้

Pilihan atau aksesori ini direka bentuk untuk produk Rohde & Schwarz yang tertentu. Maklumat keselamatan berbilang bahasa disertakan bersama produk. Ikut arahan pemasangan yang diberikan.

Opsi atau aksesori ini dirancang untuk produk Rohde & Schwarz tertentu. Informasi keamanan dalam beberapa bahasa juga disertakan bersama produk. Ikuti petunjuk pemasangan yang disediakan.

Esta opción o este accesorio están diseñados para un producto Rohde & Schwarz en concreto. El producto va acompañado de información de seguridad en varios idiomas. Siga las instrucciones de instalación proporcionadas con el producto.

Esta opção ou acessório foi desenvolvido para um produto Rohde & Schwarz específico. Informações de segurança em vários idiomas acompanham o produto. Siga as instruções de instalação disponibilizadas.

אפשרות זו או האביזר מיועדים למוצר ספציפי של Rohde & Schwarz. מידע רב-לשוני בנושא בטיחות מצורף למוצר. יש לפעול בהתאם להנחיות ההתקנה המצורפות.

تم تصميم هذا الخيار أو الملحق لمنتج معين من منتجات Rohde & Schwarz. يتم تزويد معلومات السلامة متعددة اللغات مع المنتج. اتبع تعليمات التركيب الموضحة.

این قابلیت یا وسیله جانبی منحصراً برای محصول به خصوص Rohde & Schwarz طراحی شده است. اطلاعات ایمنی چندزبانه همراه این دستگاه ارائه شده است. دستور العمل‌های نصب ارائه شده را دنبال کنید.

اس اختیار یا حصے کو مخصوص Rohde & Schwarz پروڈکٹ کے لئے تیار کیا گیا ہے۔ پروڈکٹ کے ساتھ کثیر السانی زبانوں میں تحفظ کی معلومات فراہم کی جاتی ہیں۔ فراہم کردہ تنصیب کی ہدایات پر عمل کریں۔

2 About the R&S NPA-Zx

The R&S NPA-Zx test adapter is an AC outlet with grounded safety sockets. The R&S NPA-Zx enables you to analyze the performance of the mains with the load connected.

You can obtain the R&S NPA-Zx with the outlet corresponding to your country-specific power plugs. The outlet is factory-fitted. The red, blue and black cables of 25 cm length are included in the scope of delivery.

Intended use

The R&S NPA-Zx test adapter is an accessory for the R&S NPA power analyzers. Only use the R&S NPA-Zx together with an R&S NPA.

The R&S NPA-Zx is used to connect a DUT safely to an R&S NPA. It enables you to analyze the performance of the mains with the load connected.

Observe the operating conditions and performance limits stated in the specifications document, also called data sheet.

Target audience

Only electrically skilled persons are qualified to connect, set up and use the R&S NPA-Zx test adapter. Such persons have the education and experience needed to recognize risks and avoid hazards of working with electricity.

As the R&S NPA-Zx test adapter is only used together with an R&S NPA power analyzer, the products have the same target audience. See also the user manual of the R&S NPA power analyzers.

Safety information in the documentation

Safety information warns you of potential dangers and gives instructions on how to prevent personal injury or damage caused by dangerous situations. Throughout the documentation, safety instructions are provided when you need to take care during setup or operation.

The documentation helps you use the R&S NPA-Zx safely and efficiently. Keep the documentation nearby and offer it to other users.

Related manuals

This manual describes the installation of the R&S NPA-Zx. For information on all other topics, refer to the user manual of the R&S NPA power analyzers.

This manual describes the installation of the R&S NPA-Zx. For information on all other topics, refer to the following manuals:

- User manual of the R&S NPA power analyzers.
- Specifications document (product brochure) of the R&S NPA power analyzers.

www.rohde-schwarz.com/manual/npa

www.rohde-schwarz.com/brochure-datasheet/npa

3 Checking out the R&S NPA-Zx

To unpack and check

1. Unpack the R&S NPA-Zx carefully.
2. Retain the original packing material. Use it when transporting or shipping the R&S NPA-Zx 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.

Overview of the R&S NPA-Zx



Figure 3-1: R&S NPA-Zx front panel; example shows model with Chinese/Australian outlet

- 1 = R&S NPA connectors
- 2 = AC power supply
- 3 = R&S NPA-Zx model
- 4 = DUT power plug
- 5 = Required ratings information on AC power supply

R&S NPA connectors

See (1) in [Figure 3-1](#).

4 mm safety sockets used to connect to the R&S NPA power analyzer:

- A: Output for current measurement
- COM: Common (shared) ground for voltage and current measurement
- V: Output for voltage measurement

For further information, see the R&S NPA power analyzers user manual, chapter *Connecting a device under test (DUT)*.

AC power supply

See (2) in [Figure 3-1](#).

When the R&S NPA-Zx 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, see (3) in [Figure 3-1](#). There is no need to set the voltage manually.

The AC power supply has an exchangeable fuse. Its type and characteristics are indicated on the front panel, see (3) in [Figure 6-1](#).

Further information:

- [Chapter 5.3, "Connecting to power"](#), on page 16
- [Chapter 6, "Changing fuses"](#), on page 17

DUT power plug

See (4) in [Figure 3-1](#).

Used to connect to the DUT.

To accommodate the country-specific power plug of the DUT, there are several models of the R&S NPA-Zx with country-specific outlets available. They are listed on the back of the cover page.

Placing the R&S NPA-Zx on a bench top

- ▶ Place the product on a stable, flat and level surface, next to the R&S NPA.

4 Mounting the R&S NPA-Zx

See also the instructions in the user manual of the R&S NPA power analyzers.

To mount the R&S NPA-Zx

You can mount the R&S NPA-Zx firmly, for example at a wall.

1. Fold out the small covers at the front on the left and right side.



2. Fix with screws:
 - a) Insert the fastening screws through the mounting holes in the R&S NPA-Zx.
 - b) Screw the fastening screws into the object of your choice.

5 Connecting the R&S NPA-Zx

5.1 Considerations for test setup

Always use the cables that are supplied with the R&S NPA-Zx test adapter.

If you use other measurement equipment make sure that the equipment is approved for overvoltage category II, min. 250 V, min. 10 A. Check that the connectors are fully insulated.

Internal wiring of the R&S NPA-Zx test adapter

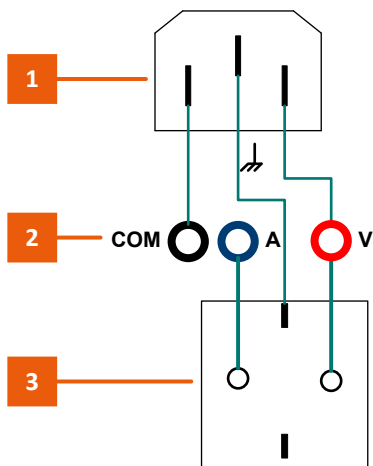


Figure 5-1: Internal wiring of A, V and COM of the R&S NPA-Zx

- 1 = AC power supply
- 2 = A, COM, V output connectors
- 3 = DUT power plug

For information on considerations for the test setup with the R&S NPA, see the user manual of the R&S NPA power analyzers.

5.2 Connecting to the R&S NPA power analyzer and the DUT

To connect the R&S NPA-Zx to the R&S NPA and the DUT, follow the instructions in the R&S NPA power analyzer user manual, chapter *Connecting a device under test (DUT)*.

5.3 Connecting to power

To connect to power

1. Plug the AC power cable into the AC power connector on the top of the R&S NPA-Zx. Only use the AC power cable delivered with the R&S NPA-Zx.
2. Plug the AC power cable into a power outlet with ground contact.
The required ratings are listed on the front panel of the R&S NPA-Zx, see (5) [Figure 3-1](#) and in the specifications document.

To disconnect from power

1. Disconnect the cables from the R&S NPA connectors.
2. Unplug the AC power cable of the DUT from the DUT power plug.
3. Unplug the AC power cable of the R&S NPA-Zx from the power outlet.

6 Changing fuses

The R&S NPA-Zx is protected by two fuses of type IEC60127-2/3: T10L250V. This fuse type is commonly available.

The fuses are located in the mains power inlet:

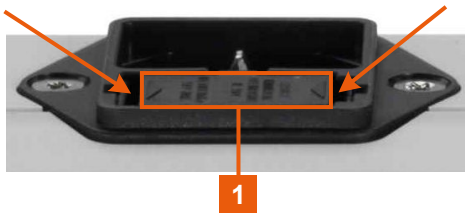


Figure 6-1: Mains power inlet

1 = Fuse cover

1. **WARNING!** The fuse is part of the AC power supply. Handling the fuse while the power is on can lead to electric shock.
Before changing the fuses, disconnect the R&S NPA-Zx from the power source.
2. Insert a flat head screwdriver with a blade width of approximately 2 mm into under the small opening tab of the fuse holder, indicated by arrows in [Figure 6-1](#).
When unlocking the mechanism, the fuse holder is pushed outwards by compression springs.
3. Lever out the fuses.
4. Pull out the fuse holder.
5. Check the condition of the fuses.
6. Replace the blown fuse. Only use a fuse of the specified type.
7. Insert the fuse holder into the mains power inlet:
 - a) Align the fuse holder with the guide bar facing the socket.
 - b) Carefully slide the fuse holder against the spring pressure into the slot until both plastic locks latch.

7 Korea certification class A



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8 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 8-1: QR code to the Rohde & Schwarz support page