R&S®ENV432
FOUR-LINE V-NETWORK

For disturbance voltage measurements on three-phase EUTs

Product Brochure
Version 03.00

ROHDE&SCHWARZ
Make ideas real

AT A GLANCE

The R&S®ENV432 four-line V-network meets the requirements of CISPR 16-1-2 and EN 55016-1-2 for V-networks with a simulated impedance of (50 µH + 5 Ω) || 50 Ω in the frequency range from 9 kHz to 30 MHz as well as ANSI C63.4 in the frequency range from 150 kHz to 30 MHz. The R&S®ENV432 comes with a Schuko socket (EUT 1) and a CEE 32 A socket (EUT 2) for connecting the equipment under test (EUT).

The R&S®ENV432 is ideal for disturbance voltage measurements on three-phase EUTs with a star-type alternating voltage up to 240 V (corresponds to a delta-type alternating voltage of 415 V) and direct voltages up to 350 V. The maximum constant current per phase is 32 A. Operation is briefly permissible with a peak current of 50 A per phase. Supplied accessories include the CEE coupling socket and CEE three-phase current plug needed to connect the R&S®ENV432 V-network to the mains supply and to the EUT.

For disturbance voltage measurements on single-phase EUTs with an alternating voltage up to 240 V, a Schuko socket (EUT 1) is provided on the front panel. When using this connector, the maximum constant current is 16 A.

The phase of the V-network can be selected manually using a front panel switch or automatically via TTL control inputs, which are compatible with the latest Rohde&Schwarz measuring receivers.

The operating voltage for the built-in fans and the logic circuit is obtained separately from the mains. The fans are automatically activated if the internal temperature limit of +50 °C is exceeded. If the upper limit of +100 °C is exceeded, a warning tone will be heard and the fan LED will turn red.

Since, due to their standard-compliant design, V-networks like the R&S®ENV432 produce high leakage currents, they must be connected to a low-impedance protective earth system. In uncertain cases, an isolating transformer should be used.

KEY FACTS

- Frequency range from 9 kHz to 30 MHz
- Power-handling capacity up to 32 A, constant current
- Simulated impedance (50 µH + 5 Ω) || 50 Ω in line with CISPR 16-1-2
- V-network in line with CISPR, EN, VDE, ANSI, FCC Part 15 and MIL-STD-461
- Calibrated in line with CISPR 16-1-2

BENEFITS

Air-core design and artificial hand

The R&S®ENV432 four-line V-network is based on air-core inductances and contains an artificial hand.

Built-in 10 dB attenuator pad

To ensure standard impedance irrespective of the measuring receiver's input attenuation, the R&S®ENV432 is equipped with a 10 dB attenuator pad.

Built-in pulse limiter (can be switched off)

A built-in pulse limiter that can be switched off protects the measuring receiver's input.

Automatic temperature monitoring

When the temperature inside the housing reaches about +50 °C, the fans of the R&S®ENV432 automatically switch on. This protects the V-network in case of a high constant current load.

Remote control with TTL levels (compatible with Rohde&Schwarz measuring receivers)

TTL control inputs that can be driven by controllers or Rohde&Schwarz measuring receivers are provided for remote control of phase selection in an automatic test system.

Rear view

SPECIFICATIONS

Specifications		
Frequency range		9 kHz to 30 MHz
Simulated impedance		(50 µH + 5 Ω) || 50 Ω
Error limits in line with CISPR 16-1-2	magnitude and phase	±20 % and ±11.5°
Decoupling attenuation between power supply and measuring receiver port in line with CISPR 16-1-2	9 kHz to 50 kHz	> 0 dB to > 40 dB (increases linearly with logarithm of frequency)
	50 kHz to 30 MHz	> 40 dB
Test path to EUT		
Maximum permissible constant current	EUT 1	16 A
Mains voltage	EUT 1	0 V to 240 V AC + 10 %
DC voltage	EUT 1	0 V to 350 V DC + 10 %
Maximum permissible constant current	EUT 2	32 A
Peak current (brief)	EUT 2	50 A (2 minutes)
Mains voltage	EUT 2	0 V to 240/415 V AC + 10 %
DC voltage	EUT 2	0 V to 350 V DC + 10 %
Mains frequency		0 Hz to 60 Hz + 5 %
Test path to measuring receiver		
Maximum permissible RF disturbance power from EUT		5 W
Voltage division factor between EUT and measuring receiver port	built-in attenuator pad, calibration data supplied with V-network	10 dB – 0.5 dB/+ 2.5 dB
Response threshold of built-in pulse limiter	can be switched off	140 dB (µV) (nom.)
Power supply for fans and control logic		
Mains voltage	115 V setting	100 V to 120 V AC ± 10 %
	230 V setting	220 V to 240 V AC ± 10 %
Mains frequency		50 Hz to 60 Hz ± 5 %
Power consumption		100 VA (nom.)
Connectors		
Mains and DC voltage output	front panel, EUT 1	Schuko socket
Mains and DC voltage output	front panel, EUT 2	CEE socket (6 h)
RF output	front panel, TO TEST RECEIVER	N female, 50 Ω
Artificial hand	front panel	4 mm connector, female, with knurled clamp
Mains and DC voltage input	rear panel, MAINS	CEE built-in connector (6 h)
Mains voltage input (auxiliary voltage)	rear panel, POWER FOR FAN AND REMOTE CONTROL	low-temperature connector with mains filter
Remote control input	rear panel, REMOTE CONTROL	25-contact, D-Sub, female
Protective earth	front panel and rear panel	M8 threaded bolt
RF reference ground	on both sides	ground bar with seven M6 threads
General data		
Operating temperature range		+5 °C to +45 °C
Storage temperature range		–40 °C to +70 °C
Dimensions, overall	W × H × D	446 mm × 289 mm × 500 mm (17.6 in × 11.4 in × 19.7 in)
Weight		24 kg (53 lb)
Electrical safety	observe notes in manual	in line with EN 61010-1
EMC		in line with IEC/EN 61326-1
Emission		class B, in line with residential environment requirements
Immunity		in line with industrial environment requirements

Specifications with limits: Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as <, ≤, >, ≥, ± or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable. **Specifications without limits:** Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value, e.g. dimensions or resolution of a setting parameter. Compliance is ensured by design. **Nominal values (nom.):** Characterize product performance by means of a representative value for the given parameter, e.g. nominal impedance. In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

ORDERING INFORMATION

Designation	Type	Order No.
Base unit		
Four-line V-network	R&S®ENV432	1326.6105.02
Accessories supplied		
▶ Operating manual with calibration data and CD-ROM with service manual and voltage division factor ▶ CEE coupling socket and CEE three-phase current plug ▶ Power cables for fans and control logic ▶ Screws to connect RF reference ground		
Recommended extras		
Control cable, length: 3 m [1]	R&S®EZ-21	1107.2087.03
Control cable, length: 10 m [1]	R&S®EZ-21	1107.2087.10
Control cable, length: 3 m [2]	R&S®EZ-29	1326.6470.03
Control cable, length: 10 m [2]	R&S®EZ-29	1326.6470.10

[1] 25-wire remote control cable (male to male), for control by R&S®EPL, R&S®ESxS, R&S®ESIBx, R&S®ESPIx, R&S®ESCI, R&S®ESUx EMI test receivers and FPL spectrum analyzer.

[2] 25-wire (male) to 9-wire (female) remote control cable, for control by R&S®ESL, R&S®ESRP, R&S®ESR, R&S®ESW EMI test receivers and FSW, R&S®FSVA3000, R&S®FSV3000, R&S®FSVA, R&S®FSV signal and spectrum analyzers.

This product was manufactured for Rohde&Schwarz by:
Fritz Giebler GmbH, Waltershofener Str. 5C, 86405 Meitingen-Ostendorf, Germany

Service at Rohde&Schwarz

YOU'RE IN GREAT HANDS

	SERVICE PLANS	ON DEMAND
Calibration	Up to five years [1]	Pay per calibration
Warranty and repair	Up to five years [1]	Standard price repair

[1] For extended periods, contact your Rohde & Schwarz sales office.

Instrument management made easy

The R&S®InstrumentManager makes it easy to register and manage your instruments. It lets you schedule calibration dates and book services.

Find out more about our service portfolio:

Service at Rohde&Schwarz
You're in great hands
- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

Rohde&Schwarz
The Rohde&Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test&measurement, technology systems and networks&cybersecurity. Founded more than 90 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

www.rohde-schwarz.com

Sustainable product design
- Environmental compatibility and eco-footprint
- Energy efficiency and low emissions
- Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

More Rohde&Schwarz certificates

Rohde&Schwarz training
www.training.rohde-schwarz.com

Rohde&Schwarz customer support
www.rohde-schwarz.com/support

R&S® is a registered trademark of Rohde&Schwarz GmbH&Co. KG
Trade names are trademarks of the owners
PD 3607.0652.12 | Version 03.00 | September 2026 (ch)
R&S®ENV432 Four-Line V-Network
Data without tolerance limits is not binding | Subject to change
© 2014 - 2026 Rohde&Schwarz | 81671 Munich, Germany