



200 A Four-Line V Network R&S ENV4200

for RFI voltage measurements at high currents

- ◆ Frequency range
150 kHz to 30 MHz
- ◆ V network to CISPR, EN, VDE, ANSI
- ◆ Impedance $50 \mu\text{H} \parallel 50 \Omega$
- ◆ Artificial hand
- ◆ Continuous current up to $4 \times 200 \text{ A}$
- ◆ Air-core design
- ◆ Remote control with TTL levels
(compatible with Rohde & Schwarz test receivers)
- ◆ Calibrated to CISPR 16-1:1999
and ANSI C63.4



ROHDE & SCHWARZ



The Four-Line V Network R&S ENV 4200 is used for measuring RFI voltages on AC supply connections of EUTs carrying very high currents. It uses air-core inductances and contains an artificial hand. The R&S ENV 4200 satisfies the requirements of CISPR 16-1, VDE 0876 and ANSI C 63.4 for V networks with an impedance of $50 \mu\text{H} \parallel 50 \Omega$ in the frequency range 150 kHz to 30 MHz.

CISPR 16-1 specifies two types of V networks for the frequency range 150 kHz to 30 MHz: one with an impedance of $50 \mu\text{H} \parallel 50 \Omega$ (1) and another with an impedance of $(50 \mu\text{H} + 5 \Omega) \parallel 50 \Omega$ (2). The second type is also suitable for the frequency range 9 kHz to 150 kHz, not however for very high currents, since it requires an isolating choke of $250 \mu\text{H}$. The V Network R&S ENV 4200 corresponds to type (1). The maximum attainable current of the V network is limited by the voltage drop at the standardized inductances (CISPR 16-1 prescribes the voltage drop at 5% of the AC supply voltage) and by unavoidable heat losses.

The maximum continuous current on all four connectors is 100 A with the fans switched off and 200 A with the fans switched on. If an additional power supply is used and the temperature limit is exceeded, the fans are automatically switched on.

For connection to the AC supply network and to the EUT, the R&S ENV 4200 is provided with all-insulated screw terminals for taking up cable clamps of sufficient current-carrying capacity.

The phase can be manually selected by means of a front-panel switch or automatically via TTL control inputs which are compatible with the Rohde & Schwarz test receivers of the younger generation. Commercial standard cables (wired 1:1) with 25-pin Cannon connectors can be used as control cables for test receivers of the R&S ESxS family (ESHS, ESS, ESPC and ESCS), the R&S ESIBx family (ESIB 7/26/40) and the R&S ESPIx family (ESPI 3/7). Special control cables are required for test receivers of the R&S ESxL family (ESAI, ESBI and ESMI).



Specifications

Frequency range	150 kHz to 30 MHz
Impedance characteristic of V network	50 μ H 50 Ω
Max. permissible errors (to CISPR 16-1)	\pm 20%
Test path (to EUT)	
Max. permissible continuous current	4 x 100 A with fans switched off 4 x 200 A with fans switched on operating time derated at higher currents
DC resistance per path	6.7 m Ω typ.
AC supply frequency range	0 Hz to 63 Hz
Max. permissible AC supply voltage	260 V (voltage to neutral; corresponds to 450 V line-to-line voltage in three-phase system)
Test path (to test receiver)	
Pulse limiter	to 150 dB μ V (built-in)
Voltage attenuation between EUT and test receiver	10 dB (built-in attenuator pad; calibration data supplied with V network)
Cooling	
AC supply voltage	with 4 built-in fans 115 V/230 V
AC supply frequency	47 Hz to 63 Hz
Power consumption	60 VA
Connectors	
AC supply voltage inputs (test path)	knob for 15 mm terminals
AC supply voltage input for fans and remote control	connector with mains filter knob for 15 mm terminals
EUT connectors	knob for 15 mm terminals
Ground	M8 screw terminal
Reference ground	uninsulated busbars for screwing on connecting lines
RF connector	BNC female
Remote control	25-pin Cannon female

General data

Rated temperature range	+5°C to +40°C (derating at high currents)
Storage temperature range	-30°C to +70°C
Dimensions (W x H x D)	450 mm x 315 mm x 670 mm
Weight	43 kg

Ordering information

Four-Line V Network	R&S ENV4200	1107.2387.02
50 μ H 50 Ω		

Accessories supplied

manual including calibration data, terminals (8 each), power cable for fans, BNC/BNC test cable, test fixture

Recommended extras

25-wire remote control cable

Control by test receivers of R&S ESxS, R&S ESIBx, R&S ESPlx series (male-to-male, wired 1:1; 2 required for shielded room)

Control Cable 3 m	R&S EZ-21	1107.2087.03
Control Cable 10 m	R&S EZ-21	1107.2087.10

Control by test receivers of R&S ESxl series (male-to-male; special wiring; combination with R&S EZ-21 required for shielded room)

Control Cable 3 m	R&S EZ-22	1107.2235.03
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Certified Quality System

ISO 9001

DQS REG. NO 1954

Certified Environmental System

ISO 14001

REG. NO 1954



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