

# R&S® ESH3-Z6

## V-Network

For measuring disturbance  
voltage and susceptibility  
in low-impedance power  
supply networks



# R&S®ESH3-Z6

## V-Network

### At a glance

The R&S®ESH3-Z6 single-phase V-network with a simulating impedance of  $5\ \mu\text{H} \parallel 50\ \Omega$  meets the requirements of EN 55025/CISPR 25 as well as MIL-STD-461<sup>1)</sup>, DEF-STAN 59-411 and DO-160 in the frequency range from 100 kHz to 200 MHz.

The R&S®ESH3-Z6 is rated for a continuous current of up to 100 A and can handle surges of up to 500 A for a maximum of 30 s.

The R&S®ESH3-Z6 V-network comes with a calibration report for the voltage division factor.

#### Design

The R&S®ESH3-Z6 V-network has screw terminals with a large contact area for low-impedance connection to the equipment under test (EUT) and the power supply using cable lugs. Plastic covers on both connections protect against accidental contact.

#### Key facts

- 0.1 MHz to 200 MHz
- Continuous current of up to 100 A
- Calibration in line with CISPR 25: 2016 (Edition 4)

<sup>1)</sup> The current MIL-STD-461 standard requires an impedance of  $50\ \mu\text{H} \parallel 50\ \Omega$ . A possible alternative for CE101 and CE102 testing is  $5\ \mu\text{F} \parallel 50\ \Omega$ , e.g. for smaller platforms (power distribution less than 50 m) such as fighter aircraft.

# Specifications

| Specifications                                                         |                                                       |
|------------------------------------------------------------------------|-------------------------------------------------------|
| Frequency range                                                        | 0.1 MHz to 200 MHz                                    |
| Simulating impedance                                                   | 5 $\mu$ H    50 $\Omega$                              |
| Max. permissible error limits (in line with CISPR 25)                  | $\pm 20\%$ (magnitude)                                |
| Max. permissible continuous current                                    | 100 A                                                 |
| Max. permissible continuous current (up to $T_a = +35^\circ\text{C}$ ) | 115 A                                                 |
| Max. permissible short-time current (up to 30 s)                       | 500 A                                                 |
| <b>Max. permissible operating voltage</b>                              |                                                       |
| DC                                                                     | 600 V                                                 |
| AC                                                                     | 250 V                                                 |
| AC supply frequency range                                              | 0 Hz to 440 Hz                                        |
| <b>Connectors</b>                                                      |                                                       |
| Power supply                                                           | M8 screw terminal                                     |
| EUT                                                                    | M8 screw terminal                                     |
| Ground                                                                 | 2 x M8 screw terminals                                |
| Reference ground                                                       | uninsulated baseplate for screwing on ground plane    |
| RF connector                                                           | N female                                              |
| <b>General data</b>                                                    |                                                       |
| Operating temperature range                                            | 0°C to +50°C                                          |
| Storage temperature range                                              | -25°C to +70°C                                        |
| Dimensions (W x H x D)                                                 | 122 mm x 128 mm x 322 mm (4.8 in x 5.04 in x 12.7 in) |
| Weight                                                                 | 1.9 kg (4.19 lb)                                      |
| Electrical safety                                                      | in line with EN 61010-1, see notes in manual          |

# Ordering information

| Designation                                                      | Type        | Order number |
|------------------------------------------------------------------|-------------|--------------|
| V-network                                                        | R&S®ESH3-Z6 | 836.5016.52  |
| <b>Accessories supplied</b>                                      |             |              |
| Cable lugs (4 x), calibration report for voltage division factor |             |              |

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