



## Antenna Impedance Converter EZ-12

for interference measurements on vehicle antennas to CISPR25

- Frequency range  
150 kHz to 30 MHz (120 MHz)
- Flat frequency response
- High sensitivity
- High overload capacity
- Calibration to future CISPR25
- Remote-controlled FM range switch

Antenna Impedance Converter EZ-12 is a wideband matching unit with high-impedance input for test receivers and spectrum analyzers with low-impedance inputs. It is used for measuring interference voltages in the long-, medium- and shortwave bands at the output of vehicle-mounted antennas. The flat

frequency response plus the high sensitivity and overload capacity guarantee reliable results. A remote-controlled switch allows automatic switchover for interference voltage measurements in the FM range at the same antenna.

For unimpaired signal reception, in a car for instance, the interference voltage coming from various sources in the vehicle must not exceed specified values at the output of the antenna cable. Measures taken at the vehicle to ensure this are referred to as RFI suppression with respect to onboard reception. The measurement of RFI voltages at the antenna is a complete vehicle test in contrast to RFI voltage and field-strength measurements on electric and electronic vehicle components. Limits for interference levels at the vehicle antenna are specified by the CISPR25 standard.

With a nominal gain of +10 dB (transducer factor -10 dB) and an input impedance of >100 k $\Omega$ //10 pF, EZ-12 permits the open-circuit voltage at the output of the vehicle antenna cable to be measured with a test receiver or spectrum analyzer. EZ-12 is factory-calibrated with the aid of a dummy antenna in line with the future CISPR25 standard. During calibration the expected theoretical voltage is measured at the output of the antenna cable. The antenna cable is connected to the input of EZ-12, the test receiver or spectrum analyzer to the output. EZ-12 is powered from R&S test receivers or spectrum analyzers. When test receivers and spectrum analyzers of other make are used, Power Supply HZ-9 for active antennas or another 10 V supply serves as the power source.

## Specifications

Frequency range	150 kHz to 30 MHz (120 MHz)
RF input	standard connector to ISO 10599 part 1:1.92 (DIN/ISO 10599 part 1:10.93) or BNC female (by resoldering internally)
Input impedance	>100 k $\Omega$ //10 pF (at 1 MHz, meets CISPR 25)
Transmission factor for direct input to antenna socket	+11.2 dB $\pm$ 1 dB (f: 100 kHz to 30 MHz)
Nominal gain to future CISPR 25	+10 dB (f: 100 kHz to 30 MHz)
For input via antenna simulator to future CISPR 25	-9.15 dB $\pm$ 0.5 dB (f: 100 kHz to 30 MHz)

1 dB compression point at input	>107 dB $\mu$ V (typ. 110 dB $\mu$ V)
Noise voltage at AM output with antenna simulating network connected, referred to input	<-5 dB $\mu$ V (typ. -8 dB $\mu$ V) (f: 150 kHz to 500 kHz) <-7 dB $\mu$ V (typ. -10 dB $\mu$ V) (f: 0.5 MHz to 30 MHz, measured with AV detector, BW = 10 kHz)
RF outputs AM, FM AM output: SWR	BNC female, 50 $\Omega$ $\leq$ 1.4 (f: 150 kHz to 30 MHz; meets CISPR25)
FM output: SWR at input (output terminated with 50 $\Omega$ ) Insertion loss input/output	$\leq$ 1.4 (f: $\leq$ 120 MHz) $\leq$ 0.5 dB (f: $\leq$ 120 MHz)
Power supply Supply voltage Current drain	12-contact Tuchel-type, female +10 V $\pm$ 0.1 V <50 mA
Remote-control connector for AM/FM switchover	9-contact Cannon-type, female
<b>General data</b> Rated temperature range Storage temperature range Dimensions (W x H x D) Weight	+5 $^{\circ}$ C to +55 $^{\circ}$ C -25 $^{\circ}$ C to +70 $^{\circ}$ C 125 mm x 110 mm x 40 mm 0.6 kg

## Ordering information

<b>Order designation</b> Antenna Impedance Converter	EZ-12	1026.4800.03
<b>Accessories supplied</b> Power Cable (3 m)	HZ-3	0837.3469.02
<b>Recommended extras</b>	required only if EZ-12 is not powered from R&S receivers	
Power Supply for active antennas	HZ-9	0816.1045.02
For remote control by R&S receivers of series ESxS: Control Cable (5 m)	EZ-14	1026.5341.05
For remote control by R&S receivers ESxI and ESI: Control Cable (5 m)	EZ-4	0816.0560.05
Long Power Cable (10 m)	HZ-4	0816.0519.02

Certified Quality System  
**ISO 9001**  
DQS REG. NO 1954



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