



# ISN S501 IMPEDANCE STABILIZATION NETWORK FOR COAXIAL LINES



Impedance stabilization networks (ISN) are coupling/decoupling networks according to CISPR 22 (EN 55022) for measurement of conducted common mode disturbances of information technology equipment (ITE). The ISN is placed between the equipment under test (EUT) and the auxiliary equipment (AE) or load which is necessary for the operation of the EUT. The ISN establishes the common mode termination impedance seen by the telecommunication port during measurement.

The ISN S501 is designed for measurements on coaxial telecommunication lines. The internal wiring meets the requirements of figure D.9 CISPR 22, Ed.5, 2005. The used internal cable has a impedance of 50 Ω. The cable screen is connected on the AE side to the ground. Available are versions without ground connection or different cable impedance like 75 Ω or 93 Ω on request.



- For use with coaxial lines
- BNC connectors
- Meets the requirements of CISPR 22, Ed.5.2
- Design given in figure D.9 of CISPR 22, Ed.5.2
- Can be used as CDN for IEC 61000-4-6 immunity tests

## Technical specifications

Frequency range:	150 kHz to 230 MHz
Line parameters:	coaxial, 50 Ω impedance
Power rating (EUT- and AE Port)	
AC max. voltage:	250 V
DC max. voltage:	250 V
Current max:	250 mA
Test voltage:	500 VDC, 2 sec
Common mode impedance (EUT Port)	
150 kHz to 30 MHz:	150 Ω ±20 Ω
30 MHz to 230 MHz:	150 Ω +60 Ω /-45 Ω
Phase angle (EUT Port) 150 kHz to 30 MHz:	0° ±20°
Coupling path (In/Out-port/EUT)	
Connection:	BNC 50 Ω
RF voltage:	<20 V
Voltage division factor (RF input to EUT port)	
150 kHz to 30 MHz:	9.5 dB ±1 dB
30 MHz to 230 MHz:	9.5 dB +4 dB /-2 dB
Transmission bandwidth (wanted signal) EUT/AE B3 dB:	> 2 GHz sin.
Decoupling of common mode disturbances (EUT / AE)	
150 kHz to 1.5 MHz:	≥60 dB
1.5 MHz to 30 MHz:	≥60 dB

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ISN S501 view to EUT connection

## Mechanical specifications

Size (W x H x D):	245 mm x 100 mm x 100 mm
Weight:	approx. 1.5 kg

## Additional application

The described ISN S501 is appropriate for immunity tests of IEC 61000-4-6. Optional available are the parts for the level setting (test set-up calibration) CAL U100 (150  $\Omega$  /50  $\Omega$  adapter) and SAR S500 (common mode adapter for BNC).

## Delivery information

Part number	Description
248670	ISN S501 ISN for coax line with BNC 50 $\Omega$ connector
97-248650	ISN Sxxx-TC Traceable calibration (ISO17025), order only with ISN ST08 or ISN S501

## Options recommended for immunity test IEC 61000-4-6

Part number	Description
239901	CAL U100 Universal calibration unit (150 $\Omega$ /50 $\Omega$ adapter)
242440	SAR S500 Calibration adapter part for ISN S501 (common mode adapter)