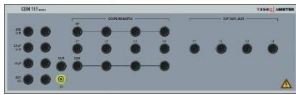


## CDN 117A series

# COUPLING / DECOUPLING NETWORK FOR UNSHIELDED, UNSYMMETRICAL INTERCONNECTION LINES



- Coupling/decoupling networks according to IEC/EN 61000-4-5 and IEC/EN 61000-4-12
- Dataline surge testing
- Easy to use bench top housing
- Conforms to IEC 61000-4-5
- Complete set includes all accessories
- Supported by the NSG 3040A and NSG 3060A series
- Exchangeable AE port protection modules

Teseq's **CDN 117A series coupling-decoupling network** enables convenient testing with surge pulses of 1.2 / 50  $\mu$ s and ring wave impulses 0.5  $\mu$ s / 100 kHz on data, signal or peripheral lines, as specified in many product standards. The test method, severity levels, permissible reaction of the EUT and specification of the coupling networks are included in IEC 61000-4-5 Ed.3 Chapter 6.3.3.2.

### CDN 117A series is available in two versions

CDN 117A-C4-4-1:	for NSG 3040A series up to 4.8 kV	4 lines, current 1 A
CDN 117A-C6-4-1:	for NSG 3060A series up to 6.6 kV	4 lines, current 1 A

**All coupling methods described in IEC / EN 61000-4-5** for unshielded unsymmetrical line pairs can be performed both in differential- and common mode coupling (line-to line and line-to-ground).

**Coupling modes can be selected manually by the user** by connecting a short circuit plug or coupling device (gas arrester) to the appropriate input bridge of the CDN 117A. The external coupling allows the user to freely define the coupling.

- Surge:**
- 0.5  $\mu$ F / 40  $\Omega$
  - GDT gas discharge tube via 40  $\Omega$
  - ABD avalanche breaking diode via 40  $\Omega$

- Ring wave**
- coupling capacitor > 3 $\mu$ F

**AE Port protection modules** with 4 lines can be plugged in manually. The different voltage levels and impedances of the modules makes the CDN 117 A series to a universal device for Surge testing for signal and data lines.

- DPM 50-1:** Module 50 V, bidirectional diodes, Impedance to GND: 1 k $\Omega$  per line
- DPM 50:** Module 50 V, bidirectional diodes, Impedance to GND: open circuit
- VPM 250-100:** Varistor Protection Module, 250 VAC, 350 VDC, Impedance to GND: 100 k $\Omega$

**The CDN 117A can be easily interfaced with the EUT** and is designed as a bench top unit. It can be used with Teseq's NSG 30x0A-series or any industry standard surge generator with the appropriate connector adapter.

**The CDN 117A series is a complete set of coupling elements** consisting of:

- The coupling-decoupling network itself
- Interface cables to the surge generator
- DPM 50-1, AE port protection device for 4 lines
- A coupling device with a spark gap device
- Short circuit bridge 25 mm for coupling via 40  $\Omega$  and 0.5  $\mu$ F capacitor or > 3  $\mu$ F capacitor
- Short circuit bridge 19 mm for coupling differential or common mode

## CDN 117A series

# COUPLING / DECOUPLING NETWORK FOR UNSHIELDED, UNSYMMETRICAL INTERCONNECTION LINES

Model	Max. impulse voltage
CDN 117A-C4-4-1	4.8 kV (designed for NSG 3040A series)
CDN 117A-C6-4-1	6.6 kV (designed for NSG 3060A series)

Parameter	Value
Max operating voltage:	AC 250 V, DC 250 V (depending AE protection module)
Max operating current:	1 A
Max pulse voltage:	CDN 117A-C4-4-1: 4.8 kV CDN 117A-C6-4-1: 6.6 kV
Ohmic resistance per path:	<1.0 Ω (typical 0.49 Ω)
Decoupling chokes 1 kHz:	20 mH nominal each line
Transmission 3 dB BW:	1100 Hz (@ 1 kΩ load)
Connectors	4 mm safety banana, to generator and EUT
Pulse:	Surge: 1.2 / 50 μs pulse Ring wave: 0.5 μs / 100 kHz pulse
Surge coupling:	- 0.5 μF capacitor via 40 Ω - GDT: Gas discharge tube (90V) via 40 Ω - ABG: Avalanche breaking diode (140V) via 40 Ω
Ring wave coupling	- capacitor >=3 μF

Included Accessories	
1 HVS	HV cable Banana – Banana, 0.5 m, 1 x red, 1 x black
Earth connection	1 brass bar 0.3 m including mounting parts, screw M4 x 10 mm
User manual	Delivered on USB memory card
Calibration certificate	included

Protection module options	
VPM 250-100	Varistor Module 250 V, 250 VAC, 350 VDC, Impedance to GND: 100 kΩ
DPM 50-1	Module 50 V, bidirectional diodes, Impedance to GND: 1 kΩ per line
DPM 50	Module 50 V, bidirectional diodes, Impedance to GND: open circuit

Dimension, Weight	CDN 117A-C4-4-1	CDN 117A-C6-4-1
Size: (L x W x H)	19", 3 HU, 447 x 500 x 154 mm	19", 3 HU, 447 x 500 x 154 mm
Weight:	approx. 10 kg	approx. 14 kg
Safety Standard	IEC/EN 61010	IEC/EN 61010

Environment	
Temperature	10 °C to 40 °C
Humidity	10 % to 80 %, non-condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

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April 2024