



CDN 118A series

COUPLING / DECOUPLING NETWORK FOR UNSHIELDED, SYMMETRICAL LINES



- As per IEC 61000-4-5 Ed.3, Fig 10/A4, ITU K.44
- 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

Teseq's **CDN 118A series coupling-decoupling network** enables convenient surge testing of telecommunications equipment to IEC / EN 61000-4-5 Ed.3 which, specifies a 1.2 / 50 μ s or 10 / 700 μ s pulse. The CDN 118A series includes the special decoupling network and coupling devices that are required for these tests. The design of the CDN is given in IEC 61000-4-5 Ed.3 Figure 10 and A.4.

CDN 118A series is available in two versions

- | | | |
|------------------|-----------------------------------|----------------------|
| CDN 118A-C4-4-1: | for NSG 3040A series up to 4.8 kV | 4 lines, current 1 A |
| CDN 118A-C6-4-1: | for NSG 3060A series up to 6.6 kV | 4 lines, current 1 A |

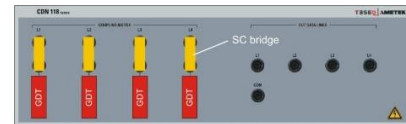
The **CDN 118** can be easily interfaced with the EUT and is designed as a bench top unit. It can be used with Teseq's NSG 30x0A-series or any industry standard surge generator with the appropriate connector adapter.

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

- Coupling 1.2/50 μ s: GDT for each coupled line
- Coupling 10/700 μ s: GDT for each coupled line + short circuit bridge



Coupling 1.2/50 μ s: $R_c = 4 \times 160 \Omega$



Coupling 10 / 700 μ s: $R_c = 4 \times 25 \Omega$

AE Port protection modules with 4 lines can be plugged in manually. The different voltage levels and impedances of the modules makes the CDN 118 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 Ω 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 Ω

The **CDN 118A 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
- 4 coupling bridges with a GDT spark gap device
- 4 short circuit bridges
- Short circuit bridge 19 mm for coupling differential or common mode

CDN 118A series

COUPLING / DECOUPLING NETWORK FOR UNSHIELDED, UNSYMMETRICAL INTERCONNECTION LINES

Model	Max. impulse voltage
CDN 118A-C4-4-1	4.8 kV (designed for NSG 3040A series)
CDN 118A-C6-4-1	6.6 kV (designed for NSG 3060A series)

Parameter	Value
Max operating voltage:	AC 250 V, DC 350 V (depending AE protection module)
Max operating current:	1 A
Max pulse voltage:	CDN 118A-C4-4-1: 4.8 kV CDN 118A-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 ± 10 % pairwise current compensated
Transmission 3 dB BW:	100 kHz (@ 600 Ω load)
Connectors	4 mm safety banana, to generator and EUT
Pulse:	Surge: 1.2 / 50 μs and 10 / 700 μs 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

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 118A-C4-4-1	CDN 118A-C6-4-1
Size: (L x W x H)	19", 3 HU, 447 x 500 x 143 mm	19", 6 HU, 447 x 500 x 186 mm
Weight:	approx. 10 kg	approx. 14 kg
Safety Standard	IEC/EN 61010	IEC/EN 61010

AMETEK CTS GmbH
Sternenhofstr. 15 4153 Reinach Switzerland

© November 2019 AMETEK CTS
Specifications subject to change without notice.
This product is designed and manufactured under the strict quality and environmental requirements of the ISO 9001. This document has been carefully checked. However, AMETEK CTS does not assume any liability for errors or inaccuracies

November 2019

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)