



CDN 118 COUPLING DECOUPLING NETWORK FOR UNSHIELDED SYMMETRICAL LINES



- Surge testing of unshielded symmetrical telecom lines
- Complies with IEC 61000-4-5 edition 3
- Complete set includes all accessories
- Easy to use bench top housing

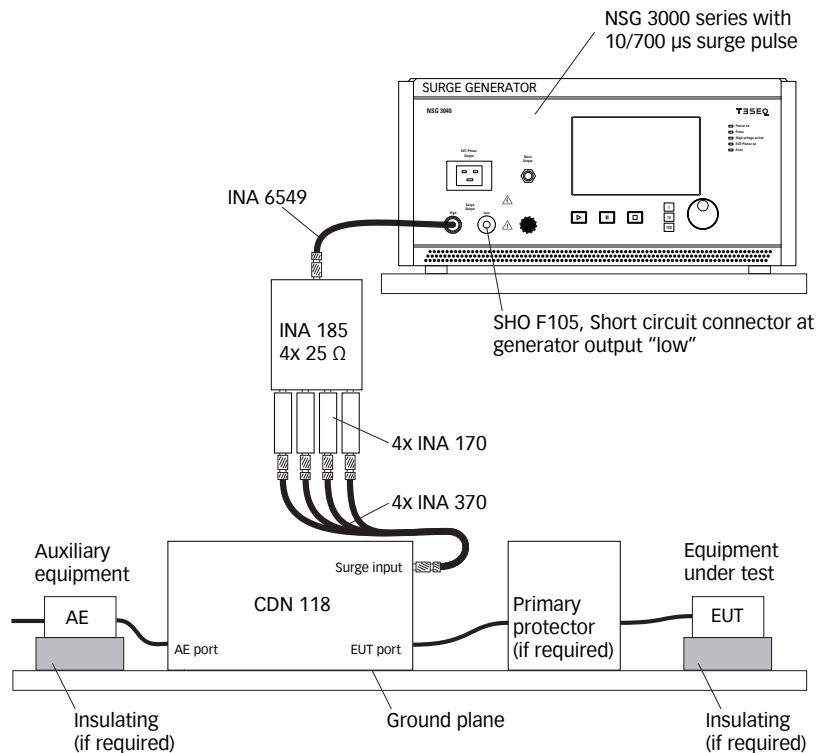
Teseq's **CDN 118 coupling-decoupling network** is designed for convenient surge testing of telecommunications equipment to IEC/EN 61000-4-5, which specifies a 1.2/50 μ s or a 10/700 μ s pulse. The CDN 118 includes the special decoupling network and coupling devices that are required for these tests.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

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 series or any industry standard surge generator with the appropriate connector adapter.

The user can manually select coupling modes by connecting the generator's output to the appropriate input. All coupling methods described in the standard can be configured with the CDN 118.

Two **CDN 118 main units can be arranged in parallel** for testing eight line applications (low speed transmission only). It requires to combine CDN 118-T4 with the option CDN 118-EXT-1.

Setup example for testing according Annex A of IEC 61000-4-5 Ed.3



Advanced Test Solutions for EMC

CDN 118

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Technical specifications CDN 118-main-unit

Signal line	
Max. operating voltage:	AC 250 V DC 250 V
Max. operating current:	0.5 A
Ohmic resistance per path:	3 Ω
Decoupling chokes 1 kHz:	20 mH nominal
Transmission 3 dB BW:	250 kHz
Symmetrical stray inductance:	approx. 50 μ H (pair, @1 kHz)
Connectors:	4 mm safety banana
Pulse:	1.2/50 μ s and 10/700 μ s pulse
Max. pulse voltage:	6.6 kV line to ground, 3 kV line to line
Min. generator impedance:	2 Ω for 1.2/50 μ s, 15 Ω for 10/700 μ s
Series resistor:	in relation to the selected pulse coupling network
Max. pulse frequency:	3 per minute
Connectors:	Fischer 103
Size (W x H x D) in mm:	335 x 232 x 180
Weight:	approx. 19.5 kg

CDN 118

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Technical specifications CDN 118 accessories

INA 170 Spark gap 90 V	Maximum pulse voltage Maximum pulse rate Socket Plug Size (W x H x D) in mm Weight	10/700 μ s pulse 1.2/50 μ s pulse	6600 V 6600 V 3 per minute 1x Fischer type 103 1x Fischer type 103 72 x 25 x 25 0.06 kg
INA 175 Integral resistors 4 x 160 Ω , 6 W	Maximum pulse voltage Minimum series impedance Maximum pulse rate Sockets Size (W x H x D) in mm Weight	1.2/50 μ s pulse 1.2/50 μ s pulse	6600 V 2 Ω 3 per minute 9x Fischer type 103 160 x 160 x 90 2 kg
INA 181 Integral resistors 4 x 320 Ω , 6 W	Maximum pulse voltage Minimum series impedance Maximum pulse rate Sockets Size (W x H x D) in mm Weight	1.2/50 μ s pulse 1.2/50 μ s pulse	6600 V 2 Ω 3 per minute 9x Fischer type 103 160 x 160 x 90 2 kg
INA 183 Integral resistors 2 x 80 Ω , 6 W	Maximum pulse voltage Minimum series impedance Maximum pulse rate Sockets Size (W x H x D) in mm Weight	1.2/50 μ s pulse 1.2/50 μ s pulse	6600 V 2 Ω 3 per minute 5x Fischer type 103 160 x 160 x 90 2 kg
INA 185 Integral resistors 4 x 25 Ω , 10 W	Maximum pulse voltage Minimum series impedance Maximum pulse rate Sockets Size (W x H x D) in mm Weight	10/700 μ s pulse 10/700 μ s pulse	6600 V 15 Ω 3 per minute 9x Fischer type 103 160 x 160 x 90 2 kg

CDN 118

COUPLING DECOUPLING NETWORK FOR UNSHIELDED SYMMETRICAL LINES



CDN 118 T4 and CDN 118 EXT-1 application range and parts of delivery

Product picture	Product name	Part number	Description	CDN 118-T4, quantity included	CDN 118-EXT-1, quantity included	IEC 61000-4-5 ed 3.0			ITU-T K.44		
						Pulse 1.2/50 µs			Pulse 10/700 µs		
						1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required	1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required
	CDN 118-main-unit	244810	Coupling decoupling network for 1.2/50 µs or 10/700 µs surge pulses, for up to 2 x twisted pairs (4 lines)	1	1	1	1	2	1	1	2
	INA 170	403-107	Coupler with spark gap only	4	4	2	4	8	2	4	8
	INA 173	244740	Short-circuit plug (Fischer 103)	1	-	x	x	x	x	x	x
	INA 175	403-474	Pulse coupling network 4x 160 Ω with connectors Fischer 103	1	-	x	1	x	x	x	x
	INA 181	244820	Pulse coupling network 4x 320 Ω with connectors Fischer 103	-	2	x	x	2	x	x	x
	INA 183	244822	Pulse coupling network 2x 80 Ω with connectors Fischer 103	1	-	1	x	x	x	x	x
	INA 185	244838	Pulse coupling network 4x 25 Ω with connectors Fischer 103	1	1	x	x	x	1	1	2
	INA 184	244835	Y cable, 1 m with connectors (1x Fischer 105/2x Fischer 103)	-	1	x	x	1	x	x	1
	INA 370	402-959	Coax cable, 0.8 m with connectors (Fischer 103/Fischer 103)	4	4	2	4	8	2	4	8
	INA 6549	403-634	Coax cable, 2 m with connectors (Fischer 105/Fischer 103)	1	-	1	1	x	1	1	x
	SHO F105	244759	Short circuit connector Fischer 105	1	-	1	1	1	1	1	1




CDN 118

COUPLING DECOUPLING NETWORK FOR UNSHIELDED SYMMETRICAL LINES

Accessories for testing IEC 61000-4-5 edition 2 with CDN 118-T4 and CDN 118-EXT-1

Product picture	Product name	Part number	Description	CDN 118-T4, quantity included	CDN 118-EXT-1, quantity included	Application IEC 61000-4-5 ed 2					
						Pulse 1.2 / 50 μ s			Pulse 10 / 700 μ s		
						1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required	1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required
	INA 180	244819	Pulse coupling network 4x 200 Ω with connectors Fischer 103	-	-	X	X	X	X	X	2
	INA 181-240	244845	Pulse coupling network 4x 240 Ω with connectors Fischer 103	-	-	X	X	2	X	X	X

Accessories for CDN 118-T4 and CDN 118-EXT-1 using NSG 2000 series

Product picture	Product name	Part number	Description	CDN 118-T4, quantity included	CDN 118-EXT-1, quantity included	IEC 61000-4-5 ed 2 & 3, ITU-T K.44					
						Pulse 1.2 / 50 μ s			Pulse 10 / 700 μ s		
						1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required	1 pair testing, quantity required	2 pairs testing, quantity required	4 pairs testing, quantity required
	SHO Lemo	244755	Short circuit connector Lemo KAB-FFA.3Y	-	-	1	1	1	1	1	1
	INA 184-Lemo	244839	Y cable, 1 m with connectors (1x Lemo KAB-FFA.3Y / 2x Fischer 103)	-	-	X	X	1	X	X	1
	INA 371	244780	Coax cable, 0.8 m with connectors (Lemo KAB-FFA.3Y / Fischer 103)	-	-	1	1	X	1	1	X

CDN 118

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Model No. and options

Part number	Description
244703	CDN 118-T4 Coupling decoupling network set for 1.2/50 μ s and 10/700 μ s surge pulses on 1 or 2 twisted pairs, for connection to NSG 3000 series
244704	CDN 118-EXT-1 Extension for CDN 118-T4 for testing on up to 4 twisted pairs (8 lines)
97-244703	CDN 118-T4-TC Traceable calibration (ISO17025) for 1.2/50 μ s surge pulses on one and two twisted pairs and for 10/700 μ s surge pulses two single pairs, order only with the device CDN 118-T4, calibration recommended in conjunction with the surge generator
97-244704	CDN 118-EXT-1-TC Traceable calibration (ISO17025) for 1.2/50 μ s surge pulses on one, two and four twisted pairs and for 10/700 μ s surge pulses four single pairs, order only with CDN 118-T4 and CDN 118-EXT-1, calibration recommended in conjunction with the surge generator, calibration includes CDN 118-T4-TC
98-244703	CDN 118-T4-DAkks DAkks accredited calibration (ISO17025) for 1.2/50 μ s surge pulses on one and two twisted pairs and for 10/700 μ s surge pulses two single pairs, order only with the device CDN 118-T4, calibration recommended in conjunction with the surge generator
98-244704	CDN 118-EXT-1-DAkks DAkks accredited calibration (ISO17025) for 1.2/50 μ s surge pulses on one, two and four twisted pairs and for 10/700 μ s surge pulses four single pairs, order only with CDN 118-T4 and CDN 118-EXT-1, calibration recommended in conjunction with the surge generator, calibration includes CDN 118-T4-DAkks

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