

Coupling/Decoupling Networks (CDN)

For immunity testing according to IEC / EN 61000-4-6



Immunity testing

CDNs are the preferred coupling and decoupling devices, for reasons of test reproducibility and protection of the auxiliary equipment (AE). CDNs shall be used for appropriate coupling of the disturbing signal to the various cables connected to the equipment under test (EUT) and for preventing applied test signals from affecting other devices, equipment and systems that are not under test.

Following you find descriptions of the most frequently used types for unshielded cables CDN-AF, CDN-M, CDN-T and CDN-S for shielded cables.

Please request information on types not specified here.

Emission testing

Some selected CDNs meet the requirements of CISPR 15 and CISPR 22 for emission testing in the extended frequency range of 80 MHz to 300 MHz.

Along with the common mode impedance a curve of the voltage division factor over the frequency range of up to 300 MHz is supplied with these CDNs.

Currently the types CDN-AF2, CDN-T2, CDN-M2, CDN-M3 and CDN-M2+3 meet the requirements of CISPR 15 / CISPR 22.

Please request information on types not specified here.

Extended frequency range

Although the requirements in the standard are specified for the frequency range 150 kHz up to 80 MHz, the applicable frequency range depends on the normal installation and operation conditions of the equipment to be tested. In general, the stop frequency will be 80 MHz. In some cases, where small-sized equipment is considered (dimension $< \lambda/4$), dedicated product standards may prescribe that the stop frequency is extended up to a maximum of 230 MHz. When using this test method up to higher frequencies, results are influenced by: the size of equipment, the type(s) of interconnecting cables used, and the availability of special CDNs, etc. Further guidance for proper application should be supplied in the dedicated product standards.

On the other hand NAMUR NE 21 extends the applicable frequency down to 10 kHz.

Setting the output voltage at the CDNs EUT port

1. The test generator (RF out) shall be connected via the 6 dB-attenuator to the RF-input port of the CDN.
2. The EUT port of the CDN shall be connected in common mode via a 150 Ω to 50 Ω adapter to a measuring equipment having a 50 Ω input impedance.
3. The AE-port shall be loaded in common mode with a 150 Ω to 50 Ω adapter, terminated with 50 Ω . The assembly is outlined below.

With direct injection to screened cable (CDN-S types), the 150 Ω load at the AE-port is not required as the screen will be connected to the ground reference plane at the AE-port side.

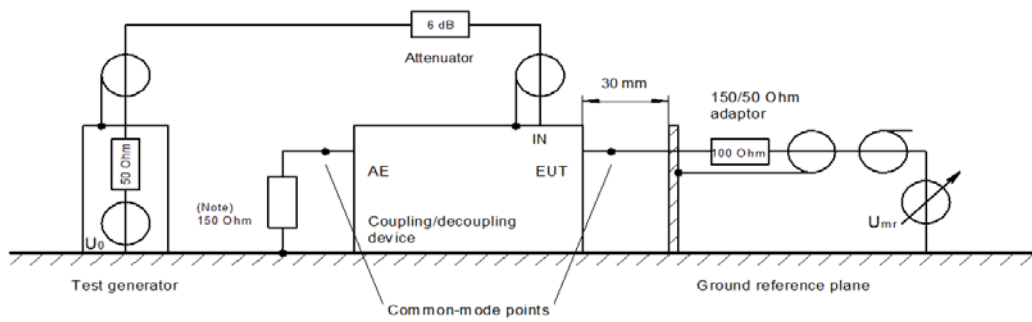
With the CDN M-types, CDN AF-types and CDN T-types the 150 Ω connector is according to standard prescribed, yet the calibration values for these CDN types are virtually independent of the load. This is due to the fact that these types have capacitors against ground at the AE-port side, which generate a RF-short circuit, comparable to those of the S-types.

Thus with the CDN M-types, CDN AF-types and CDN T-types the load of 150 Ω at the auxiliary equipment connector can be dispensed with.

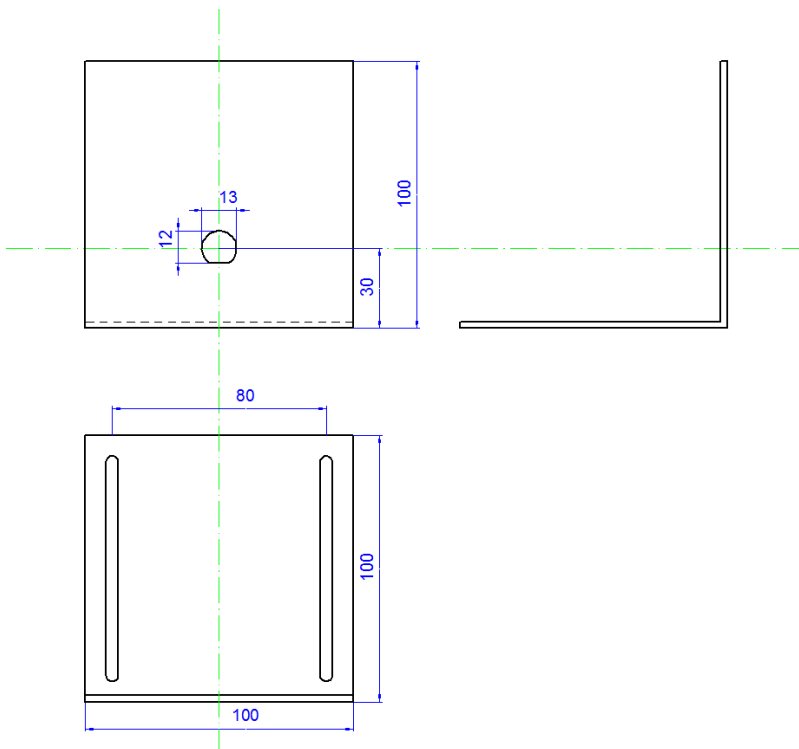
In order to calibrate a CDN you require:

- ⑩ specific calibration adapter
- ⑩ mounting bracket
- ⑩ 150 Ω to 50 Ω adapter

For the first CDN a mounting bracket and a 150 Ω to 50 Ω adapter need to be acquired. For each additional CDN only a specific calibration adapter needs to be acquired.

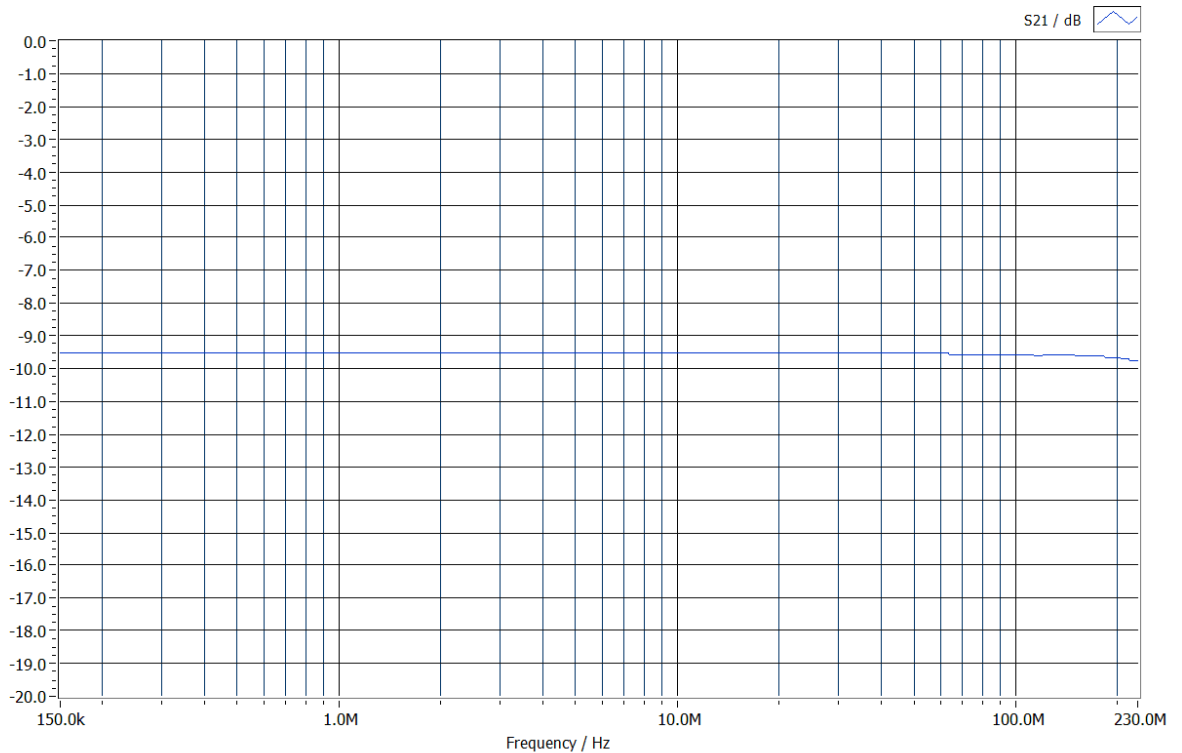


Note: The 150 Ω loading e.g. a 150 Ω to 50 Ω adaptor terminated with a 50 Ω load), at the AE-port shall only be applied to unscreened cables (screened cables have their screen connected to the ground reference plane at the AE-side).



Mounting bracket (dimensions)

Network Analyser HP8751A (S.-No.: 3315J01756), Test Set 87512A (S.-No. MY43100614)
Insertion loss 150/50 Ohm Adapter (two in series)



Insertion loss 150 Ohm to 50 Ohm adapter (two in series)

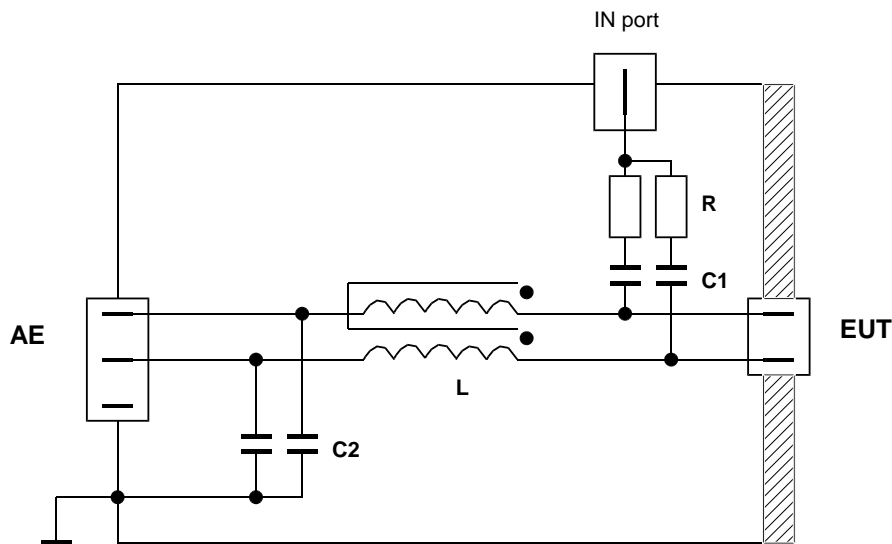
Ordering Information	
Art.-No.: 10210010	Mounting bracket for calibration adapter incl. 50/150 Ohm adapter and 50 Ohm termination
	Custom design solutions are always available on request!

CDN-AF2 / -AF3 / -AF4 / -AF8



Description

CDN-AF type networks are required for coupling and decoupling disturbing signals to an unshielded cable with non-balanced lines.



Simplified diagram for the circuit of CDN-AF2

Specifications

Type	CDN-AF2/3/4/8
RF In	
Frequency range (RF In)	(10 kHz) 150 kHz – 80 MHz / 230 MHz (300 MHz)
Power Rating (RF In)	6 W (continuous)
Decoupling attenuation (RF In – AE)	> 20 dB (150 kHz – 230 MHz) > 40 dB (1 MHz – 100 MHz)
Insertion loss (RF In – EUT)	10 dB ± 1 dB (150 kHz – 80 MHz); 10 dB + 3 dB (150 kHz – 230 MHz)
Connector	BNC
EUT / AE	
Maximum Input Voltage AC	100 V
Maximum Input Voltage DC	150 V
Current Rating (AE – EUT)	1 A
Insertion loss (AE – EUT)	< 1dB (DC – 100 kHz)
Connectors	Terminal block; safety banana jack
Mechanical Data	
Dimensions (B x H x T)	160mm x 84.5mm x 240mm

Ordering Information	
Art.-No.: 10211010	CDN-AF2 , terminal block 2 pole, 150 kHz - 300 MHz
Art.-No.: 10211020	CDN-AF2-MC , 4mm safety banana jack, 150 kHz - 300 MHz
Art.-No.: 10211030	CDN-AF2-10k-MC 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10211011	Calibration adapter, CDN-AF2 / T2
Art.-No.: 10211110	CDN-AF3 , terminal block 3 pole, 150 kHz - 230 MHz
Art.-No.: 10211120	CDN-AF3-MC , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10211130	CDN-AF3-10k-MC , 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10211210	CDN-AF4 , terminal block 4 pole, 150 kHz - 230 MHz
Art.-No.: 10211220	CDN-AF4-MC , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10211230	CDN-AF4-10k-MC , 4mm safety banana jack, 10 kHz - 80 MHz
Art.-No.: 10211211	Calibration adapter, CDN-AF4 / T4
Art.-No.: 10211410	CDN-AF5-MC , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10211420	CDN-AF5-10k-MC , 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10211310	CDN-AF8 , terminal block 8 pole, 150 kHz - 230 MHz
Art.-No.: 10211311	Calibration adapter, CDN-AF8
Art.-No.: 10211330	CDN-AF8-10k-Sub-D , 9-pin Sub-D, 10 kHz - 230 MHz
Art.-No.: 10211331	Calibration adapter, CDN-AF8-Sub-D, CDN-CAN-L5
Art.-No.: 10211340	CDN-AF9 , terminal block 9 pole, 150 kHz - 230 MHz
Art.-No.: 10211341	Calibration adapter, CDN-AF9

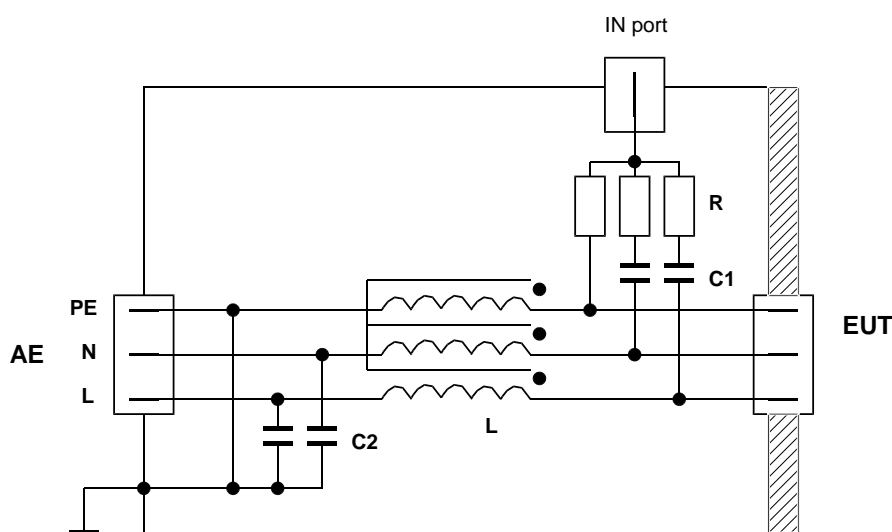
CDN-M1 / -M2 / -M2+3 / -M4 / -M5



Description

CDN M-types are used for all power supply lines.

Numerous types are available for EUT voltages of up to 1000 VAC and EUT currents of up to 100 A.



Simplified diagram for the circuit of CDN-M3 used with unscreened supply (mains) lines

Specifications

Type	CDN-M1/2/3/4/5	CDN-M2/3/4/5/-HV	CDN-M2/3/4/5-63A/100A
RF In			
Frequency range (RF In)	(10 kHz) 150 kHz – 80 MHz / 230 MHz (300 MHz)		
Power Rating (RF In)	6 W (continuous)		
Decoupling attenuation (RF In – AE)	> 30 dB (150 kHz – 80 MHz) > 20 dB (80 MHz – 230 MHz)	> 30 dB (150 kHz – 80 MHz) > 15 dB (80 MHz – 230 MHz)	
Insertion loss (RF In – EUT)	10 dB +2/-1 dB (150 kHz – 80 MHz) 10 dB + 5 dB (80 MHz – 230 MHz)	10 dB +2/-1 dB (150 kHz – 80 MHz) 10 dB + 5 dB (80 MHz – 230 MHz)	
Connector	BNC		
EUT / AE			
Maximum Input Voltage AC (L-PE)	250 V	600 V (VHV-Types 1000 V)	600 V
Maximum Input Voltage DC	400 V	1000 V	600 V
Current Rating (AE – EUT)	16 A / 32 A / 63 A / 100 A; (M1 / M2+3 I _{PE} <0.5 A)		
Insertion loss (AE – EUT)	< 1dB (DC – 100 kHz)		
Connectors	4 mm safety banana jack		6 mm round connectors for current > 32 A Adequate safety test leads are included
Mechanical Data			
Dimensions (B x H x T)	160mm x 84.5mm x 240 mm	200mm x 122.5 mm x 400 mm	

Ordering Information	
Art.-No.: 10212010	CDN-M1 , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212020	CDN-L1 , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212030	CDN-M1-10k , 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10212110	CDN-M2 , 4mm safety banana jack, 150 kHz - 300 MHz
Art.-No.: 10212170	CDN-M2-10k , 4mm safety banana jack, 10 kHz - 230 MHz

Art.-No.: 10212120	CDN-M2-32A , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212130	CDN-M2-32A-HV , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212140	CDN-M2-63A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212160	CDN-M2-100A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212210	CDN-M2+3 , 4mm safety banana jack, 150 kHz - 300 MHz
Art.-No.: 10212230	CDN-M2+3-10k , 4mm safety banana jack, 10 kHz – 230 MHz
Art.-No.: 10212220	CDN-M2+3-32A , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212310	CDN-M3 , 4mm safety banana jack, 150 kHz - 300 MHz
Art.-No.: 10212370	CDN-M3-L , L1/L2/L3, 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212320	CDN-M3-32A , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212300	CDN-M3-L1L2N-32A , L1/L2/N, 4 mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212360	CDN-M3-L-32A , L1/L2/L3, 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212350	CDN-M3-L-32A-10k , L1/L2/L3, 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10212330	CDN-M3-32A-HV , 4mm safety banana jack, 150 kHz - 80 MHz
Art.-No.: 10212390	CDN-M3-L-32A-HV , 4mm safety banana jack, 150 kHz - 80 MHz
Art.-No.: 10212340	CDN-M3-63A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212380	CDN-M3-100A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212311	Calibration adapter, CDN-M1 / -M2 / -M3
Art.-No.: 10212341	Calibration adapter, CDN-M2-63A / -M3-63A
Art.-No.: 10212381	Calibration adapter, CDN-M2-100A / -M3-100
Art.-No.: 10212410	CDN-M4 , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212460	CDN-M4-N , L1/L2/L3/N, 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212420	CDN-M4-32A , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212430	CDN-M4-N-32A , L1/L2/L3/N, 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212400	CDN-M4-32A-10k , 4mm safety banana jack, 10 kHz - 230 MHz
Art.-No.: 10212440	CDN-M4-32A-HV , 4mm safety banana jack, 150 kHz - 80 MHz
Art.-No.: 10212490	CDN-M4-N-32A-HV , 4mm safety banana jack, 150 kHz - 80 MHz

Art.-No.: 10212450	CDN-M4-63A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212480	CDN-M4-N-63A-HV , L1/L2/L3/N, 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212470	CDN-M4-100A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212610	CDN-M4-N-100A-HV , L1/L2/L3/N, 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212510	CDN-M5 , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212520	CDN-M5-32A , 4mm safety banana jack, 150 kHz - 230 MHz
Art.-No.: 10212530	CDN-M5-32A-HV , 4mm safety banana jack, 150 kHz - 80 MHz
Art.-No.: 10212570	CDN-M5-32A-VHV , 4mm safety banana jack, 150 kHz - 80 MHz
Art.-No.: 10212540	CDN-M5-63A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212560	CDN-M5-100A-HV , 6mm round connector, 150 kHz - 80 MHz
Art.-No.: 10212511	Calibration adapter, CDN-M4 / -M5
Art.-No.: 10212512	Calibration adapter "Delta", CDN-M4 / -M5
Art.-No.: 10212541	Calibration adapter, CDN-M4-63A / -M5-63A
Art.-No.: 10212561	Calibration adapter, CDN-M4-100A / -M5-100A
Art.-No.: 10210010	Mounting bracket for calibration adapter incl. 50/150 Ohm adapter and 50 Ohm termination
	Custom design solutions are always available on request!

CDN-S1 / -S2 / -S4 / -S8 / -S9 / -S15 / -S25

CDN-RJ45-S / -USB-C / -USB-P / -USB-3.0

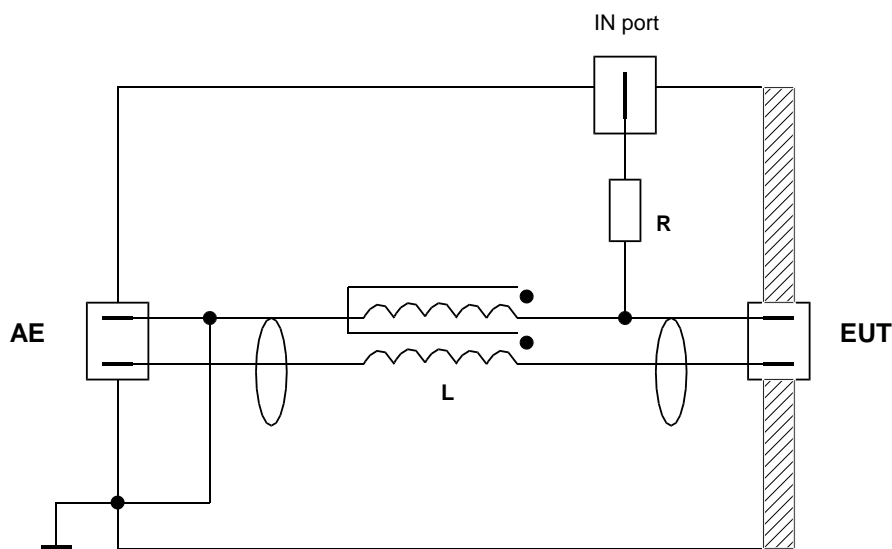
CDN-Firewire / -HDMI



Description

For coupling and decoupling of interference signals on screened lines CDN S-Types are used. Despite the variety of connectors the interference signal is in all cases coupled to the cable shield via a 100 Ω resistor.

A device for direct coupling is also available (without decoupling network).



Simplified diagram for the circuit of CDN-S1

Specifications

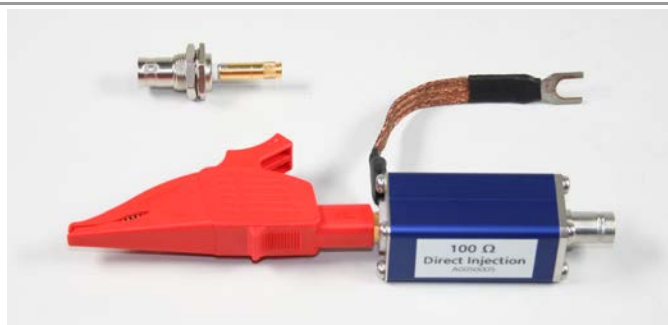
Type	CDN-S1	CDN-S2	CDN-S4	CDN-S8	CDN-S9	CDN-S15	CDN-S25	
RF In								
Frequency range (RF In)	150 kHz – 230 MHz							
Power Rating (RF In)	6 W (continuous)							
Decoupling attenuation (RF In – AE)	> 35 dB (150 kHz – 80 MHz) > 30 dB (80 MHz – 230 MHz)							
Insertion loss (RF In – EUT)	10 dB ± 1 dB (150 kHz – 80 MHz); 10 dB + 3 dB (80 MHz - 230 MHz)							
Connector	BNC							
EUT / AE								
Maximum Input Voltage AC	150 V							
Maximum Input Voltage DC	200 V							
Current Rating (AE – EUT)	1.5 A							
Insertion loss (AE – EUT)	< 1dB (0 – 10 MHz) < 10 dB (10 MHz – 500 MHz)							
Connectors	BNC	XLR	5-pin XLR	8-pin Mini-DIN	9-pin Sub-D	15-pin Sub-D	25-pin Sub-D	
Mechanical Data								
Dimensions (W x H x D)	160mm x 84.5mm x 240 mm							

Type	USB-C	USB-P	HDMI	Firewire	USB-3.0	RJ45-S
RF In						
Frequency range (RF In)	(10 kHz) 150 kHz – 230 MHz					
Power Rating (RF In)	6 W (continuous)					
Insertion loss (RF In – AE)	> 50 dB (150 kHz – 80 MHz) > 25 dB (80 MHz – 230 MHz)				> 30 dB (150 kHz – 230 MHz)	
Insertion loss (RF In – EUT)	10 dB ± 1 dB (150 kHz – 80 MHz) 10 dB + 3 dB (80 MHz – 230 MHz)				10 dB ± 1 dB (150 kHz – 80 MHz) 10 dB + 3 dB (80 MHz – 230 MHz)	
Connector	BNC					

EUT / AE						
Maximum Input Voltage AC	100 V					
Maximum Input Voltage DC	150 V					
Current Rating (AE – EUT)	0.5 A			0.9 A		1.0 A
Insertion loss (AE – EUT)	< 1dB (DC – 10 MHz) < 10 dB (10 MHz – 500 MHz)				< 0.3 dB (DC – 10 MHz) < 1 dB (10 MHz – 100 MHz) < 3 dB (100 MHz – 500 MHz)	
Connectors	EUT: USB-B AE: USB-A	EUT: USB-A AE: USB-B	HDMI 19-pol	Firewire 6-pol	USB-3.0	Shielded RJ45 jack
Mechanical Data						
Dimensions (W x H x D)	160mm x 84.5mm x 240 mm					

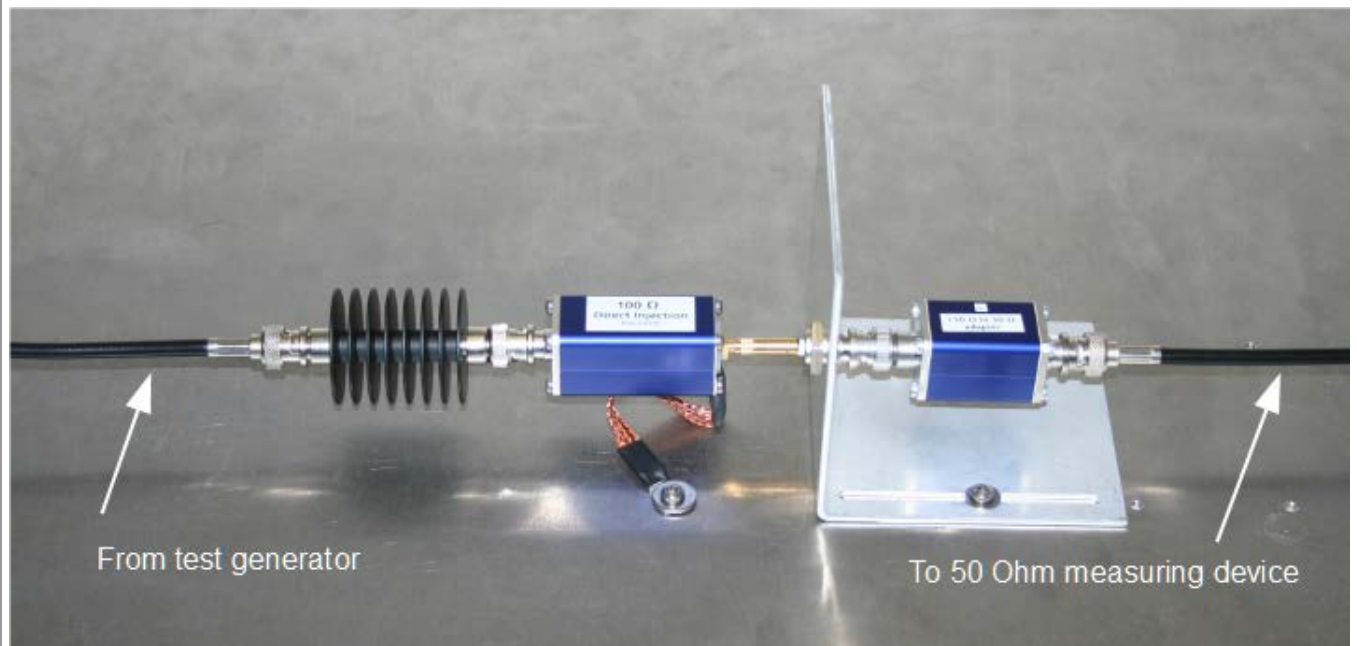
Direct injection device

100 Ω connector for RF disturbances 150 kHz – 230 MHz



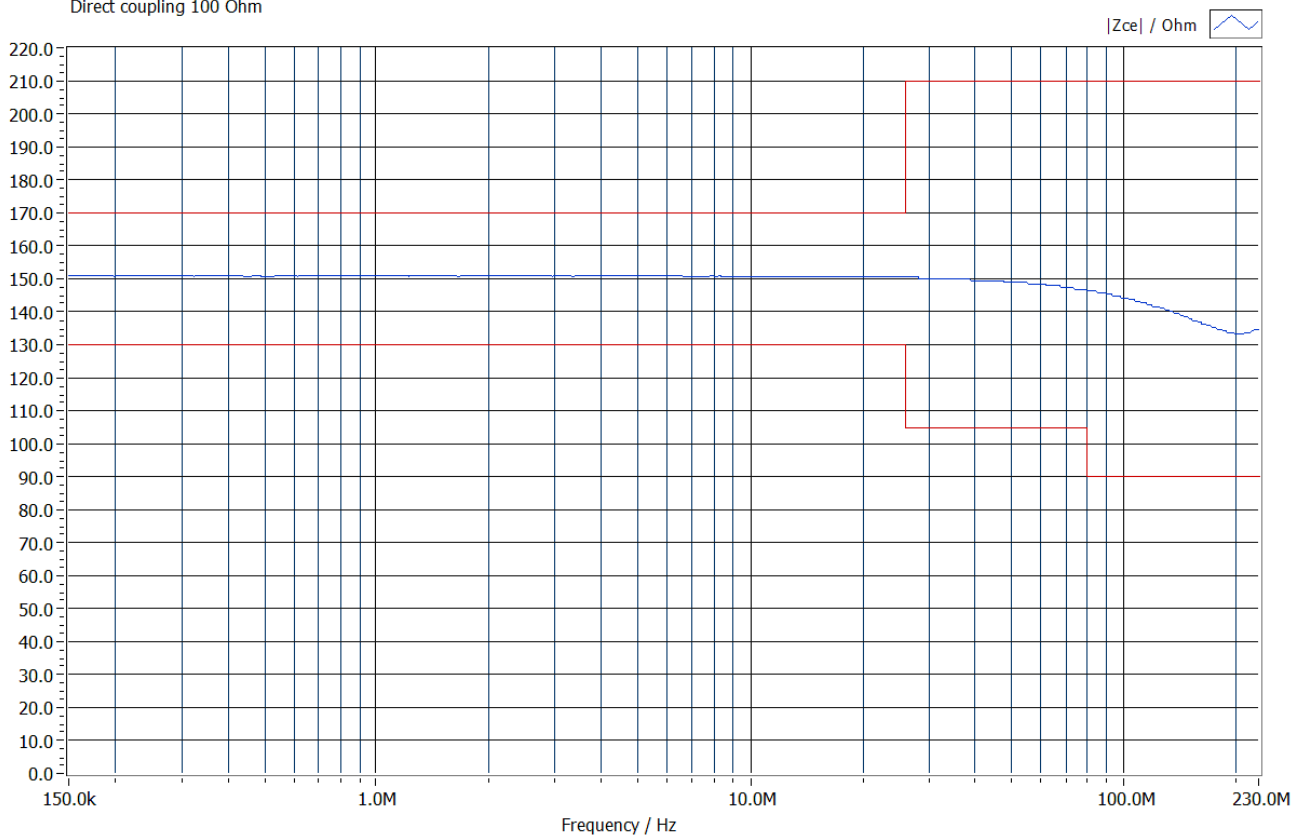
The disturbing signal coming from the test generator is injected on to screened and coaxial cables via a 100 Ω resistor (even if the shield is ungrounded or grounded at one end only). In between the auxiliary equipment (AE) and the injection point, a decoupling circuit shall be inserted as close as possible to the injection point. To increase decoupling and to stabilize the circuit, a ground connection shall be made from the screen of the direct injection device's input port to the ground reference plane.

Electrical Data	
Frequency range (RF In)	150 kHz – 230 MHz
Common mode impedance (IN/OUT)	100 Ω
Power Rating (RF In)	6 W (continuous)
Connector Out	Alligator clip; max. cable diameter 30 mm
Connector In	BNC



Setting of the output level

Network Analyser HP8751A (S.-No.: 3315J01756), Test Set 87512A (S.-No. MY43100614)
 Common mode impedance, measurement method acc. IEC/EN61000-4-6
 Direct coupling 100 Ohm



Typical common mode impedance

Ordering Information	
Art.-No.: 10214010	CDN-S1 , BNC, 150 kHz - 230 MHz
Art.-No.: 10214030	CDN-S1-10k , BNC, 10 kHz - 230 MHz
Art.-No.: 10214020	CDN-S1-75Ω , BNC, 150 kHz - 230 MHz
Art.-No.: 10214011	Calibration adapter, CDN-S1
Art.-No.: 10214050	CDN-S2 , XLR, 150 kHz - 230 MHz
Art.-No.: 10214060	CDN-S2-10k , XLR, 10 kHz - 230 MHz
Art.-No.: 10214051	Calibration adapter, CDN-S2
Art.-No.: 10214070	CDN-S3-10k , XLR, 10 kHz - 230 MHz
Art.-No.: 10214071	Calibration adapter, CDN-S3
Art.-No.: 10214100	CDN-S4 , 5-pin XLR, 150 kHz - 230 MHz
Art.-No.: 10214101	Calibration adapter, CDN-S4
Art.-No.: 10214150	CDN-S8 , 8-pin Mini-DIN, 150 kHz - 230 MHz
Art.-No.: 10214151	Calibration adapter, CDN-S8
Art.-No.: 10214200	CDN-S9 , 9-pin Sub-D, 150 kHz - 230 MHz
Art.-No.: 10214210	CDN-S9-10k , 9-pin Sub-D, 10 kHz – 230 MHz
Art.-No.: 10214201	Calibration adapter, CDN-S9
Art.-No.: 10214250	CDN-S15 , 15-pin Sub-D, 150 kHz - 230 MHz
Art.-No.: 10214251	Calibration adapter, CDN-S15
Art.-No.: 10214300	CDN-S25 , 25-pin Sub-D, 150 kHz - 230 MHz
Art.-No.: 10214301	Calibration adapter, CDN-S25
Art.-No.: 10215100	CDN-USB-C , EUT: USB-B, AE: USB-A, 150 kHz - 230 MHz
Art.-No.: 10215110	CDN-USB-C-10k , EUT: USB-B, AE: USB-A, 10 kHz - 230 MHz
Art.-No.: 10215101	Calibration adapter, CDN-USB-C
Art.-No.: 10215150	CDN-USB-P , EUT: USB-A, AE: USB-B, 150 kHz - 230 MHz
Art.-No.: 10215160	CDN-USB-P-10k , EUT: USB-A, AE: USB-B, 10 kHz - 230 MHz
Art.-No.: 10215151	Calibration adapter, CDN-USB-P, as well for USB-3.0
Art.-No.: 10215170	CDN-USB-3.0 , EUT: USB-A, AE: USB-A, 150 kHz - 230 MHz
Art.-No.: 10213150	CDN-RJ45-S , shielded RJ45, 150 kHz - 230 MHz

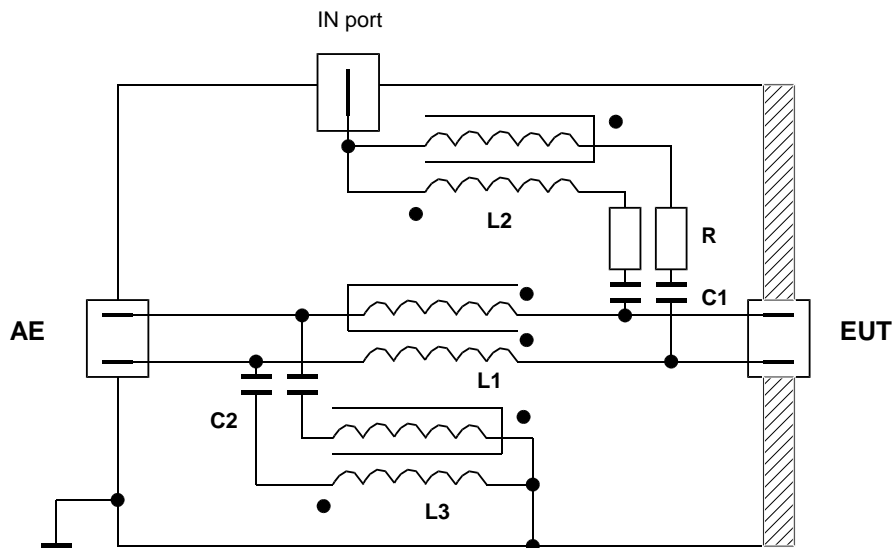
Art.-No.: 10213160	CDN-RJ45-S-10k , shielded RJ45, 10 kHz – 230 MHz
Art.-No.: 10213151	Calibration adapter, CDN-RJ45-S
Art.-No.: 10215010	CDN-Firewire , 6 pole IEEE 1394 receptacle, 150 kHz - 230 MHz
Art.-No.: 10215011	Calibration adapter, CDN-Firewire
Art.-No.: 10215050	CDN-HDMI , 19-pole HDMI 1.3 receptacle, 150 kHz - 230 MHz
Art.-No.: 10215051	Calibration adapter, CDN-HDMI
Art.-No.: 10210010	Mounting bracket for calibration adapter incl. 50/150 Ohm adapter and 50 Ohm termination
Art.-No.: 10210050	Device for direct injection; 100 Ohm; alligator clip; calibration adapter included

CDN-T2 / -T4 / -T8 / -RJ11 / -RJ45



Description

For coupling and decoupling disturbing signals to an unshielded cable with balanced lines, T-type CDNs shall be used.



Simplified diagram for the circuit of CDN-T2

Specifications

Type	CDN-T2/4/8	CDN-RJ11/RJ45
RF In		
Frequency range (RF In)	(10 kHz) 150 kHz – 80 MHz / 230 MHz	
Power Rating (RF In)	6 W (continuous)	
Decoupling attenuation (RF In – AE)	> 20 dB (150 kHz – 230 MHz)	
Insertion loss (RF In – EUT)	10 dB \pm 1 dB (150 kHz – 230 MHz)	10 dB \pm 1 dB (150 kHz – 80 MHz) 10 dB + 3 dB (80 MHz – 230 MHz)
Connector	BNC	
EUT / AE		
Maximum Input Voltage AC	100 V	
Maximum Input Voltage DC	150 V	
Current Rating (AE – EUT)	0.5 A	1.5 A
Insertion loss (AE – EUT)	< 1 dB (DC – 1 MHz) < 10 dB (1 MHz – 100 MHz)	< 1 dB (DC – 10 MHz) < 10 dB (10 MHz – 100 MHz)
Connectors	Terminal block	RJ11 / RJ45 jack
Mechanical Data		
Dimensions (W x H x D)	160mm x 84.5mm x 240 mm	

Ordering Information	
Art.-No.: 10216010	CDN-T2 , terminal block 2 pole, 150 kHz - 230 MHz
Art.-No.: 10216020	CDN-T2-10k , terminal block 2 pole, 10 kHz - 80 MHz
Art.-No.: 10211011	Calibration adapter, CDN-T2 / -AF2
Art.-No.: 10216050	CDN-T4 , terminal block 4 pole, 150 kHz - 230 MHz
Art.-No.: 10216060	CDN-T4-10k , terminal block 2 pole, 10 kHz - 80 MHz
Art.-No.: 10211211	Calibration adapter, CDN-T4 / -AF4
Art.-No.: 10216100	CDN-T8 , RJ45 jack 8 pole, 150 kHz - 230 MHz
Art.-No.: 10213010	CDN-RJ11 , RJ11 jack, 150 kHz - 230 MHz
Art.-No.: 10213011	Calibration adapter, CDN-RJ11
Art.-No.: 10213100	CDN-RJ45 , RJ45 jack, 150 kHz - 230 MHz

Art.-No.: 10213101	Calibration adapter, CDN-RJ45 / -T8
Art.-No.: 10210010	Mounting bracket for calibration adapter incl. 50/150 Ohm adapter and 50 Ohm termination
	Custom design solutions are always available on request!

Special Types

Specifications

Type	CDN-CAN-L5	CDN-CAN-L4
RF In		
Frequency range (RF In)	150 kHz – 230 MHz	
Power Rating (RF In)	6 W (continuous)	
Decoupling attenuation (RF In – AE)	PIN 2+7: > 35 dB (150 kHz – 230 MHz) PIN 3+6+9: > 35 dB (150 kHz – 200 MHz); > 25 dB (200 MHz – 230 MHz)	PIN 2+7: > 35 dB (150 kHz – 230 MHz) PIN 3+9: > 35 dB (150 kHz – 200 MHz); > 25 dB (200 MHz – 230 MHz)
Insertion loss (RF In – EUT)	10 dB ± 1 dB (150 kHz – 230 MHz)	
Connector	BNC	
EUT / AE		
Maximum Input Voltage AC	50 V	
Maximum Input Voltage DC	50 V	
Current Rating (AE – EUT)	PIN 2+7 = 0.5 A; PIN 3+6+9 = 3 A	PIN 2+7 = 0.5 A; PIN 3+9 = 3 A
Insertion loss (AE – EUT)	PIN 2+7: < 1 dB (DC – 10 MHz); < 10 dB (10 MHz – 500 MHz) PIN 3+6+9: < 1 dB (DC – 100 kHz)	PIN 2+7: < 1 dB (DC – 10 MHz); < 10 dB (10 MHz – 500 MHz) PIN 3+9: < 1 dB (DC – 100 kHz)
Connectors	9-pol SUB-D socket	
Mechanical Data		
Dimensions (W x H x D)	160mm x 84.5mm x 240 mm	

Ordering Information	
Art.-No.: 10216200	CDN-CAN-L5 , 9-pol Sub-D socket, 150 kHz - 230 MHz
Art.-No.: 10211331	Calibration adapter, CDN-AF8-Sub-D, CDN-CAN-L5
Art.-No.: 10216210	CDN-CAN-L4 , 9-pol Sub-D socket, 150 kHz - 230 MHz
	Custom design solutions are always available on request!