

CDN AF5 to AF15 From 150 kHz CDN IEC 61000-4-6

IEC / EN 61000-4-6 specifies the design and performance of a range of coupling /de-coupling networks (CDNs). Each CDN is specific to the type of cable and the intended signal carried on the cable. AMETEK CTS with its brand TESEQ offers an extensive range of CDNs which fully comply with the requirements of the standard and provide a simple and reliable method of injecting RF energy into the equipment under test (EUT). In this datasheet, CDN used with unscreened unbalanced for data communications with different line application starting from 150 kHz as required by IEC / EN 61000-4-6 is presented.

The CDN AF series is used to Inject common mode disturbance signal into unscreened and unbalanced control lines with low currents in the frequency range from 150 kHz to 230 MHz.

Verification results is supplied with each unit. Traceable and accredited calibration according to ISO17025 is available upon request. The CDN can be ordered alone or as a kit, which includes the necessary adapters for verification. please refer to the set order information for more details.

AMTEK CTS cares about the safety of their customers. Hence, a protective earth bolt attached to the bottom plate can be used to increase safety during operations. For 8 line applications, there are two options; either with banan socket or with D-sub 25 pin.

Typical performance with limit lines for common mode impedance and voltage division factor is presented in this datasheet.

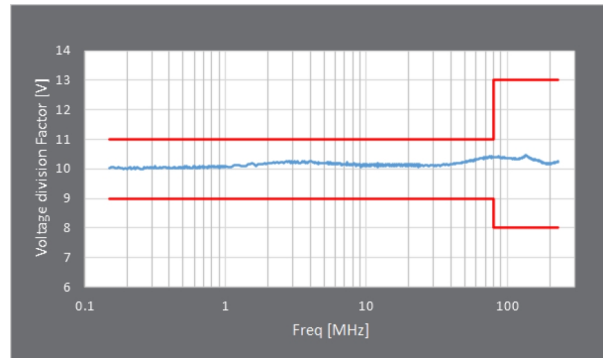
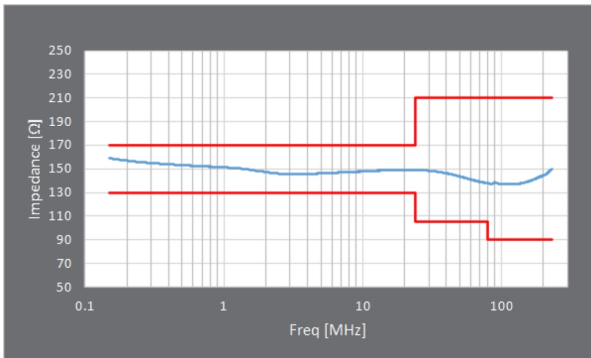
MAIN FEATURES

- **Coupling networks designed for IEC/EN 61000-4-6**
- **Used for unscreened, unbalanced control lines**
- **Models with 4 mm banana sockets or D-Sub 25**
- **Models with frequency range 150 kHz to 230 MHz**

Electrical Specifications

	CDN A501	CDN A701A	CDN A801A	CDN A800	CDN A120	CDN A150
Frequency Range	150 kHz to 230 MHz					
Application	5 lines application	7 lines application	8 lines application		12 lines application	15 lines application
Connector EUT Port	4 mm safety banana			D-Sub 25 pins ¹		
Connector AE Port						
Line Parameters	unscreened, unbalanced					
AC max. voltage (L- N)	160 V			63 V		
DC max. voltage (L-GND)	250 V			100 V		
Current Max	4 A	2 A		200 mA		
Test Voltage, 2 sec.	1 kV DC	400 V DC		250 V DC		
Common Mode Impedance (EUT Port)	150 kHz to 26 MHz: 150 Ω ±20 Ω 26 MHz to 80 MHz: 150 Ω +60 Ω / -45 Ω 80 MHz to 230 MHz: 150 Ω ±60 Ω					
Footnote	1. From Pin 1 to Pin x, where x is number of lines.					

Typical Performance for Common Mode Impedance and Voltage Division Factor



RF to EUT/AE Specifications

	CDN A501	CDN A701A	CDN A801A	CDN A800	CDN A120	CDN A150
RF Port	BNC 50 Ω (f)					
RF Voltage	30 V ¹			15 V ²		
Voltage division factor (RF input to EUT port)	10 kHz to 80 MHz: 10 dB ±1 dB 80 MHz to 230 MHz: 10 dB +3 dB/ -2 dB			10 kHz to 80 MHz: 9.5 dB ±1 dB 80 MHz to 230 MHz: 9.5 dB +3 dB/ -2dB		
Transmission bandwidth (wanted signal) EUT / AE B3 dB:	> 20 kHz sin.					
Decoupling of CM disturbance (RF port / AE) typ.	150 kHz: >30 dB 1.5 MHz: >60 dB 30 MHz: >50 dB 230 MHz: >25 dB			150 kHz: >30 dB 1.5 MHz: >60 dB 30 MHz: >50 dB 230 MHz: >35 dB		
Footnote	1. refers to 50 V test level in 300 Ω / 2. refers to 25 V test level in 300 Ω					

General Specifications

	CDN A501	CDN A701A	CDN A801A	CDN A800	CDN A120	CDN A150
Dimensions (WxHxD)	100 x 100 x 240 mm ³					
Net Weight	approx. 1.5 kg					
Operating Environment	Indoor use only					
Operating Temperature	+5°C to +40 °C					
Humidity	up to 80%					

Available Models

Product	Description	Item #
CDN A501	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 5 lines, max. 4 A, and from 150 kHz to 230 MHz. (AE and EUT safety banana)	243950
CDN A701A	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 7 lines, max. 2 A, and from 150 kHz to 230 MHz. (AE and EUT banana)	261160
CDN A801A	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 8 lines, max. 2 A, and from 150 kHz to 230 MHz. (AE and EUT banana)	261161
CDN A800	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 8 lines, max. 200 mA, and from 150 kHz to 230 MHz. (AE and EUT D-Sub 25)	243010
CDN A120	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 12 lines, max. 200 mA, and from 150 kHz to 230 MHz. (AE and EUT D-Sub 25)	247870
CDN A150	Coupling/Decoupling Network according IEC 61000-4-6 for asymmetrical 15 lines, max. 200 mA, and from 150 kHz to 230 MHz. (AE and EUT D-Sub 25)	243012

Set Information

Set Name Order Nr.	CAL U100B 247825	CAL U100M 257138	A 50-N 257521	SAR M116 239915	SAR MA51 243873	SAR A71 247829	SAR A81 247834	SAR A250 243050
CDN A501S 243951	2	-	1	1	2	-	-	-
CDN A701S 247869	2	-	1	1	-	2	-	-
CDN A801S 243036	2	-	1	1	-	-	2	-
CDN A800S 244124	1	1	1	1	-	-	-	2
CDN A120S 247871	1	1	1	1	-	-	-	2
CDN A150S 2244126	1	1	1	1	-	-	-	2

Accessories Information

Product	Description	Item #
CDN-TC	Traceable calibration (ISO17025) for IEC 61000-4-6 requirements, order only with device CDN M, AF or S type	97-231024
CDN-DAkkS	DAkkS accredited calibration (ISO17025) for impedance and VDF in the frequency range of the CDN	98-231024
CAL U100X-TC	Traceable calibration (ISO17025), order only with CAL U100x device	97-247825
CAL U100XDAkkS	DAkkS accredited calibration (ISO17025), order only with CAL U100x device	98-247825
IMA U100	Universal impedance measuring adapter (0 Ω)	239902
IMA U100M	Universal impedance measuring adapter (0 Ω)	257137