



CDN M4, ≤16 A 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 that 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 supply (mains) with four-line applications with maximum of 16 A starting from 150 kHz as required by IEC /EN 61000-4-6 is presented.

MAIN FEATURES

- Coupling networks designed for IEC/EN 61000-4-6
- CDN M series for mains applications
- Models with frequency range 150 kHz to 230 MHz
- for 4 Lines application
- Models with 4 mm safety banana sockets
- with maximum current of 16 A

The CDN M4 series is used to inject common mode disturbance signal to supply lines for two-line applications (with neutral and PE line) or for three lines applications (with either PE or N lines) in the frequency range from 150 kHz to 230 MHz.

Verification results are supplied with each unit. Traceable and accredited calibration according to ISO17025 are 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.

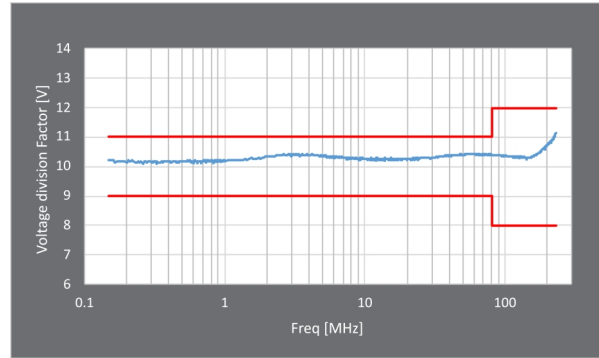
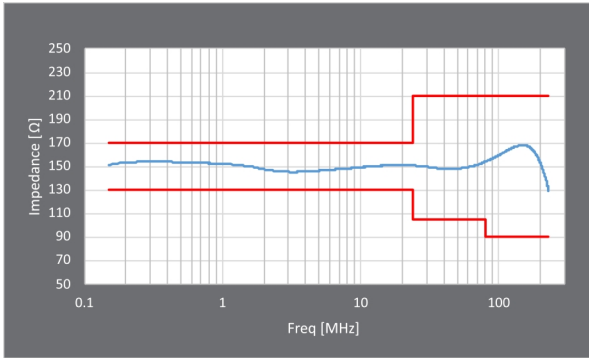
For safety, AMETEK provides a protective earth bolt attached to the bottom plate of all CDN series which can be used to connect it with ground. Furthermore, CDN series comes with a safety banana socket to avoid accidental contact with the metal socket.

Typical performance with limit lines for common mode impedance and voltage division factor can be found in this datasheet.

Electrical Specifications

	CDN M416A	CDN M416A-3LN
Frequency Range	150 kHz to 230 MHz	
Connector EUT Port	4 mm safety banana	
Connector AE Port		
Line Parameters	4 power lines	
Application Configuration	(2L+N+PE) (3L+PE)	(3L+N)
AC max. voltage (L-N) / (L-L)	300 V / 520 V	
DC max. voltage (L-N) / (L-L)	400 V / 600 V	
Current Max	16 A	
Test Voltage, 2 sec.	3.1 kVDC	
Common Mode Impedance (EUT Port)	150 kHz to 24 MHz: 150 Ω ±20 Ω 24 MHz to 80 MHz: 150 Ω +60 Ω/-45 Ω 80 MHz to 230 MHz: 150 Ω ±60 Ω	

Typical Performance for Common Mode Impedance and Voltage Division Factor



RF to EUT/AE Specifications

	CDN M416A	CDN M416A-3LN
RF Port	BNC 50 Ω	
RF Voltage	< 30 V ¹	
Voltage division factor (RF input to EUT port)	150 kHz to 80 MHz: 10 dB ±1 dB 80 MHz to 230 MHz: 10 dB ±2 dB	
Insertion loss (EUT / AE)	f < 400 Hz: <0.1 dB	
CM decoupling (RF to AE)	150 kHz: >30 dB 1.5 MHz: >60 dB 30 MHz: >40 dB 230 MHz: >20 dB	
Footnote	¹ : Refers to 50 V test level in 300 Ω	

General Specifications

	CDN M416A	CDN M416A-3LN
Operating / Cooling Time	at 40°C and Max. 16A: 25 min. / 25 min. at 23°C and Max. 16A: 35 min. / 70 min.	
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 M416A	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (2xL, N, PE), 16 A, and from 150 kHz to 230 MHz. (AE and EUT Banana)	231020
CDN M416A-3LN	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (3xL, N), 16 A, and from 150 kHz to 230 MHz. (AE and EUT Banana)	244166

Set Information

	CAL U100B 247825	A 50-N 257521	SAR M116 239915	SAR M400 247832	SAR MA41 247831
CDN M410AS 244118	2	1	1	1	1
CDN M416A-3LNS 244167	2	1	1	-	2

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