



MAIN FEATURES

- Coupling networks designed for IEC/EN 61000-4-6
- CDN M series for mains applications
- Start frequency is from 10 kHz as NAMUR NE 21 specifies
- for 3 Lines application
- Models with 4 mm safety banana sockets

CDN M3 From 10 kHz Series 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 three line and ≤ 16 A applications starting from 10 kHz as required by NAMUR NE21 is presented.

The CDN M3 series is used to inject common mode disturbance signal to supply lines for one-line applications (with neutral and PE line), for two lines applications (with only PE) or for three lines applications in the frequency range from 10 kHz to 80 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.

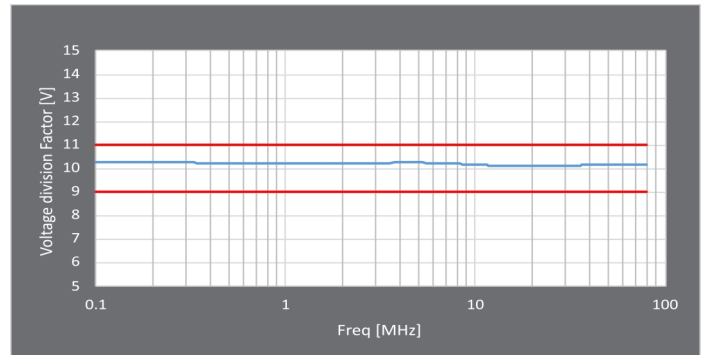
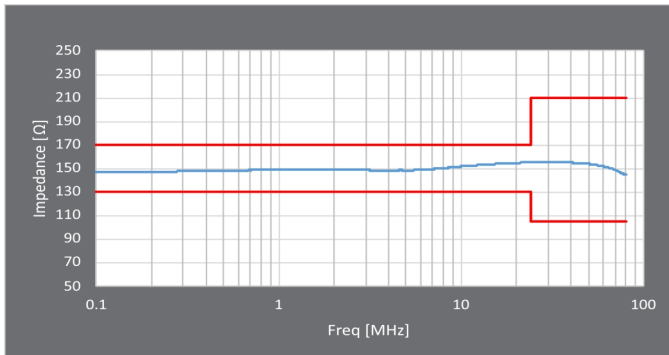
For safety, AMETEK provides a protective earth bolt attached to the bottom plate of all CDN series which can be used to connect it with ground. Furthermore, CDN series comes with a safety banana socket to avoid accidental contact with the metal socket.

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

Electrical Specifications

	CDN M316-10	CDN M316-3L-10	CDN M332-10	CDN M332-3L-760V-10	CDN M332-760V-10
Frequency Range	10 kHz to 80 MHz				
Connector EUT Port	4 mm safety banana				
Connector AE Port					
Line Parameters	3 Line				
Application Configuration	(L+N+PE) (2L+PE)	(3L)	(L+N+PE) (2L+PE)	(3L)	(L+N+PE) (2L+PE)
AC max. voltage (L-N) / (L-L)	250 V / 433 V		300 V / 520 V	500 V / 760 V	
DC max. voltage (L-N)/(L-L)	400 V / 800 V		400 V / 600 V	1000 V / 1000 V	
Current Max	16 A		32 A (60 min)		
Test Voltage, 2 sec.	3.1 kVDC, 2 sec			4.7 kVDC, 2 sec	
Common Mode Impedance (EUT Port)	10 kHz to 26 MHz: 150 Ω ±20 Ω 26 MHz to 80 MHz: 150 Ω +60 Ω / -45 Ω				

Typical Performance for Common Mode Impedance and Voltage Division Factor



RF to EUT/AE Specifications

	CDN M316-10	CDN M316-3L-10	CDN M332-10	CDN M332-3L-760V-10	CDN M332-760V-10
RF Port	BNC 50 Ω				
RF Voltage	< 30 V ¹				
Voltage division factor (RF input to EUT port)	10 dB ±1 dB			10 dB +1 dB /-2 dB	
Insertion loss (EUT / AE)	f < 400 Hz: <0.1 dB				
CM decoupling (RF to AE)	10 kHz: >10 dB 150 kHz: >35 dB 26 MHz: >45 dB 80 MHz: >25 dB				
Footnote	¹ : refers to 50 V test level in 300 Ω				

General Specifications

	CDN M316-10	CDN M316-3L-10	CDN M332-10	CDN M332-3L-760V-10	CDN M332-760V-10
Operating / Cooling Time	at 40°C and Max. 16 A: 25 min. / 25 min. at 23°C and Max. 16 A: 35 min. / 70 min.		at 32 A max: < 60 min./-		
Net Weight	approx. 1.5	approx. 1.5	approx. 6.5		
Operating Environment	Indoor use only				
Operating Temperature	+5°C to +40°C				
Humidity	up to 80%				

Available Models

Product	Description	Item #
CDN M316-10	Coupling/Decoupling Network according IEC 61000-4-6 for Main 3 lines (L, N, PE), 16 A, and from 10 kHz to 80 MHz. (AE and EUT Banana)	242477
CDN M316-3L-10	Coupling/Decoupling Network according IEC 61000-4-6 for Main 3 lines (3xL), 16 A, and from 10 kHz to 80 MHz. (AE and EUT Banana)	256764
CDN M332-10	Coupling/Decoupling Network according IEC 61000-4-6 for Main 3 lines (L, N, PE), 32 A, and from 10 kHz to 80 MHz. (AE and EUT Banana)	244298
CDN M332-3L-760V-10	Coupling/Decoupling Network according IEC 61000-4-6 for Main 3 lines (3xL), 32 A, 760 VAC and from 10 kHz to 80 MHz. (AE and EUT Banana)	257854
CDN M332-760V-10	Coupling/Decoupling Network according IEC 61000-4-6 for Main 3 lines (L, N, PE), 32 A, 760 VAC and from 10 kHz to 80 MHz. (AE and EUT Banana)	257852

Set Information

Set Name Order Nr.	CAL U100B 247825	A 50-N 257521	SAR M116 239915	SAR M300 242451	SAR MA31 247828
CDN M316-10S 242484	2	1	1	1	1
CDN M316-3L-10S 256765	2	1	1	-	2
CDN M332-10S 247787	2	1	1	1	1
CDN M332-760V-10S 257853	2	1	1	1	1
CDN M332-3L-760V-10S 257855	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