



CDN M4, 32 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 32 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 or to 80 MHz
- for 4 Lines application
- Models with 4 mm safety banana sockets
- with maximum current of 32 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.

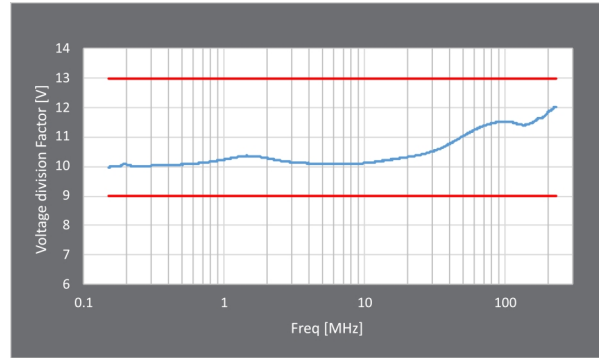
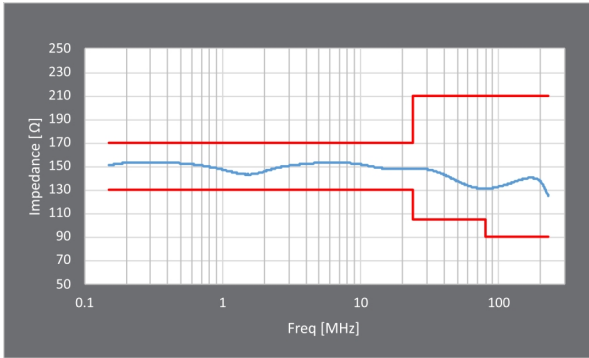
For safety, AMETEK provides a protective earth bolt attached to the bottom plate of all CDN series which can be used to connect it with ground. Furthermore, CDN series comes with a safety banana socket to avoid accidental contact with the metal socket.

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

Electrical Specifications

	CDN M432	CDN M432-3LN	CDN M432A	CDN M432A-3LN	CDN M432-1000V	CDN M432-3LN-1000V
Frequency Range	150 kHz to 230 MHz				150 kHz to 80 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)	(2L+N+PE) (3L+PE)	(3L+N)	(2L+N+PE) (3L+PE)	(3L+N)
AC max. voltage (L-N) / (L-L)	300 V / 520 V				500 V / 1000 V	
DC max. voltage (L-N) / (L-L)	400 V / 600 V				1000 V / 2000 V	
Current Max	32 A					
Test Voltage, 2 sec.	3.1 kVDC				4.7 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				150 kHz to 24 MHz: 150 Ω ±20 Ω 24 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 M432	CDN M432-3LN	CDN M432A	CDN M432A-3LN	CDN M432-1000V	CDN M432-3LN-1000V
RF Port	BNC 50 Ω					
RF Voltage	< 30 V ¹		< 50 V ²		< 30 V ¹	
Voltage division factor (RF input to EUT port)	150 kHz to 80 MHz: 10 dB +3 dB/-1 dB 80 MHz to 230 MHz: 10 dB +3 dB/-1 dB		10 dB ±1 dB 10 dB ±1 dB		10 dB +2 dB/-1 dB	
Insertion loss (EUT / AE)	f < 400 Hz: <0.1 dB					
CM decoupling (RF to AE)	150 kHz: >20 dB 1.5 MHz: >50 dB 30 MHz: >50 dB 230 MHz: >20 dB		150 kHz: >20 dB 1.5 MHz: >50 dB 30 MHz: >40 dB 230 MHz: >20 dB			
Footnote	¹ : Refers to 50 V test level in 300 Ω ² : Refers to 83 V test level in 300 Ω					

General Specifications

	CDN M432	CDN M432-3LN	CDN M432A	CDN M432A-3LN	CDN M432-1000V	CDN M432-3LN-1000V
Net Weight	approx. 6.5 kg		approx. 7.8 kg		approx. 6.5 kg	
Operating Environment	Indoor use only					
Operating Temperature	+5°C to +40°C					
Humidity	up to 80%					

Available Models

Product	Description	Item #
CDN M432	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (2xL, N, PE), 32 A, and from 150 kHz to 230 MHz. (AE and EUT Banana)	244261
CDN M432-3LN	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (3xL, N), 32 A, and from 150 kHz to 230 MHz. (AE and EUT Banana)	244263
CDN M432A	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (2xL, N, PE), 32 A, up to 50 Von RF port and from 150 kHz to 230 MHz. (AE and EUT Banana)	257872
CDN M432A-3LN	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (3xL, N), 32 A, up to 50 Von RF port and from 150 kHz to 230 MHz. (AE and EUT Banana)	257874
CDN M432-1000V	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (2xL, N, PE), 32 A, 1000 VAC and from 150 kHz to 230 MHz. (AE and EUT Banana)	256752
CDN M432-3LN-1000V	Coupling/Decoupling Network according IEC 61000-4-6 for Main 4 lines (3xL, N), 32 A, 1000 VAC and from 150 kHz to 230 MHz. (AE and EUT Banana)	256754

Set Information

	CAL U100B 247825	A 50-N 257521	SAR M116 239915	SAR M400 247832	SAR MA41 247831
CDN M432S 244292	2	1	1	1	1
CDN M432-3LNS 256660	2	1	1	-	2
CDN M432-1000VS 256673	2	1	1	1	1
CDN M432-3LN-1000VS 256751	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