CDN CAN 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 unbalanced for CAN Bus starting from 10 kHz as required by NAMUR NE 21 and from 150 kHz as required by IEC / EN 61000-4-6 is presented.

The CDN CAN series is used to inject common mode disturbance signal into unscreened and unbalanced high-speed CAN Bus with low currents in the frequency range from 10 kHz to 80 MHz and from 150 kHz to 230 MHz. CDN CAN U5 can be used to inject the disturbed signal into the ground line (Pin 6) also.

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.

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.

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

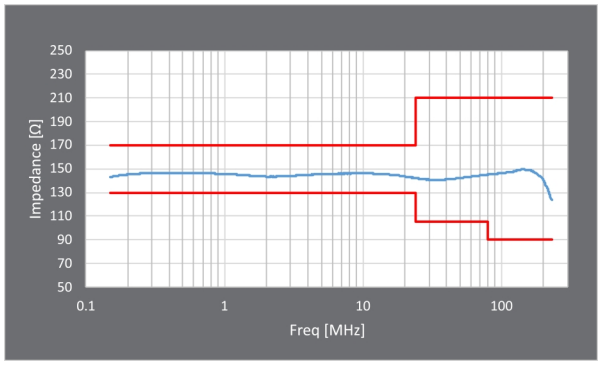
MAIN FEATURES

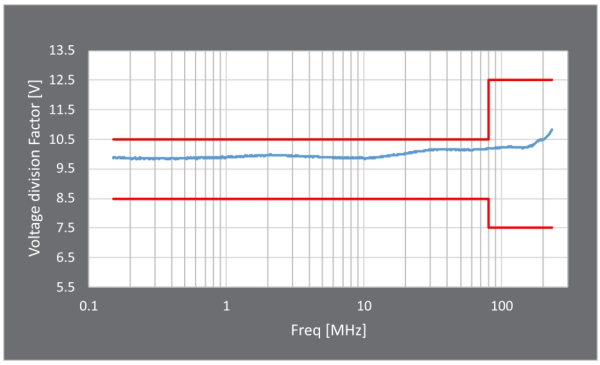
- **Coupling networks designed for IEC/EN 61000-4-6**
- **Used for CAN BUS application**
- **D-Sub-9-sockets**
- **Models with frequency range from 10 kHz to 80 MHz and from 150 kHz to 230 MHz**

Electrical Specifications

	CDN CAN-U4-10	CDN CAN-U4	CDN CAN-U5
Frequency Range	10 kHz to 80 MHz	150 kHz to 230 MHz	
Application	4 lines application for unscreened CAN bus		5 lines application for unscreened CAN bus
Connector EUT Port	D-Sub 9 pins (Pin 2, 3, 7, 9)		D-Sub 9 pins (Pin 2,3,6,7,9)
Connector AE Port			
Line Parameters	CAN Bus		
AC max. voltage (L- N)	48 V		
DC max. voltage (L-GND)			
Current Max	3 A for Pin 3 and 9 All other Pins 0,5 A		
Test Voltage, 2 sec.	200 V DC		
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	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	

Typical Performance for Common Mode Impedance and Voltage Division Factor





RF to EUT/AE Specifications

	CDN CAN-U4-10	CDN CAN-U4	CDN CAN-U5
RF Port	BNC 50 Ω (f)		
RF Voltage	20 V[1]		
Voltage division factor (RF input to EUT port)	10 kHz to 80 MHz: 10 dB ±1 dB	150 kHz to 80 MHz: 9.5 dB ±1 dB 80 MHz to 230 MHz: 9.5 dB +3 / -2 dB	
Transmission bandwidth EUT / AE:	Pin 2+7: > 30 MHz, all other Pins > 20 kHz		
CM decoupling (RF to AE)	10 kHz: >10 dB 1.5 MHz: >35 dB 26 MHz: >45 dB 80 MHz: >25 dB	150 kHz: >30 dB 1.5 MHz: >60 dB 30 MHz: >50 dB 230 MHz: >30 dB	
Footnote	[1]: Refers to 33 V test level in 300 Ω		

General Specifications

	CDN CAN-U4-10	CDN CAN-U4	CDN CAN-U5
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 CAN-U4-10	Coupling/Decoupling Network according IEC 61000-4-6 for can Bus 4 lines, and from 10 kHz to 80 MHz. (AE and EUT D-Sub 9)	256656
CDN CAN-U4	Coupling/Decoupling Network according IEC 61000-4-6 for can Bus 4 lines, and from 150 kHz to 230 MHz. (AE and EUT D-Sub 9)	243005
CDN CAN-U5	Coupling/Decoupling Network according IEC 61000-4-6 for can Bus 5 lines, and from 150 kHz to 230 MHz. (AE and EUT D-Sub 9)	243006

Set Information

Set Name Order Nr.	CAL U100B 247825	A 50-N 257521	SAR M116 239915	SAR CAN 243689
CDN CAN-U4-10S 256657	2	1	1	2
CDN CAN-U4S 243001	2	1	1	2
CDN CAN-U5S 243002	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
IMA U100M	Universal impedance measuring adapter (0 Ω)	257137