



CN SERIES COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 KHZ



CN M232-AC

- Coupling networks designed for IEC / EN 61000-4-16
- M series for DC or AC power ports
- A series for communication ports, intended for unscreened, unbalanced lines
- T series for unscreened balanced pairs
- 4 mm banana sockets for M and A series
- RJ45 sockets for T series

IEC / EN 61000-4-16 specifies the design and performance of a range of coupling networks. Each coupling network is related to the type of cable and connector. An specific 60 dB decoupling network is required in addition to the coupling network type M and AF.

Please contact Teseq or visit www.teseq.com for the IEC / EN 61000-4-16 system solution.

Technical specifications M and A type

Product name	Number of lines	EUT test port	Max. current	Max. voltage	Connector EUT and AE port
CN M232-DC	2	DC power	32 A	50 V	4 mm safety banana
CN M232-AC	2	AC power	32 A	250 V	4 mm safety banana
CN M332-AC	3	AC power	32 A	250 V	4 mm safety banana
CN M432-AC	4	AC power	32 A	250 V / 400 V**	4 mm safety banana
CN M432-3LN-AC	4	AC power	32 A	250 V / 400 V**	4 mm safety banana
CN M532-AC	5	AC power	32 A	250 V / 400 V**	4 mm safety banana
CN A201-R	2	Communication: unscreened, unbalanced	16 A	50 V DC 250 V AC*	4 mm safety banana
CN A201-M	2	Communication: unscreened, unbalanced	16 A	50 V DC 250 V AC*	4 mm safety banana
CN A401-R	4	Communication: unscreened, unbalanced	16 A	50 V DC 250 V AC*	4 mm safety banana
CN A401-M	4	Communication: unscreened, unbalanced	16 A	50 V DC 250 V AC*	4 mm safety banana

*) Maximum operating voltage is in relation to the frequency: 250 V AC at 50/60 Hz, 50 V AC at 10 kHz

**) Maximum line to line voltage

CN SERIES

COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 kHz

Technical specifications M and A type (continued)

Product name	Schematic circuit example	Test frequency range	Max. test level
CN M232-DC		DC	50 V cont. / 300 V 1 s
CN M232-AC		15 Hz to 150 kHz	50 V cont. / 300 V 1 s at 16 ^{2/3} Hz, 50 Hz and 60 Hz
CN M332-AC		15 Hz to 150 kHz	50 V cont. / 300 V 1 s at 16 ^{2/3} Hz, 50 Hz and 60 Hz
CN M432-AC		15 Hz to 150 kHz	50 V cont. / 300 V 1 s at 16 ^{2/3} Hz, 50 Hz and 60 Hz
CN M432-3LN-AC		15 Hz to 150 kHz	50 V cont. / 300 V 1 s at 16 ^{2/3} Hz, 50 Hz and 60 Hz
CN M532-AC		15 Hz to 150 kHz	50 V cont. / 300 V 1 s at 16 ^{2/3} Hz, 50 Hz and 60 Hz

CN SERIES COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 kHz



EUT port of CN A401-R or CN A401-M

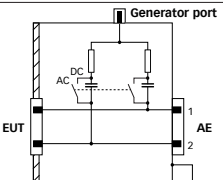
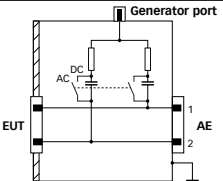
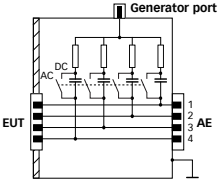
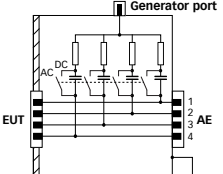


AE port of CN A401-R



AE port of CN A401-M

Technical specifications M and A type (continued)

Product name	Schematic circuit example	Test frequency range	Max. test level
CN A201-R		DC, 15 Hz to 150 kHz (range remote switchable)	50 V cont.
CN A201-M		DC, 15 Hz to 150 kHz (range manually switchable)	50 V cont.
CN A401-R		DC, 15 Hz to 150 kHz (range remote switchable)	50 V cont.
CN A401-M		DC, 15 Hz to 150 kHz (range manually switchable)	50 V cont.

CN SERIES

COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 KHZ

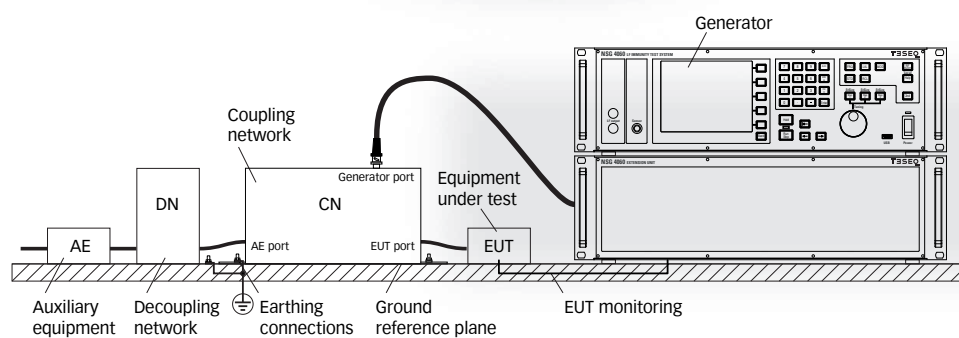
Technical specifications T type

Model	CN T8-DC	CN T8-AC	CN T444-DC	CN T444-AC
Frequency range:	DC	15 Hz to 150 kHz	DC	15 Hz to 150 kHz
Line parameters: Connector (EUT and AE port): Application: PoE:	4 pairs RJ45 1000BaseT no	4 pairs RJ45 1000BaseT no	2 pairs RJ45 10/100BaseT no	2 pairs RJ45 10/100BaseT no
Power ratings (EUT and AE port) AC max. voltage (line to ground): DC max. voltage (line to ground): DC max. voltage (pair to pair): Current max.: Test voltage: Isolation voltage (EUT to AE):	63 V (RF port open) 100 V (RF port open) dependent on test level 200 mA (line) 200 V DC, 2 s 1500 V _{rms}	63 V 100 V 100 V 200 mA (line) 200 V DC, 2 s 1500 V _{rms}	63 V (RF port open) 100 V (RF port open) dependent on test level 200 mA (line) 200 V DC, 2 s 1500 V _{rms}	63 V 100 V 100 V 200 mA (line) 200 V DC, 2 s 1500 V _{rms}
Common mode impedance (EUT port) DC / 15 Hz to 150 kHz:	150 Ω ±5 Ω	150 Ω ±5 Ω (f >500 Hz)	150 Ω ±5 Ω	150 Ω ±5 Ω (f >500 Hz)
Coupling path (RF port / EUT port) Connector (RF port): RF voltage:	BNC 50 Ω <20 V	BNC 50 Ω <20 V	BNC 50 Ω <20 V	BNC 50 Ω <20 V
Voltage division factor (RF port to EUT port) DC / 15 Hz to 150 kHz:	9.5 dB ±1 dB	9.5 dB ±1 dB (f >500 Hz)	9.5 dB ±1 dB	9.5 dB ±1 dB (f >500 Hz)
Transmission bandwidth (EUT to AE)* (wanted signal)	>100 MHz sin.	>100 MHz sin.	>100 MHz sin.	>100 MHz sin.
Crosstalk (EUT and AE port) 1 MHz to 100 MHz:	≥61 dB to ≥21 dB	≥61 dB to ≥21 dB	≥61 dB to ≥21 dB	≥61 dB to ≥21 dB
Longitudinal conversion loss (LCL), (EUT port) 150 kHz: 1.5 MHz: 30 MHz:	>75 dB >60 dB >40 dB	>75 dB >60 dB >40 dB	>75 dB >60 dB >40 dB	>75 dB >60 dB >40 dB
Decoupling of common mode disturbance (RF port / AE port) DC / 15 Hz to 150 kHz:	>60 dB	>60 dB	>60 dB	>60 dB

*) 3 dB bandwidth, all balanced parameters in relation to a symmetrical load of 100 Ω

CN SERIES COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 KHZ

EUT test set-up with Teseq NSG 4060



CN T series

Mechanical specifications M and A series

Size (W x H x D):	100 mm x 100 mm x 240 mm
Weight:	approx. 1.5 kg



CN M and A series (partly)

Mechanical specifications T series

Size (W x H x D):	105 mm x 65 mm x 110 mm
Weight:	approx. 0.5 kg

CN SERIES

COUPLING NETWORK (CN) FOR IEC / EN 61000-4-16, DC TO 150 KHZ

Model No. and options

Part number	Description
255600	CN M232-DC Coupling network accord. IEC 61000-4-16, M2, 32 A, DC
255601	CN M232-AC Coupling network accord. IEC 61000-4-16, M2, 32 A, AC
255602	CN M332-AC Coupling network accord. IEC 61000-4-16, M3, 32 A, AC
255615	CN M432-AC Coupling network accord. IEC 61000-4-16, M4, 32 A, AC
255614	CN M432-3LN-AC Coupling network accord. IEC 61000-4-16, M4, 3xL,N (without PE line) 32 A, AC
255613	CN M532-AC Coupling network accord. IEC 61000-4-16, M5, 32 A, AC
255603	CN A201-R Coupling network accord. IEC 61000-4-16, AF2, 16 A, DC / AC, remote switch
255604	CN A201-M Coupling network accord. IEC 61000-4-16, AF2, 16 A, DC / AC, manual switch
255605	CN A401-R Coupling network accord. IEC 61000-4-16, AF4, 16 A, DC / AC, remote switch
255606	CN A401-M Coupling network accord. IEC 61000-4-16, AF4, 16 A, DC / AC, manual switch
255607	CN T8-AC Coupling network accord. IEC 61000-4-16, T8, 1000BaseT, AC
255608	CN T8-DC Coupling network accord. IEC 61000-4-16, T8, 1000BaseT, DC
255609	CN T444-AC Coupling network accord. IEC 61000-4-16, T4, 10/100BaseT, AC
255610	CN T444-DC Coupling network accord. IEC 61000-4-16, T4, 10/100BaseT, DC

Teseq GmbH

Landsberger Str. 255 · 12623 Berlin · Germany
T +49 30 56 59 88 35 F +49 30 56 59 88 34
deinfo.teseq@ametek.com www.teseq.com

© June 2015 Teseq®

Specifications subject to change without notice. Teseq® is an ISO-registered company. Its products are designed and manufactured under the strict quality and environmental requirements of the ISO 9001. This document has been carefully checked. However, Teseq® does not assume any liability for errors or inaccuracies.

82-255600 E02 June 2015