



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.

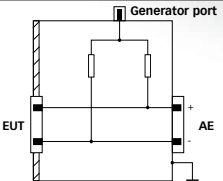
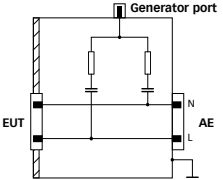
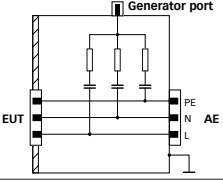
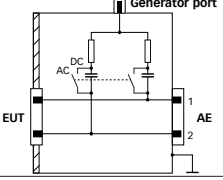
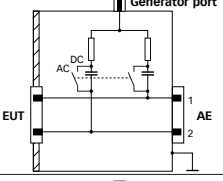
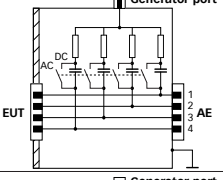
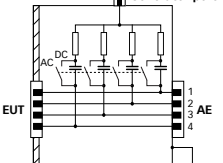
Technical specifications M and A type

| 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 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

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 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. |



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



AE port of CN A401-R



AE port of CN A401-M

CN SERIES

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

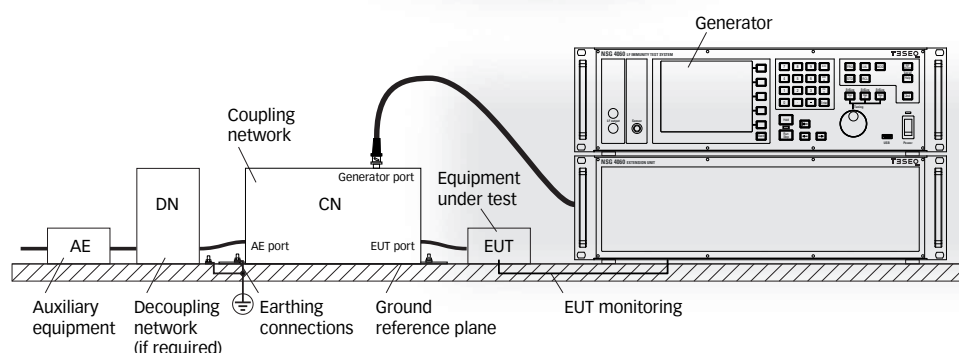
Technical specifications T type

| 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 VDC, 2 s 1500 V _{rms} | 63 V 100 V 100 V 200 mA (line) 200 VDC, 2 s 1500 V _{rms} | 63 V (RF port open) 100 V (RF port open) dependent on test level 200 mA (line) 200 VDC, 2 s 1500 V _{rms} | 63 V 100 V 100 V 200 mA (line) 200 VDC, 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

Mechanical specifications T series

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

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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 |
| 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 |

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