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CNV 504 / 508 T-SERIES

COUPLING/DECOUPLING NETWORK FOR UNSHIELDED SYMMETRICAL INTERCONNECTION LINES (COMMUNICATION LINES)



FOR TESTS ACCORDING TO ...

› EN 61000-4-5
› IEC 61000-4-5
› ITU-T K.44

CNV 504 / 508 T-SERIES - COUPLING DECOUPLING NETWORKS FOR UNSHIELDED COMMUNICATION LINES

Surge pulses and Telecom Surge pulses are applied to unshielded symmetrical interconnection lines (communication lines) by means of standalone coupling/decoupling networks. CNV 504T5 is designed for 4 lines (2 pairs), CNV 508T5 for 8 lines (4pairs) and can also be used for either 4 or 2 lines.
According to IEC 61000-4-5 Ed.3, (Fig. 10) the pulses are coupled via gas arrestors and a matching resistor per line.

HIGHLIGHTS

- **As per IEC 61000-4-5 Ed.3, Fig 10/A4, ITU K.44**
- **For test pulse 1.2/50 - 8/20µs and 10/700µs**
- **Coupling via gas arrestor or other coupling**
- **Built-in matching resistors**
- **20mH decoupling, current compensated pairs**
- **Test voltage up to 5kV**
- **Line voltage 50V**
- **Line current 1A**

APPLICATION AREAS

INDUSTRY
MEDICAL
RESIDENTIAL
TELECOM

TECHNICAL DETAILS

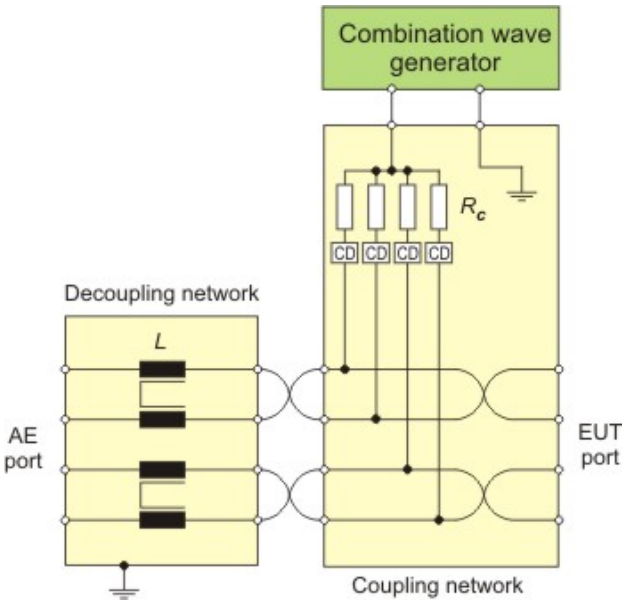
SURGE 1.2 /50US

CNV 504 / 508 T-SERIES - SURGE COUPLING/DECOUPLING NETWORKS FOR COMMUNICATION LINES

The EM TEST CNV 504 / 508 T-series coupling/ decoupling networks are designed to couple Surge pulses (1.2/50us - 8/20us) and Telecom Surge pulses (10/700us) onto unshielded symmetrically operated communication lines.

The CNV-models includes the coupling via gas arrestor plus the internal matching resistor Rc as per figure 10 of IEC 61000-4-5 Ed.3 with values as per the formula given by the standard. All lines are subjected to the test pulse simultaneously with respect to ground.

The CNV also include the required decoupling part consisting of decoupling inductors of 20mH for each line, pairwise current compensated. To further protect the auxiliary equipment being needed for testing the DUT an additional protection circuit is integrated at the communication line input.



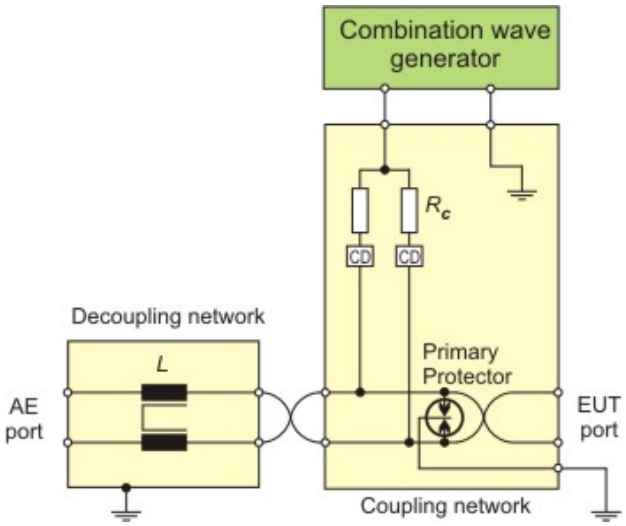
SURGE 10/700 US

CNV 504 / 508 T-SERIES - TELECOM SURGE COUPLING/DECOUPLING NETWORKS FOR COMMUNICATION LINES

The CNV 504 / 508 T-series is also designed as per figure A4 of IEC 61000-4-5 Ed.3 without primary protector. If required, an additional primary protector must be integrated according the user specifications.

With short circuit bridges and individual designed coupling devices the user can easy modify the coupling mode and number of tested lines to the requirements.

EM TEST offers CNV 504 / 508 T-series coupling/decoupling networks for test voltages up to 5kV.



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TECHNICAL DETAILS

CNV 504T5 FOR 4 UNSHIELDED SYMMETRICAL COMMUNICATION LINES

CNV 504T5 FOR 4 UNSHIELDED SYMMETRICAL COMMUNICATION LINES

COMMON DATA CNV 504T5	
CDN	for 4 lines (2 pairs) as per IEC 61000-4-5 Ed.3, - Surge pulses (Fig. 10), - Telecom Surge (Fig. A4)
Max. voltage	5 kV impulse
Line voltage	max. 50 V
Line current	max. 1 A
Coupling	Selectable - GDT, gas arrestor - Individual CD
Matching resistors Rc	Surge Pulse 1.2/50 µs, 4 x 160 ohm (2 pairs), 2 x 80 ohm (1 pair)
Matching resistors Rc	Telecom surge 10/700 µs, 4 x 25 ohm
Decoupling	20 mH decoupling inductor, ± 10 % tolerance, pairwise current compensated
Residual voltage	at the AE port, 5 kV impulse 88 V (1.2/50 µs), 80 V (10/700 µs)
Signal Bandwith	100 kHz with 600 ohm load

GENERAL DATA CNV 504T5	
Connectors	4 mm safety lab sockets
Dimensions	447 mm x 400 mm x 143 mm
Weight	11.20 kg

ACCESSORIES	
HVS - Banana - Banana	HV cable 1.0 m 1 x red (HV) 1 x black (COM)
Earth cable	Art. 10945 1 x 0.6 m yellow-green 2 x M4 screws with toothed washer
Short circuit bridges	8 bridges, 4 x (25/160) ohm resistors, 4 x coupling
Safety lab cables	Art:105886 8 x 0.25 m Safety lab cables
Manual	English and German manual on CD

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TECHNICAL DETAILS

CNV 508T5 FOR 8 UNSHIELDED SYMMETRICAL COMMUNICATION LINES

COMMON DATA CNV 508T5	
CDN	for 8 lines (4 pairs) as per IEC 61000-4-5 Ed.3, - Surge pulses (Fig. 10), - Telecom Surge (Fig. A4)
Max. voltage	5 kV impulse
Line voltage	max. 50 V
Line current	max. 1 A
Coupling	Selectable - GDT, gas arrestor - Individual CD
Matching resistors Rc	Surge Pulse 1.2/50 µs, 8 x 320 ohm (4 pairs), 4 x 160 ohm (2 pairs), 2 x 80 ohm (1 pair)
Matching resistors Rc	Telecom surge 10/700 µs, 8 x 25 ohm
Decoupling	20 mH decoupling inductor, ± 10 % tolerance pairwise current compensated
Residual voltage	at the AE port, 5 kV impulse 85 V (1.2/50 µs), 60 V (10/700 µs)
Signal Bandwith	100 kHz with 600 ohm load

GENERAL DATA CNV 508T5	
Connectors	4 mm safety lab sockets
Dimensions	447 mm x 400 mm x 143 mm
Weight	16.65 kg

CNV 508T5 FOR 8 UNSHIELDED SYMMETRICAL COMMUNICATION LINES

ACCESSORIES	
HVS - Banana - Banana	HV cable 1.0 m 1 x red (HV) 1 x black (COM)
Earth cable	Art. 10945 1 x 0.6 m yellow-green 2 x M4 screws with toothed washer
SCC Short circuit bridges	16 bridges, 8 x (25/320) ohm resistors, 8 x coupling
Safety lab cables	Art:105886 18 x 0.25m Safety lab cables
Manual	English and German manual on CD

OPTIONS

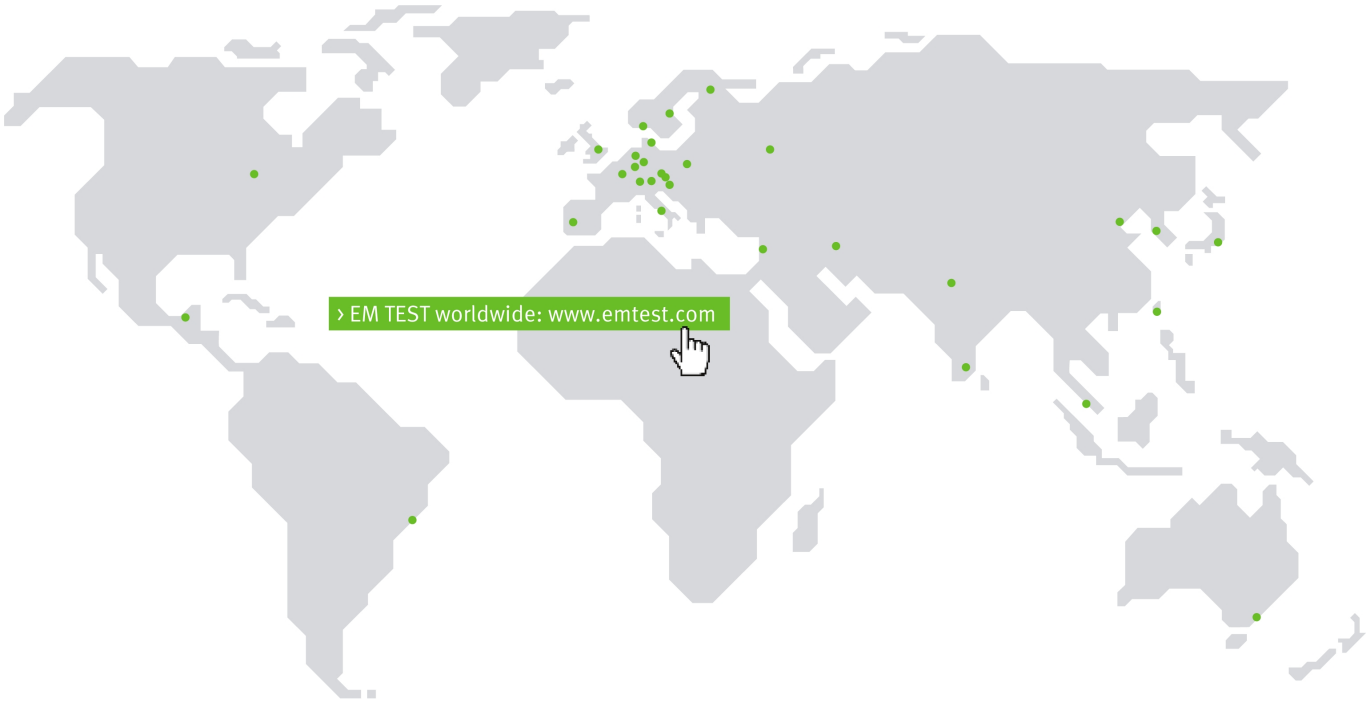
COUPLING DEVICES	
ABD Plug 140 V	Avalanche Breaking Diode Coupling diode for Surge 1,2/50 µs and Telecom Surge 10/700 µs Max. Impulse voltage 7 kV

GENERAL DATA

ENVIRONMENT	
Temperature	5 - 40 °C
Rel. humidity	10 - 90 %, non-condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

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COMPETENCE WHEREVER YOU ARE



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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.