

CNV 504N/508N SERIES

COUPLING/DECOUPLING NETWORKS FOR UNSHIELDED UNSYMMETRICAL INTERCONNECTION LINES



FOR TESTS ACCORDING TO ...

- > EN 50121
- > EN 61000-4-12
- > EN 61000-4-5
- > IEC 61000-4-12
- > IEC 61000-4-5
- > IEC 61326

CNV 504N/508N - COUPLING/DECOUPLING NETWORKS FOR SIGNAL/DATA LINES

Surge pulses or Ringwave pulses are applied to unshielded unsymmetrical interconnection lines (signal/data lines) by means of standalone coupling/decoupling networks. For such testing EM TEST offers a range of CNVs for either 4 or 8 signal/data lines.

According to IEC/EN 61000-4-5 resp. IEC/EN 61000-4-12 the pulses are coupled via different coupling elements such as capacitors or gas arrestors depending on the characteristics of the line signals.

HIGHLIGHTS

- > Coupling/decoupling networks according to IEC/EN 61000-4-5 and IEC/EN 61000-4-12
- > Coupling via gas arrestor or 0.5 μF capacitor for Surge (3.3 μF capacitor for Ringwave)
- > 20 mH decoupling inductor per line
- > Differential mode or Common mode coupling selectable
- > Test voltage up to 4 kV, 7 kV and 10 kV

APPLICATION AREAS

-  INDUSTRY
-  MEDICAL
-  RESIDENTIAL

TECHNICAL DETAILS

SURGE APPLICATION

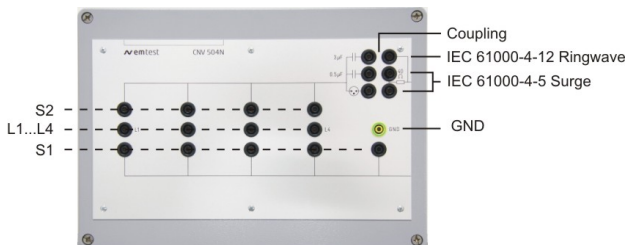
CNV 504N/508N SERIES - MULTIFUNCTIONAL COUPLING/DECOUPLING NETWORKS

The EM TEST CNV 504N/508N series of coupling decoupling networks are multifunctional CNVs for the application of Surge and Ringwave pulses onto signal/data lines.

The standard CNV 504N/508N models combine three different applications; coupling of Surge pulse via capacitor or gas arrestor and coupling of Ringwave pulses via capacitor being required by the relevant standards. The required coupling mode can easily be selected by means of a simple jumper.

The CNVs also include the required decoupling part consisting of decoupling inductors of 20mH for each line. To protect the auxiliary equipment being needed for testing the DUT an additional protection circuit is integrated at the signal/data line input.

EM TEST offers CNV 504N/CNV 508N coupling/decoupling networks for various test voltages up to 10kV and for higher signal voltages/currents (up to 600V and up to 4A). Dedicated CNVs are available e.g. for railway applications as per EN 50155 and for other customer specific test applications.



COUPLING

MULTIFUNCTIONAL COUPLING FOR SURGE AND RINGWAVE

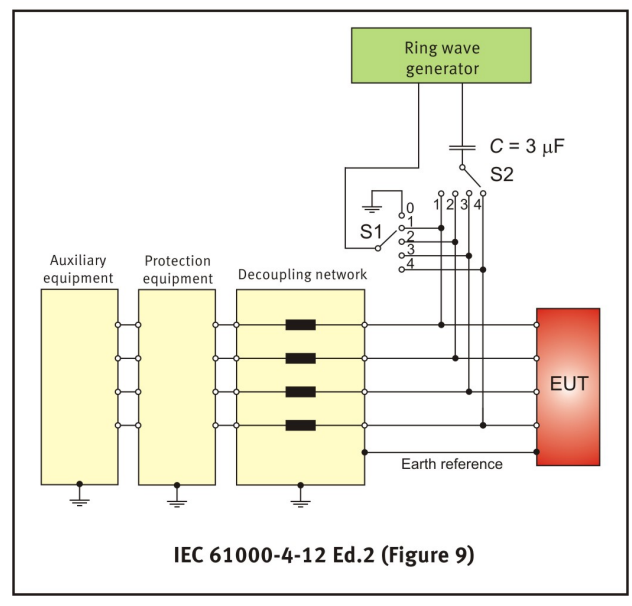
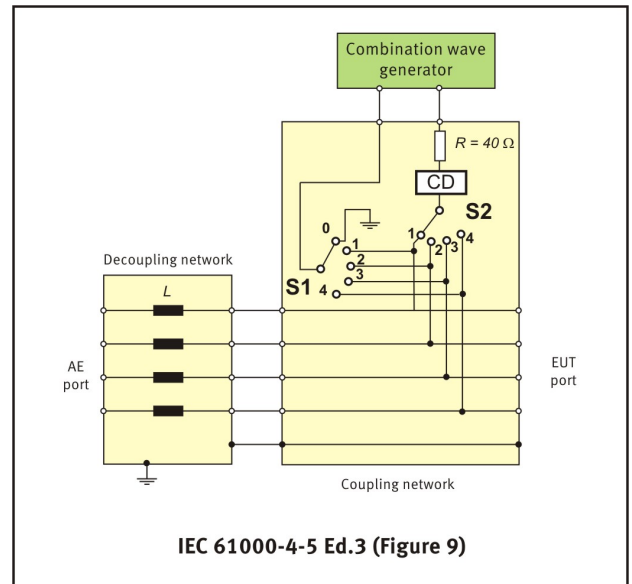
The EM TEST CNV 504N/508N series of coupling decoupling networks are multifunctional CDNs for the application of Surge and Ringwave pulses onto signal/data lines.

Surge as per IEC 61000-4-5 Ed.3, Figure 9

- Capacitor 0.5 uF with 40 ohm
- GDT gas arrestor with 40 ohm

Ringwave as per IEC 61000-4-12 Ed.2, Figure 9

- Capacitor >3.3 uF



TECHNICAL DETAILS

**CNV 504N-SERIES FOR 4
UNSHIELDED UNSYMMETRICAL
INTERCONNECTION LINES, 50 V**
4 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 504N1	4 kV coupling/decoupling network max. line current 1 A
CNV 504N1.1	4 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

7 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 504N2	7 kV coupling/decoupling network max. line current 1 A
CNV 504N2.1	7 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

10 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 504N3	10 kV coupling/decoupling network max. line current 1 A
CNV 504N3.1	10 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm

**CNV 504N-SERIES FOR 4
UNSHIELDED UNSYMMETRICAL
INTERCONNECTION LINES, 300 V**
4 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 504N1.2	4 kV coupling/decoupling network max. line current 1 A
CNV 504N1.3	4 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

7 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 504N2.2	7 kV coupling/decoupling network max. line current 1 A
CNV 504N2.3	7 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

10 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 504N3.2	10 kV coupling/decoupling network max. line current 1 A
CNV 504N3.3	10 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm

TECHNICAL DETAILS

**CNV 508N-SERIES FOR 8
UNSHIELDED UNSYMMETRICAL
INTERCONNECTION LINES, 50 V**
4 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 508N1	4 kV coupling/decoupling network max. line current 1 A
CNV 508N1.1	4 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

7 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 508N2	7 kV coupling/decoupling network max. line current 1 A
CNV 508N2.1	7 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

10 KV MODELS, LINE VOLTAGE MAX. 35 VAC, 50 VDC

CNV 508N3	10 kV coupling/decoupling network max. line current 1 A
CNV 508N3.1	10 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm, - GDT gas arrester via 40 ohm

**CNV 508N-SERIES FOR 8
UNSHIELDED UNSYMMETRICAL
INTERCONNECTION LINES, 300 V**
4 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 508N1.2	4 kV coupling/decoupling network max. line current 1 A
CNV 508N1.3	4 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

7 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 508N2.2	7 kV coupling/decoupling network max. line current 1 A
CNV 508N2.3	7 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm
Ringwave coupling	as per Fig. 9 IEC 61000-4-12 Ed.2, - 3.3 μ F capacitor

10 KV MODELS, LINE VOLTAGE MAX. 250 VAC, 300 VDC

CNV 508N3.2	10 kV coupling/decoupling network max. line current 1 A
CNV 508N3.3	10 kV coupling/decoupling network line current 4 A, intermittent 5A
General data	
Surge coupling	as per Fig. 9 IEC 61000-4-5 Ed.3, - 0.5 μ F capacitor via 40 ohm

TECHNICAL DETAILS

GENERAL

4 KV DEVICES, DIMENSION AND WEIGHTS

Model	dimension (L x W x H), weight
CNV 504 N1	330 x 230 x 112 mm, 5.40 kg
CNV 504 N1.1	330 x 230 x 112 mm, 9.55 kg
CNV 504 N1.2	330 x 230 x 112 mm, 5.50 kg
CNV 504 N1.3	330 x 230 x 112 mm, 9.75 kg
CNV 508 N1	330 x 230 x 112 mm, 6.40 kg
CNV 508 N1.1	448 x 395 x 142 mm, 17.45 kg
CNV 508 N1.2	330 x 230 x 112 mm, 6.65 kg
CNV 508 N1.3	448 x 395 x 142 mm, 17.65 kg

7 KV DEVICES, DIMENSION AND WEIGHTS

Model	dimension (L x W x H), weight
CNV 504 N2	448 x 305 x 142 mm, 9.10 kg
CNV 504 N2.1	448 x 305 x 142 mm, 11.80 kg
CNV 504 N2.2	448 x 305 x 142 mm, 6.70 kg
CNV 504 N2.3	448 x 305 x 142 mm, 11.85 kg
CNV 508 N2	448 x 305 x 142 mm, 12.90 kg
CNV 508 N2.1	448 x 395 x 142 mm, 17.60 kg
CNV 508 N2.2	448 x 305 x 142 mm, 12.90 kg
CNV 508 N2.3	448 x 395 x 142 mm, 17.65 kg

10 KV DEVICES, DIMENSION AND WEIGHTS

Model	dimension (L x W x H), weight
CNV 504 N3	448 x 305 x 142 mm, 9.25 kg
CNV 504 N3.1	448 x 305 x 142 mm, 10.50 kg
CNV 504 N3.2	448 x 305 x 142 mm, 9.40 kg
CNV 504 N3.3	448 x 305 x 142 mm, 10.65 kg
CNV 508 N3	448 x 305 x 142 mm, 13.50 kg
CNV 508 N3.1	448 x 395 x 142 mm, 17.45 kg
CNV 508 N3.2	448 x 305 x 142 mm, 13.55 kg
CNV 508 N3.3	448 x 395 x 142 mm, 17.55 kg

GENERAL

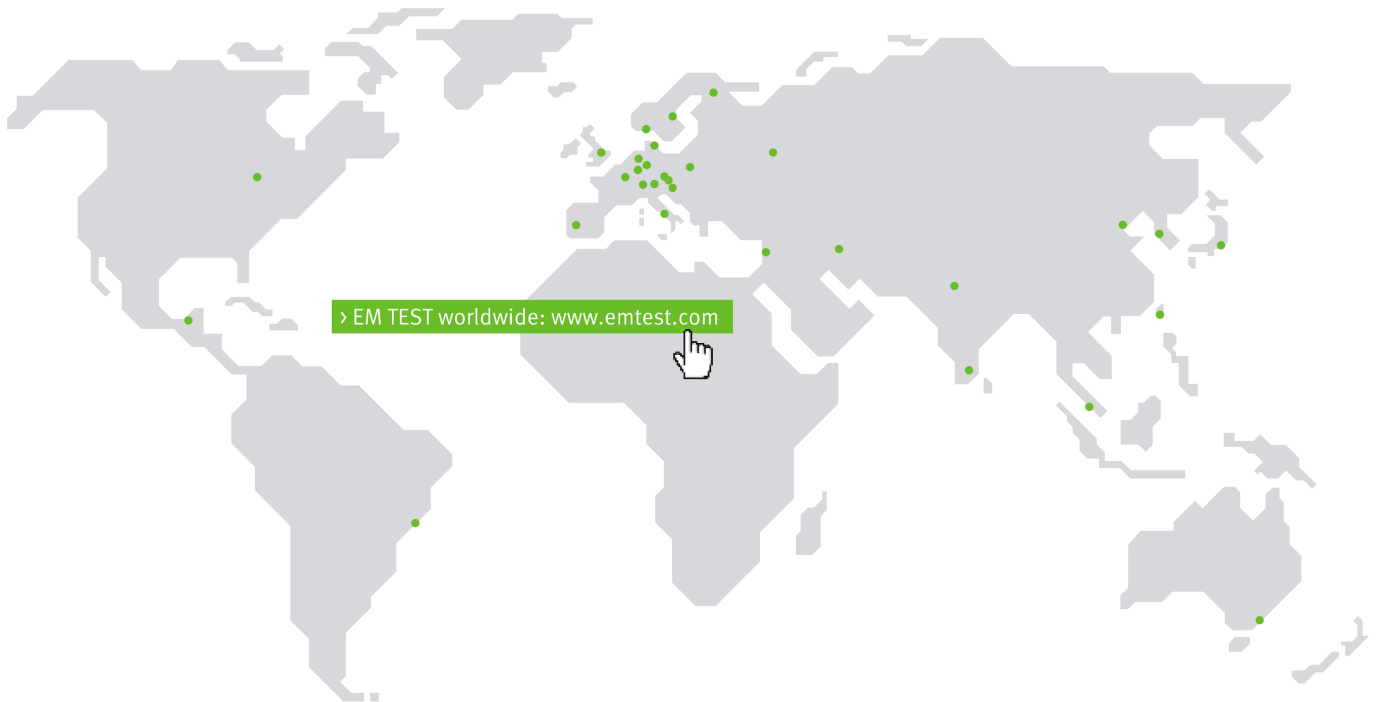
DECOUPLING

Decoupling inductance	20 mH, each line
-----------------------	------------------

ENVIRONMENT

Temperature	10 °C to 40 °C
Humidity	10 % to 80 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

COMPETENCE WHEREVER YOU ARE



CONTACT EM TEST DIRECTLY

Switzerland

EM TEST (Switzerland) GmbH > Sternenhofstraße 15 > 4153 Reinach > Switzerland
 Phone +41 (0)61/7179191 > Fax +41 (0)61/7179199
 Internet: www.emtest.ch > E-mail: sales.emtest@ametek.com

Germany

EM TEST GmbH > Lünener Straße 211 > 59174 Kamen > Deutschland
 Phone +49 (0)2307/26070-0 > Fax +49 (0)2307/17050
 Internet: www.emtest.com > E-mail: info.emtest@ametek.de

France

EM TEST FRANCE > Le Trident - Parc des Collines > Immeuble B1 - Etage 3 > 36, rue Paul Cézanne > 68200 Mulhouse > France
 Phone +33 (0)389 31 23 50 > Fax +33 (0)389 31 23 55
 Internet: www.emtest.fr > E-mail: info@emtest.fr

Poland

EM TEST Polska > ul. Ogrodowa 31/35, 00-893 Warszawa > Polska
 Phone +48 (0)518 64 35 12
 Internet: www.emtest.com/pl > E-mail: infopolska.emtest@ametek.com

USA / Canada

AMETEK Compliance Test Solutions > 52 Mayfield Ave. > Edison > NJ 08837
 Phone +1 (732) 417-0501
 Internet: www.emtest.com > E-mail: sales.emtest@ametek.com

P.R. China

E & S Test Technology Limited > Rm 913, Leftbank > No. 68 Bei Si Huan Xi Lu > Haidian District > Beijing 100080 > P.R. China
 Phone +86 (0)10 82 67 60 27 > Fax +86 (0)10 82 67 62 38
 Internet: www.emtest.com > E-mail: info@emtest.com.cn

Republic of Korea

EM TEST Korea Limited > #405 > WooYeon Plaza > #986-8 > YoungDeok-dong > Giheung-gu > Yongin-si > Gyeonggi-do > Korea
 Phone +82 (31) 216 8616 > Fax +82 (31) 216 8616
 Internet: www.emtest.co.kr > E-mail: sales@emtest.co.kr

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.