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PCD 8 S-3-690-1000-200

CDN FOR SURGE TESTING ON SUPPLY LINES

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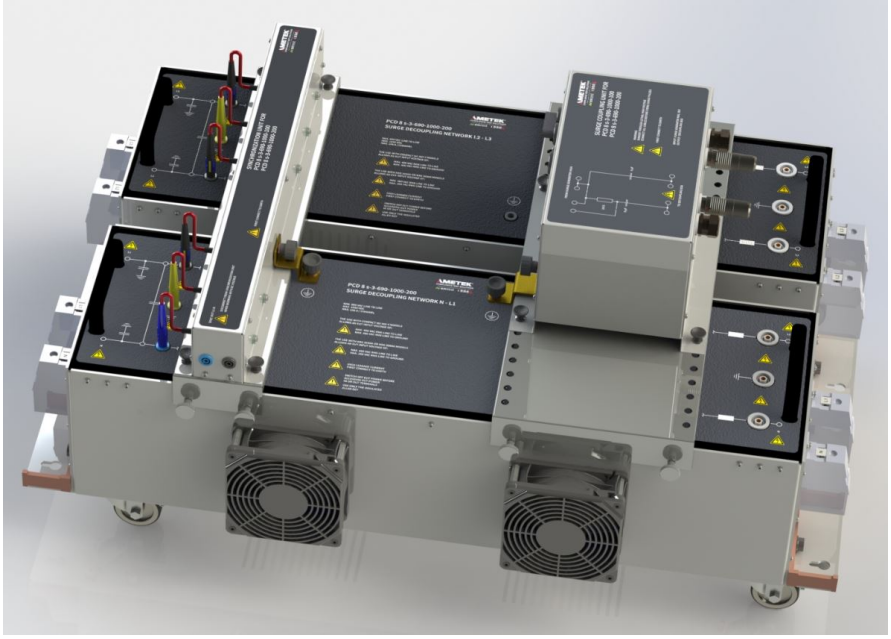

FOR TESTS ACCORDING TO ...

- › ANSI/IEEE C62.41
- › ECE-R10
- › EN 61000-4-5
- › IEC 61000-4-5
- › IEC 61851-21

PCD 8 S-3-690-1000-200 - COUPLING/DECOUPLING NETWORK FOR HIGH VOLTAGE SUPPLY LINES

Surge pulses are applied to high voltage and high current supply lines by means of standalone coupling/decoupling networks. For such testing AMETEK CTS offers the PCD 8 s-3-1000-200 for supply lines up to 3 * 690 V AC, 1.000 V DC and up to 200 A.
According to IEC/EN 61000-4-5 the pulses are manually coupled via cable loops for line to line (2 ohm/18 uF) or line to PE (12 Ohm/9 uF) coupling.

HIGHLIGHTS

- › **Coupling/decoupling network according to IEC/EN 61000-4-5**
- › **Line voltage 3 * 690 V AC, 1.000 V DC, max. 200 A**
- › **Surge test voltage up to 8 kV / 4 kA**
- › **Complies with IEC / EN 61000-4-5 and ANSI C62.45 (optional)**
- › **Easily upgradeable from IEC / EN to ANSI coupling**
- › **Supported by compact NX and NSG 3000A-series**

APPLICATION AREAS

- AUTOMOTIVE
- RENEWABLE ENERGY
- INDUSTRY

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TECHNICAL DETAILS

TEST SETUP

PCD 8 S-3-690-1000-200 TEST SETUP

The AMETEK CTS PCD 8 s-3-690-1000-200 coupling decoupling network is a manual CDN for coupling Surge pulses onto high voltage / current power supply lines.

High-current couplers may need to be taken to test sites where it is commonly impossible to move large installations in. For convenience, the PCD 8 s-3-690-1000-200 can be disassembled in handy parts and can easily move to other places. Wheels with braking features can be mounted to manoeuvring the coupler even on ramps and uneven surfaces.

COUPLING

IEC COUPLING MODE

The Surge Coupling Unit (SCU) included in the scope of delivery is mounted on top of the decoupling networks, with one SCU following coupling modes are possible:

IEC line to line (18 µF)
Lx - N
Lx - Lx

IEC line to ground (9 µF)
N - PE
Lx - PE

COUPLING (OPTIONAL)

ANSI COUPLING MODE (OPTIONAL)

For ANSI coupling a second (optional) Surge Coupling Unit (SCU) is required. It enables also additional IEC coupling modes, those are different multiline couplings to ground such as:

Optional IEC coupling (possible only with second SCU)
Line to ground (9 µF)
Lx + N - PE
Lx + Lx - PE
Lx + Lx + N - PE
Lx + Lx + Lx - PE
Lx + Lx + Lx + N - PE

ANSI coupling (possible only with second SCU)
Basic 1 (9 µF), L1 + L2 + L3 + N - PE
Basic 2 (18 µF), L2 - L1
Basic 3 (18 µF), L3 - L2
Basic 4 (18 µF), L1 - L3

Supplemental 1 (18 µF), N - PE
Supplemental 2 (18 µF), L1 - PE
Supplemental 3 (18 µF), L2 - PE
Supplemental 4 (18 µF), L3 - PE

Diagnostic 1 (9 µF), L1 + L2 + L3 - N
Diagnostic 2 (9 µF), L1 + L2 + L3 - PE

See also ANSI IEEE C62-45, Table 4 - Selected coupling for three-phase systems (three-phase wires and neutral with equipment grounding conductor).

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TECHNICAL DETAILS

PCD 8 S-3-690-1000-200 - COUPLING/DECOUPLING NETWORKS

8 KV MODEL, MAX. 200 A	
PCD 8 s-3-690-1000-200	8 kV coupling/decoupling network max. line current 200 A (AC and DC)
AC voltage EUT	3 * 690 V (p-p)
DC voltage EUT	1.000 V
AC/DC current EUT	32 - 200 A (IEC + ANSI)
Surge coupling	as per Fig. 5/6 of IEC 61000-4-5 Ed.3, - 18 µF capacitor via 2 ohm, - 9 µF capacitor via 12 ohm

TECHNICAL DATA

SURGE IMPULSE	
Impulse voltage	max 8.0 kV ±10 %
Coupling	Manual setting with loops
Grounding	Earth terminal
Residual voltage	‹ 3000 V @ 6000 V surge, typical ‹ 2000 V

EUT DATA (FOR GENERATORS WITH 400 V CDN)	
Lines	AC: L1, L2, L3, N, PE DC: Use L1 and N for DC-supply
Supply voltage	max. 3 * 690 V AC (p-p) max. 1.000 V DC
EUT current	IEC + ANSI: 32 - 200 A

EUT DATA (FOR GENERATORS WITH 300 V CDN)	
Lines	AC: L1, L2, L3, N, PE DC: Use L1 and N for DC-supply
Supply voltage DC	max. 1.000 V
compact NX (300 V-model)	EUT supply voltage: max. 480 V AC rms L to L max. 480 V AC rms L to N/PE
NSG 3040A /3060A	EUT supply voltage: max. 480 V AC rms L to L max. 300 V AC rms L to N/PE
EUT current	IEC + ANSI: 32 - 200 A

OUTPUT SOCKET	
Connector	Screw terminal rated for 200 A, 6 mm (max. 8 Nm)

GENERAL

PCD 8 S-3-690-1000-200, DIMENSIONS AND WEIGHT	
Input connectors	HV: 4 mm safety banana plug COM: Fischer F-105 A suitable set of connection cables is part of delivery (PCS SET 1).
Dimensions (LxWxH)	850 mm x 520 mm x 345 mm
Weight	app. 120 Kg

ENVIRONMENT	
Temperature	10 °C to 40 °C
Humidity	30 % to 70 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

INCLUDED ACCESSORIES	
PCD 8 s-3-690-1000 SCU	Surge Coupling Unit (SCU): For IEC coupling line to line and line to ground
IAK 6	Isolated Allen key for Screw terminal, 6 mm
PCS SET 1	Pulse Connection Surge Set: HV cable: 4 mm / 4 mm connector COM cable: 4 mm / Fischer F-105 connector
HV connection cables	To connect the synchronization unit with compact NX / NSG 30x0A

OPTIONS	
PCD 8 s-3-690-1000 SCU	Additional Surge Coupling Unit (SCU): Enables ANSI and optional IEC coupling (in combination with the SCU included in delivery)
PCA BPSET	Output adapter set - 6 to 4 mm (10 pcs)

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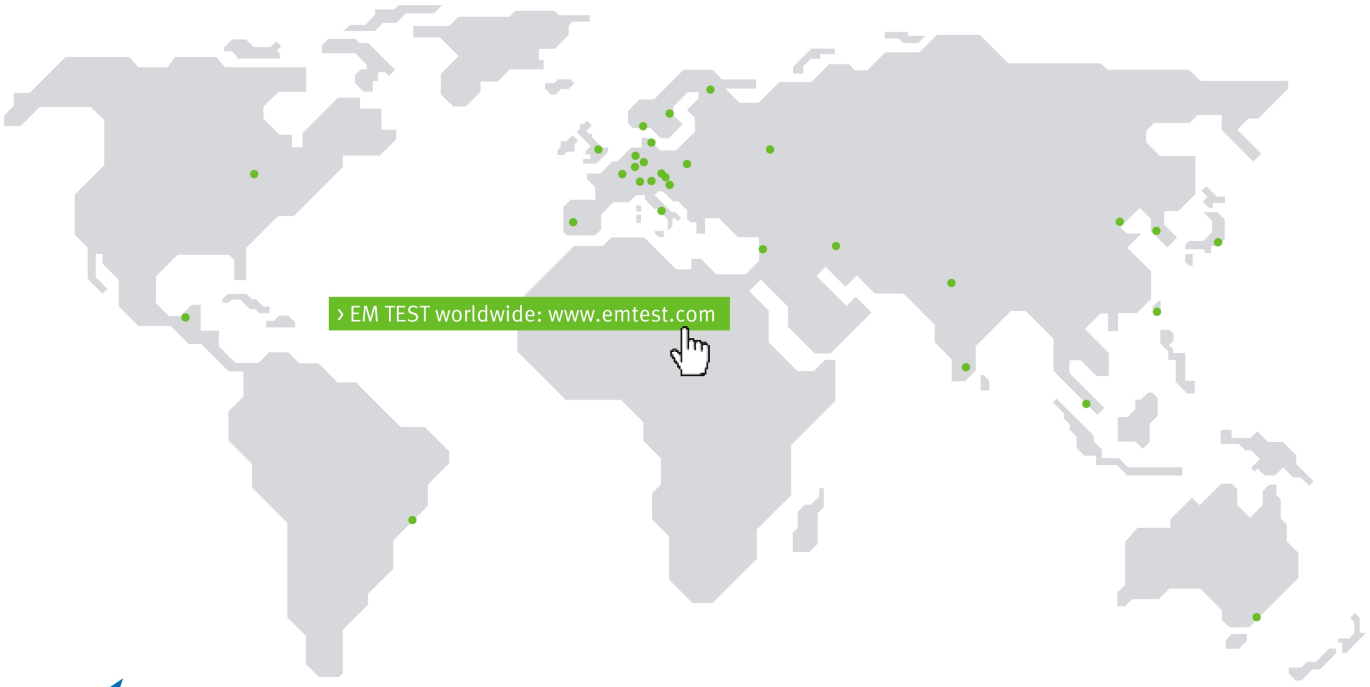
COMPETENCE WHEREVER YOU ARE



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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.