PCD 8 S-3-690-1000-100
CDN FOR SURGE TESTING ON SUPPLY LINES

FOR TESTS ACCORDING TO ...

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

HIGHLIGHTS

- Coupling/decoupling network according to IEC/EN 61000-4-5
- Line voltage 3 * 690 V AC, 1,000 V DC, max. 100 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
### TEST SETUP

**PCD 8 S-3-690-1000-100 TEST SETUP**

The AMETEK CTS PCD 8 s-3-690-1000-100 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-3-690-1000-100 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.

![PCD 8 S-3-690-1000-100 Test Setup Diagram](image)

### 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

![IEC Coupling Diagram](image)

#### 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).
**TECHNICAL DETAILS**

**PCD 8 S-3-690-1000-100 - COUPLING/DECOUPLING NETWORKS**

**8 KV MODEL, MAX. 100 A**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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<tbody>
<tr>
<td>PCD 8 s-3-690-1000-100</td>
<td>8 kV coupling/decoupling network max. line current 100 A (AC and DC)</td>
</tr>
<tr>
<td>AC voltage EUT</td>
<td>3 * 690 V (p-p)</td>
</tr>
<tr>
<td>DC voltage EUT</td>
<td>1.000 V</td>
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<tr>
<td>AC/DC current EUT</td>
<td>100 A</td>
</tr>
<tr>
<td>Surge coupling</td>
<td>as per Fig. 5/6 of IEC 61000-4-5 Ed.3,</td>
</tr>
<tr>
<td></td>
<td>- 18 µF capacitor via 2 ohm,</td>
</tr>
<tr>
<td></td>
<td>- 9 µF capacitor via 12 ohm</td>
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</table>

**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: max. 100 A (AC + DC)

**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: max. 100 A (AC + DC)

**OUTPUT SOCKET**

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

**GENERAL**

**PCD 8 S-3-690-1000-100, 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. 80 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)
COMPETENCE WHEREVER YOU ARE

CONTACT EM TEST DIRECTLY

<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
<th>Phone Numbers</th>
<th>Internet</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>AMETEK CTS GmbH &gt; Sternenhofstraße 15 &gt; 4153 Reinach &gt; Switzerland</td>
<td>+41 (0)61 204 41 11 Fax +41 (0)61 204 41 00</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:sales.conducted.cts@ametek.com">sales.conducted.cts@ametek.com</a></td>
</tr>
<tr>
<td>Germany</td>
<td>AMETEK CTS Europe GmbH &gt; Customer Care Center EMEA &gt; Lünener Straße 211</td>
<td>+49 (0) 2307 26070-0 Fax +49 (0) 2307 17050</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:info.cts.de@ametek.com">info.cts.de@ametek.com</a></td>
</tr>
<tr>
<td>Poland</td>
<td>AMETEK CTS Europe GmbH &gt; Biuro w Polsce &gt; ul. Twarda 44 &gt; 00-831 Warsaw &gt; Poland</td>
<td>+48 (0) 518 643 12</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:infopolska.cts@ametek.com">infopolska.cts@ametek.com</a></td>
</tr>
<tr>
<td>USA / Canada</td>
<td>AMETEK CTS US &gt; 52 Mayfield Ave &gt; Edison &gt; NJ 08837 &gt; USA</td>
<td>+1 732 417 0501</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:usasales.cts@ametek.com">usasales.cts@ametek.com</a></td>
</tr>
<tr>
<td>P.R. China</td>
<td>AMETEK Commercial Enterprise (Shanhai) Co. Ltd &gt; Beijing Branch</td>
<td>+86 10 8526 2111 Fax +86 (0)10 82 67 62 38</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:chinasales@ametek.com">chinasales@ametek.com</a></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>EM TEST Korea Limited &gt; #605 &gt; WooYeong Plaza &gt; #986-8 &gt; YoungDeok-dong &gt; Giheung-gu &gt; Yongin-si &gt; Gyeonggi-do &gt; Korea</td>
<td>+82 (31) 216 8616 Fax +82 (31) 216 8616</td>
<td><a href="http://www.emtest.co.kr">www.emtest.co.kr</a></td>
<td><a href="mailto:sales@emtest.co.kr">sales@emtest.co.kr</a></td>
</tr>
<tr>
<td>Singapore</td>
<td>AMETEK Singapore Pte. Ltd &gt; No. 43 Changi South Avenue 2 &gt; 04-01 Singapore 48164</td>
<td></td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
<td><a href="mailto:singaporesales.cts@ametek.com">singaporesales.cts@ametek.com</a></td>
</tr>
<tr>
<td>Great Britain</td>
<td>AMETEK GB &gt; 5 Ashville Way &gt; Molly Millars Lane &gt; Wokingham &gt; Berkshire RG41 2 PL &gt; Great Britain</td>
<td>+44 845 074 0660</td>
<td><a href="http://www.ametek-cts.com">www.ametek-cts.com</a></td>
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</tr>
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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.