Data & signal protection
OVR TN, TNQ & SL TN Series

Combined Category D, C, B tested protector (to BS EN 61643) specifically designed for telecommunications applications in accordance with Telcordia and ANSI standards (see Application Note OVR AN005). For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR TN format, or compact OVR TNQ and Slim Line OVR SL TN versions for installations where a high number of lines require protection.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 20 MHz bandwidth greatly exceeds VDSL2+ (50Mbps ~ 7MHz) maximum speeds
- Low in-line resistance minimizes reductions in signal strength
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal

- OVR TN can be flat mounted on base or side
- OVR TN and OVR TNQ have colour coded terminals for quick and easy installation check
- OVR SL TN has ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL TN includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- OVR SL TN includes optional LED status indication (add L suffix to part number - i.e. OVR SL TNL)

Application

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system’s earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement module for OVR SL TN: OVR SLTN/M Standard module replacement

Combined Mounting/Earthing kits for OVR RS485:
- OVR CME 4 For up to 4 OVR TN
- OVR CME 8 For up to 8 x OVR TN
- OVR CME 16 For up to 16 x OVR TN
- OVR CME 32 For up to 32 x OVR TN

If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

Weatherproof enclosure:
OVR WBX SLQ (OVR SLTN and OVR TNQ)

NOTE: The OVR KT Series is also available for telecommunications application using LSA-PLUS disconnection modules. Plug-in solutions are also available for RJ11 connections (see OVR TN RJ11 Series).
**OVR TN, TNQ & SL TN Series - Technical specification**

**Electrical specification**

<table>
<thead>
<tr>
<th>ABB order code</th>
<th>OVR TN</th>
<th>OVR SL TN, OVR SL TNL</th>
<th>OVR TNQ</th>
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<tr>
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<td>7TCA085400R0323, 7TCA085400R0418</td>
<td>7TCA085400R0344</td>
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</tbody>
</table>

- **Nominal voltage** (RMS/DC or AC peak) measured at < 10 μA
- **Maximum working voltage** (RMS/DC or AC peak) measured at < 5 mA
- **In-line resistance** (per line ±10%) 4.4 Ω
- **Current rating** (signal) 300 mA
- **Bandwidth** (-3 dB 50 Ω system) 20 MHz

**Transistor specification**

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**Let-through voltage** (all conductors) (3) Up

- **C2 test** 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21 395 V
- **C1 test** 1 kV, 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21 390 V
- **B2 test** 4 kV 10/700 μs to BS EN/EN/IEC 61643-21 298 V

**Maximum surge current**

- **D1 test** 10/350 μs to BS EN/EN/IEC 61643-21: – Per signal wire 2.5 kA, – Per pair 2.5 kA

**Mechanical specification**

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**Temperature range** -40 to +80 ºC

**Conductor size (stranded)** 2.5 mm² 4 mm² 2.5 mm²

**Earth connection** M6 stud Via DIN rail or 4 mm² earth terminal - max. torque 0.8 Nm

**Case Material** FR Polymer UL-94 V-0

**Weight** 0.08 kg 0.08 kg 0.1 kg

**Dimensions** See diagram below

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**ABB order codes**

<table>
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</tbody>
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(1) Nominal voltage (RMS/DC or AC peak) measured at < 10 μA
(2) Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA
(3) The maximum transient voltage let-through of the protector throughout the test (110%), line to line & line to earth, both polarities. Response time < 10 ns