

TCP-2.5-40-350

Track circuit protector

The Novaris TCP is a high energy surge protection device. It is designed specifically for the protection of railway signaling track circuits. It may also be used for any signaling application requiring high energy primary protection with line current up to 2.5A.

Failsafe design – external alarm

Surge protection is provided by a high energy three terminal gas discharge tube with a common mode rating of 40kA. The TCP incorporates an indicating fuse, monitoring the integrity of the GDT. Should this fuse trip due to an excessive surge current a red indicator will appear and a normally closed alarm contact will open providing a means for remote monitoring. This design prevents a permanent short circuit to earth. This is important in many critical applications, particularly railway signaling.

Multistage protection

Following the primary GDT is a series coordinating impedance in each signal leg. This can coordinate with secondary protection contained within the equipment to be protected or the TCP can stand alone.

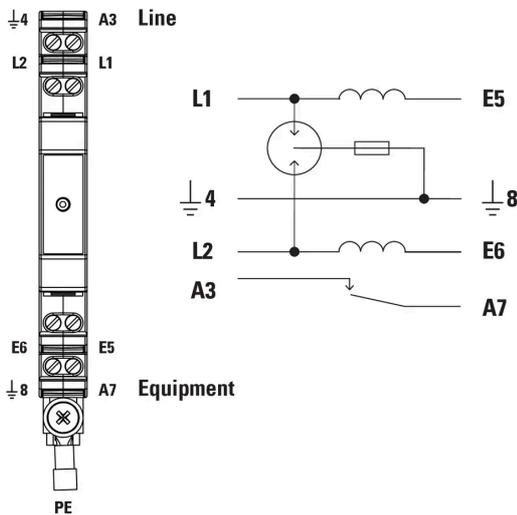
Earthing options

The TCP plugs into a DIN rail mounted base. All protection components are contained within the removable cap. As well as separate earth terminals, the metallic DIN rail clamp provides a low impedance connection to earth via the DIN rail.

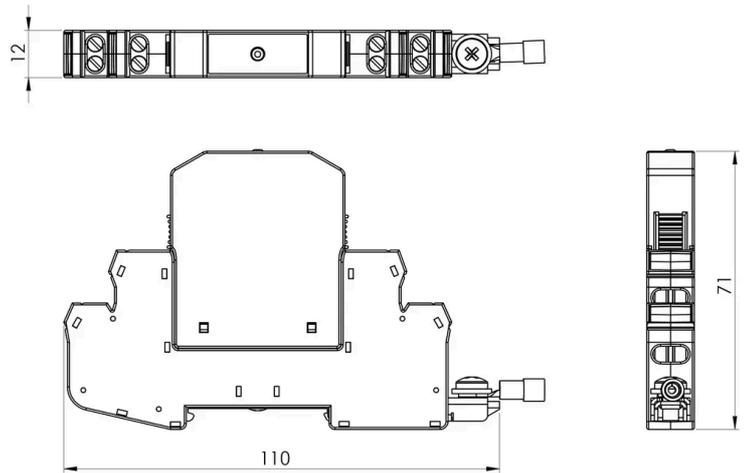


Image for illustrative purposes only

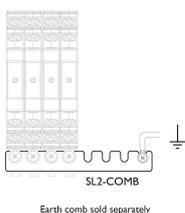
Wiring



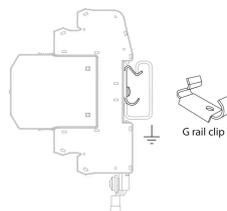
Dimensions



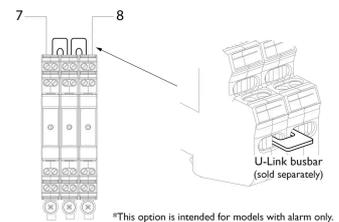
Earth Comb Option



G Rail Mounting Clip Option (-G)



Alarm Busbar Link



Product Datasheet

Electrical Specifications

Connection type		Series
Number of lines		1 pair
Modes of protection		Transverse and common
Maximum continuous voltage (DC)	U_c	320V
Maximum continuous voltage (AC)	U_c	250V
Maximum discharge current (8/20 μ s)	I_{max}	20kA
Maximum common mode discharge current (8/20 μ s)		40kA
Maximum discharge current (10/350 μ s)	I_{imp}	2.5kA
Maximum common mode discharge current (10/350 μ s)	I_{imp}	5kA
Impulse durability C2 10x8/20 μ s		10kA
Impulse durability D1 2x10/350 μ s		5kA
Maximum load current	I_L	2.5A
AC durability 5x1s		1A rms
Overstressed fault mode		Mode 3
Response time	t_A	<100ns
Line resistance		0.3 Ω
Line inductance		20 μ H
Insertion loss @ 150 Ω		<0.5dB @ 100MHz
3 dB Frequency @ 150 Ω		100MHz
Earthing		Direct

Electrical (L-L) Specifications

Voltage protection level @ 1 kV/ μ s	U_p	1010V
Capacitance	- -	<2pF

Electrical (L-PE) Specifications

Voltage protection level @ 1 kV/ μ s	U_p	690V
Capacitance	- -	<2pF

Indication Specifications

Alarm		Impulse overload current
Alarm isolation		100V

Mechanical Specifications

Minimum operating temperature		-40°C
Maximum operating temperature		70°C
Minimum operating humidity		5%
Maximum operating humidity		95%
Mounting method		TS35 DIN Rail
Environmental rating		IP20
Enclosure material		Polycarbonate
Terminal type		Screw cage
Terminal capacity		2.5mm ²
Terminal screw torque		0.6Nm
Length		110mm
Width		12mm
Height		71mm

Standard Specifications

IEC 61643-21	SPD connected to telecommunications and signalling networks - Cat C2, D1
AS 1768	Lightning protection
UL 497A, B	Protectors for telecommunications, data and fire alarm circuits
AS/NZS 4117	Surge Protective Devices for Telecommunications Applications

Shipping Specifications

Weight		50g
Customs tariff		85363000

Other Specifications

Product Code		TCP-2.5-40-350
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