

## TCP-2.5-40-230

**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**

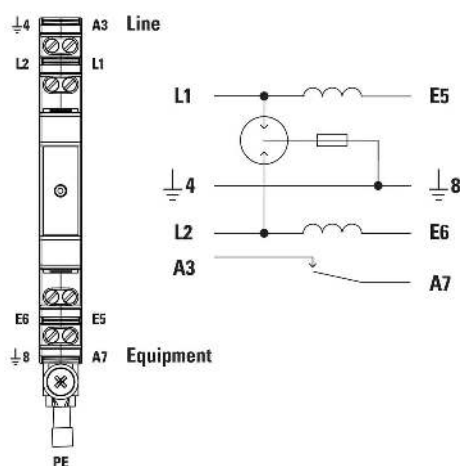
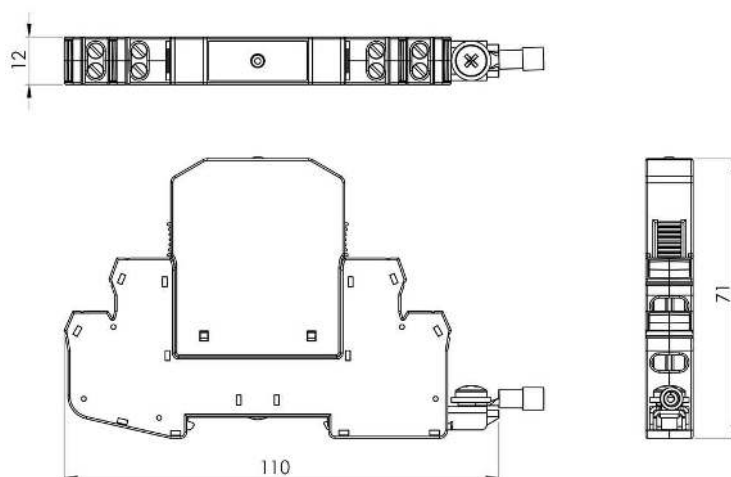
Surge protection is provided by a high energy three terminal gas discharge tube with a common mode rating of 40kA. The TCP incorporates an indicating fuse, monitoring the integrity of the GDT. Should this fuse trip due to an excessive surge current a red indicator will appear and a normally closed alarm 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.

**Wiring****Dimensions****Standards**

IEC 61643-21  
AS/NZS 1768  
UL497, A, B  
AS/NZS 4117

SPD connected to telecommunications and signalling networks - Cat C2, D1  
Lightning Protection  
Protectors for telecommunications, data and fire alarm circuits  
Surge Protective Devices for Telecommunications Applications

# Product Datasheet

## Electrical Specifications

Connection type		Series
Number of lines		1 pair
Modes of protection		Transverse and common
Maximum continuous voltage (DC)	$U_c$	200V
Maximum continuous voltage (AC)	$U_c$	140V
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$	20kA
Maximum common mode discharge current (8/20 $\mu$ s)		40kA
Maximum discharge current (10/350 $\mu$ s)		2.5kA
Maximum common mode discharge current (10/350 $\mu$ s)	$I_{imp}$	5kA
Impulse durability C2 10x8/20 $\mu$ s		10kA
Impulse durability D1 2x10/350 $\mu$ s		5kA
Maximum load current	$I_L$	2.5A
AC durability 5x1s		5Arms
Overstressed fault mode		Mode 3
Response time	$t_A$	<100ns
Line resistance		0.3 $\Omega$
Line inductance		20 $\mu$ H
Insertion loss @ 150 $\Omega$		<0.5dB @ <1kHz
3 dB Frequency @ 150 $\Omega$		100MHz

## Electrical (L-L) Specifications

Voltage protection level @ 1 kV/ $\mu$ s with 50 $\Omega$ load	$U_p$	<450V
Capacitance	$\pm$	<1.5pF

## Electrical (L-PE) Specifications

Capacitance	$\pm$	<1.5pF
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## 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 <sup>2</sup>
Terminal screw torque		0.6Nm
Earthing		Direct
Length		110mm
Width		12mm
Height		71mm

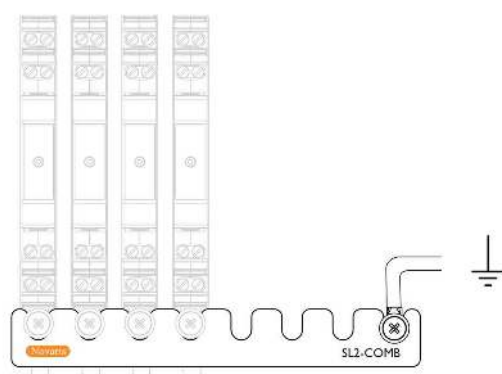
## Other Specifications

Product Code		TCP-2.5-40-230
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## Shipping Specifications

Weight		50g
Customs tariff		85363000

## Earth Comb Option



Earth comb sold separately

## G Rail Mounting Clip Option (-G)

