

Technical Information Sheet

SL2-485-EC90 - High Energy Signal Line Protection



The Novaris SL2 range provides 20kA high energy surge protection for balanced pair signaling circuits used in a wide range of industrial monitoring and control equipment with line current up to 250mA. Applications include SCADA, PLC, fire and security systems, telecommunications and railway signaling. The SL2 is ideal in areas of high lightning activity.

Failsafe design – external alarm

Primary protection is provided by a three terminal gas discharge tube. The SL2 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.

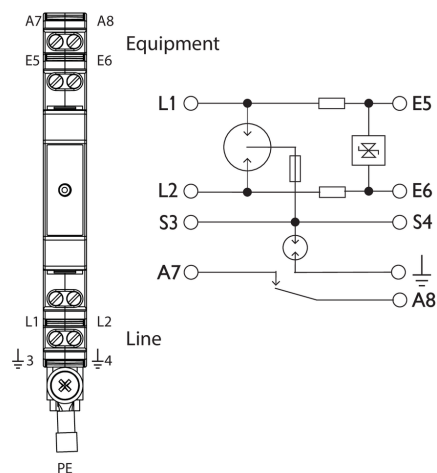
Multistage protection

Following the primary GDT is a series coordinating impedance in each signal leg. This is followed a high-speed clamping diode circuit providing an accurate and safe voltage protection level for the equipment to be protected.

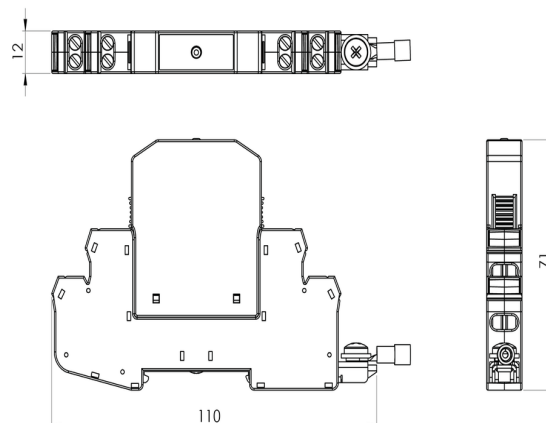
Earthing options

All SL2 options utilize the same SL2DIN base. All protection components are contained within the removable cap. There are two options: the normal option provides a direct earth connection; the -EC90 option provides a GDT from cable screen to earth. The plug-in design provides simple and rapid replacement and testing.

Wiring



Dimensions



Standards

IEC 61643-21
AS/NZS 1768
UL497, A, B
AS/NZS4117
AS7708







SPD connected to telecommunications and signaling networks – Cat C2, D1
Lightning Protection
Protectors for telecommunications, data and fire alarm circuits
Surge protective devices for telecommunications applications
Signals earthing and surge protection

Novaris

Technical Information Sheet

Specifications

Electrical Specifications

Connection type		Series
Number of lines		1 pair
Modes of protection		Transverse & Common
Maximum continuous voltage (DC)	U_c	8V
Maximum continuous voltage (AC)	U_c	6V
Maximum discharge current (8/20 μ s)	I_{max}	10kA
Maximum common mode discharge current (8/20 μ s)	I_{max}	20kA
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	250mA
AC durability 5x1s		1Arms
Overstressed fault mode		Mode 3
Response time	t_A	<5ns
Line resistance		3.9 Ω
Line inductance		-
Insertion loss @ 150 Ω		<0.5dB
3 dB Frequency @ 150 Ω		60MHz



Electrical (L-L) Specifications

Voltage protection level @ 1 kV/ μ s	U_p	35V
Voltage protection level @ 3 kA 8/20 μ s	U_p	35V
Voltage protection level @ 100 V/ s		15V
Capacitance	$-t$	32pF














Electrical (L-PE) Specifications

Voltage protection level @ 1 kV/ μ s	U_p	350V
Voltage protection level @ 3 kA 8/20 μ s	U_p	600V
Voltage protection level @ 100 V/ s		230V
Capacitance	$-t$	12pF

Indication Specifications

Alarm		Impulse overload current and thermal
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
Enclosure finish		-
Terminal type		Screw cage
Terminal capacity		2.5mm ²
Terminal screw torque		0.5Nm
Terminal labels		Klemsan 505850 DB 5
Earthing		90V isolation
Length		110mm
Width		12mm
Height		71mm

Other Specifications

Product Code		SL2-485-EC90
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Shipping Specifications

Weight		55g
Customs tariff		85363000