

## SL - Slimline Signal Line Protectors



### Process Control Protection

Novaris SL range provides surge protection for most twisted pair signalling schemes. Ideal for the protection of PLCs, fire and security systems, telecommunications and telemetry systems, railway signalling, SCADA and other industrial monitoring and control equipment.

### Multistage failsafe design

A high energy gas discharge tube (GDT) as primary protection plus series impedance and secondary components provide very robust surge protection with high transient suppression offering low let-through voltages.

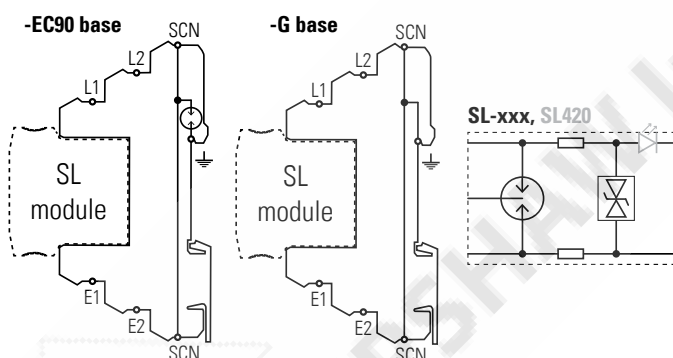
### Two different earthing options

With two different base options the SL protectors offer either direct earthing via DIN rail, for the most effective, low impedance earth connection (-G base) or a connection via GDT to the DIN rail, offering isolation under normal conditions and equipotential bonding during a surge (-EC90 base).

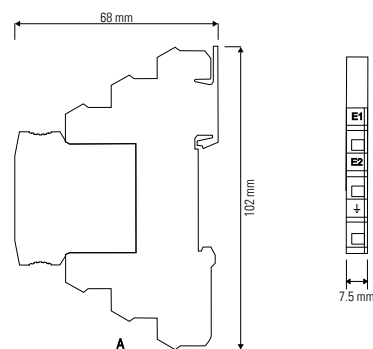
### Slimline pluggable modules

The plug-in design provides simple and rapid replacement and testing - no rewiring needed. This also provides a convenient method of field equipment isolation if required.

### Diagram / Installation



### Dimensions



### Ordering Information

Model	Signal Type		Base Option		Hazardous Area Product
			direct earthing	indirect earthing	
SL7v5, SL18, SL36, SL68	5 V, 12 V, 24 V, 48 V digital / analogue		-G	-EC90	IS- SL7v5, IS- SL18, IS- SL36
SL-36	RS232	Data Highway	-G	-EC90	IS- SL-DH
SL485	RS 485	RS422	-	-EC90	IS- SL485
SL-RTD	RTD Applications	Thermocouple	-G	-EC90	IS- SL-RTD
SL420 <sup>1)</sup>	0 - 20 mA	4 - 20 mA	-G	-EC90	IS- SL420i
SL-PSTN	PABX	PSTN	-G	-EC90	IS- SL-PSTN

<sup>1)</sup> LED indicates status of instrument loop

## Product Specifications

Model		SL7v5	SL18	SL36	SL68	SL-PSTN	SL-485	SL-RTD	SL-420
<b>Electrical Specifications</b>									
Connection Type		Series	Series	Series	Series	Series	Series	Series	Series
Number of lines		1 pair	1 pair	1 pair	1 pair	1 pair	1 pair	1 pair	1 pair
Modes of protection		Transverse and common mode							
Maximum continuous voltage (DC)	$U_c$	7 V	16 V	34 V	65 V	180 V	8 V	3 V	34 V
Maximum continuous voltage (AC)	$U_c$	5 V	11 V	24 V	46 V	130 V	6 V	2 V	–
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$	5 kA per line (10 kA common mode)							
Maximum discharge current (10/350 $\mu$ s)	$I_{imp}$	1.25 kA per line (2.5 kA common mode)							
Impulse durability		C2 10 x 5 kA 8/20 $\mu$ s D1 2 x 2.5 kA 10/350 $\mu$ s							
Maximum load current	$I_L$	250 mA	250 mA	250 mA	250 mA	250 mA	250 mA	250 mA	30 mA
L-L Voltage protection level @ 1 kV/ $\mu$ s	$U_p$	15 V	30 V	45 V	80 V	220 V	35 V	15 V	40 V
L-L Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$	15 V	30 V	45 V	80 V	220 V	35 V	15 V	40 V
L-L Voltage protection level @ 100 V/ s		9 V	20 V	38 V	72 V	210 V	15 V	4 V	36 V
L-PE Voltage protection level @ 1 kV/ $\mu$ s	$U_p$	350 V	350 V	350 V	350 V	350 V	350 V	350 V	350 V
L-PE Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V
L-PE Voltage protection level @ 100 V/ s		230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
AC durability		5 x 1 s, 1 Arms							
Overstressed fault mode		Mode 3 (open circuit)							
Response time	$t_A$	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns
Line resistance		8.2 $\Omega$	8.2 $\Omega$	8.2 $\Omega$	8.2 $\Omega$	8.2 $\Omega$	3.9 $\Omega$	3.9 $\Omega$	8.2 $\Omega$
Line inductance		–	–	–	–	–	–	–	–
L-L capacitance		18 pF	18 pF	18 pF	18 pF	18 pF	18 pF	18 pF	18 pF
L-PE capacitance		4.5 pF	4.5 pF	4.5 pF	4.5 pF	4.5 pF	4.5 pF	4.5 pF	4.5 pF
Insertion loss @ 150 $\Omega$		< 0.5 dB (< 1 MHz)							
3 dB Frequency @ 150 $\Omega$	$f_c$	60 MHz	60 MHz	60 MHz	60 MHz	60 MHz	70 MHz	70 MHz	60 MHz
<b>Mechanical Specifications</b>									
Operating temperature		-55 to +70 $^{\circ}$ C							
Humidity Range		5 to 95% non-condensing							
Connection type / capacity		0.25 – 2.5 mm <sup>2</sup> Screw Cage Terminal							
Terminal screw torque		0.5 Nm							
Environmental		IP20 / indoor							
Dimensional Drawing		A							
Mounting		TS35 DIN rail							
Earthing		- Direct earth connection via DIN rail and screw terminals with -G base option - 90 V isolation between DIN rail earth and shield with -EC90 base option							
Enclosure / Colour		Polycarbonate / black							
<b>Standards</b>									
IEC 61643-21:2012		SPD connected to telecommunications and signalling networks - Cat C2, D1							
AS/NZS 1768:2007		Signalling/Telecommunications surge protection							
UL 1499 3 <sup>rd</sup> edition & UL 497B		Protectors for data communications and fire-alarm circuits							
ITU-T K.44: 2012		Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents							
AS/CA S008:2010		Requirements for Customer Cabling Products							
AS/NZS 4117:1999		Surge Protective Devices for Telecommunications Applications							
<b>Shipping</b>									
Weight		35 g	35 g	35 g	35 g	35 g	35 g	35 g	35 g
Customs Tariff		85363000	85363000	85363000	85363000	85363000	85363000	85363000	85363000

