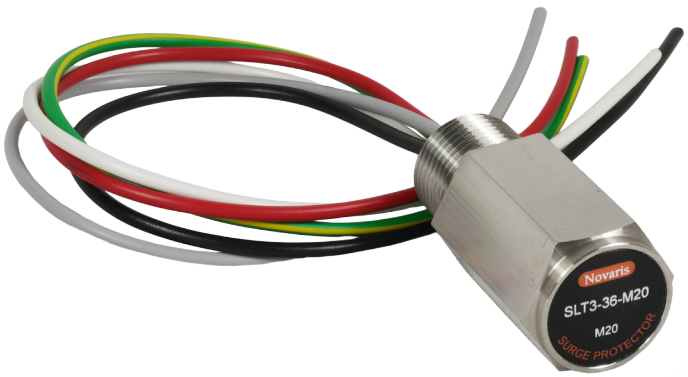
# SLT - Threaded Signal Line Protectors




## Field Instrument Surge Protectors

Novaris threaded instrument protectors provide surge protection for most twisted pair signalling schemes and are designed to be installed directly at the field equipment providing protection against induced surges and transients.

### M20 and 1/2" NPT threads

The threaded enclosure provides an easy installation by directly screwing into a free cable entry on the instrument. Common thread types such as M20 x 1.5 and ½" NPT threads are accommodated for. Other threads are available by request.

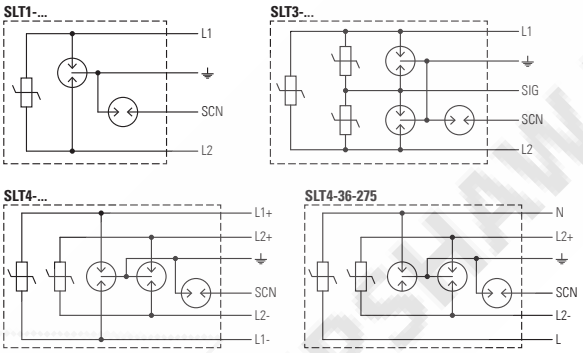
### Multistage design

The multistage design provides a high energy gas discharge tube (GDT) as primary protection for common mode disturbances, commonly associated with lightning strikes and power system earth faults and a secondary metal-oxide varistor clamping stage across the signal lines. This combination provides very robust surge protection with high transient suppression and low let-through voltages. In addition protection is provided for cable screens which may be open circuit at the instrument.

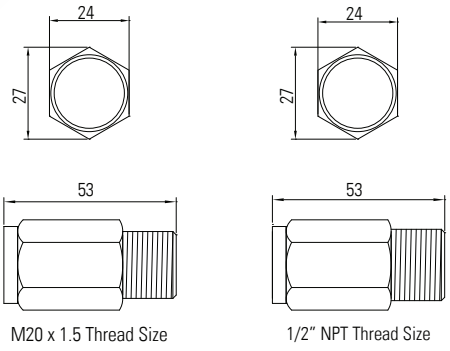
### SLT-Y Adapter

Where a field instrument has no free cable entry Novaris can supply a Y-piece adapter to accommodate the threaded instrument protector and cable gland. The SLT-Y is available in the same thread types as the SLT protectors.

## Diagram / Installation




## Dimensions




## Ordering Information

| Model | Signal Type | | Thread Size | | Hazardous Area Product |
|---|---|---|---|---|---|
| | | | M20 x 1.5 | 1/2 " NPT | |
| SLTx-7v5 | 0 - 5 VDC analogue | 5 V digital | -M20 | -N12 | IS-SLTx-7v5 |
| SLTx-18 | 0 - 12 VDC analogue | 12 V digital | -M20 | -N12 | IS-SLTx-18 |
| SLTx-36 | 0 - 24 VDC analogue | 4-20 mA | -M20 | -N12 | IS-SLTx-36 |
| SLTx-68 | 0 - 48 VDC analogue | 48 V digital | -M20 | -N12 | – |
| SLT4-RTD | RTD applications | Thermocouple | -M20 | -N12 | IS-SLT4-RTD |
| SLT4-36-275 | 4-20 mA & Power supply | | -M20 | on request | – |

## Product Specifications

| Model | | SLTx-7v5 | SLTx-18 | SLTx-36 | SLTx-68 | SLT4-RTD | SLT4-36-275 |
|---|---|---|---|---|---|---|---|
| **Electrical Specifications** | | | | | | | |
| Connection Type | | Shunt | Shunt | Shunt | Shunt | Shunt | Shunt |
| Number of lines | | x = 1 → 1 pair<br>x = 3 → 3 lines<br>x = 4 → 4 lines | | | | 4 lines | 1 pair Signal (S)<br>1 L & N Power (P) |
| Modes of protection | | Transverse and common mode | | | | | |
| Maximum continuous voltage (DC) | $U_c$ | 7 V | 18 V | 36 V | 65 V | 8 V | 36 V (S) / 350 V (P) |
| Maximum continuous voltage (AC) | $U_c$ | 5 V | 14 V | 30 V | 50 V | 6 V | 30 V (S) / 275 V (P) |
| Maximum discharge current (8/20 µs) | $I_{max}$ | 5 kA per line (10 kA common mode) | | | | | |
| Maximum discharge current (10/350 µs) | $I_{imp}$ | 1.25 kA per line (2.5 kA common mode) | | | | | |
| Impulse durability | | C2 10 x 2.0 kA 8/20 µs<br>D1 2 x 0.5 kA 10/350 µs | | | | | C2 10 x 0.5 kA 8/20 µs |
| Maximum load current | $I_L$ | – | | | | | |
| L-L Voltage protection level @ 1 kV/ µs | $U_p$ | 45 V | 50 V | 75 V | 100 V | 45 V | 75 V (S) / – (P) |
| L-L Voltage protection level @ 1 kA 8/20 µs | $U_p$ | 70 V | 75 V | 110 V | 160 V | 70 V | – (S) / – (P) |
| L-L Voltage protection level @ 100 V/ s | | 25 V | 30 V | 60 V | 80 V | 25 V | 55 V (S) / – (P) |
| L-PE Voltage protection level @ 1 kV/ µs | $U_p$ | 350 V | 350 V | 350 V | 350 V | 350 V | 350 V (S) / 900 V (P) |
| L-PE Voltage protection level @ 2 kA 8/20 µs | $U_p$ | 530 V | 530 V | 530 V | 530 V | 530 V | – (S) / – (P) |
| L-PE Voltage protection level @ 100 V/ s | | 230 V | 230 V | 230 V | 230 V | 230 V | 230 V (S) / 600 V (P) |
| AC durability | | 1 A rms, 5 x 1 s | 1 A rms, 5 x 1 s | 1 A rms, 5 x 1 s | 1 A rms, 5 x 1 s | 1 A rms, 5 x 1 s | 1 A rms, 5 x 1 s |
| Overstressed fault mode | | Mode 1 (SLT disconnected, line still operable) | | | | | |
| Response time | $t_A$ | < 5 ns | | | | | |
| Line resistance | | – | | | | | |
| Line inductance | | – | | | | | |
| L-L capacitance | | 20 nF | 10 nF | 7 nF | 1 nF | 20 nF | 7 nF (S) / 60 pF (P) |
| L-PE capacitance | | < 1 pF | | | | | |
| Insertion loss @ 150 Ω | | – | | | | | |
| 3 dB Frequency @ 150 Ω | $f_c$ | 100 kHz | | | | | |
| **Mechanical Specifications** | | | | | | | |
| Operating temperature | | -40 to +85 °C | | | | | |
| Humidity Range | | 5 to 95% | | | | | |
| Connection type / capacity | | 250 mm, 0.75 mm² flying leads | | | | | |
| Terminal screw torque | | – | | | | | |
| Environmental | | IP 67 installed | | | | | |
| Dimensional Drawing | | Given by thread size | | | | | |
| Mounting | | Thread options M20 x 1.5 or 1/2 " NTP | | | | | |
| Earthing | | via lead; 90 V isolation between earth and shield | | | | | |
| Enclosure / Colour | | Stainless steel | | | | | |
| **Standards** | | | | | | | |
| IEC 61643-21:2012 | | SPD connected to telecommunications and signalling networks - Cat C2, D1 | | | | | |
| AS/NZS 1768:2007 | | Signalling/Telecommunications surge protection | | | | | |
| UL 1449 3rd 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 | | | | | |
| **Shipping** | | | | | | | |
| Weight | | 165 g | 165 g | 165 g | 165 g | 165 g | 165 g |
| Customs Tariff | | 85363000 | 85363000 | 85363000 | 85363000 | 85363000 | 85363000 |

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