# Viatran LSP

## Surge & Lightning Protector


Viatran's Model LSP Lightning Surge Protector is fast, rugged and capable of protecting equipment against rapid rising voltage transients as well as the severe current surges associated with lightning discharges.

The Model LSP is designed to protect sensitive electronic circuits and components from damaging surge voltages and currents. It's extremely fast response and low clamping voltages make the LSP particularly suitable for the protection of signal lines and industrial controls.

**P/N: 005871.001**

### Features:

- **Low cost insurance/protection**
- **Saves costly system disruptions or replacements**
- **Automatically restores normal operation**
- **No breaker to reset**
- **No fuse to replace**
- **20,000 amp capable**
- **Easy installation**
- **Sub-nanosecond response**

Note: Although no protective device can defend against direct lightning strikes, the Model LSP will provide an exceptionally high level of protection.

### Interface Operating Characteristics

- **Peak Signal Voltage**
  - **L/L (V) 28**
  - **L/G (V) 28**
- **Max Data Rate (MHz) 4**

### Protective Characteristics

- **Peak Clamping Voltages**
  - **@ 5 kA, 8 x 20 µs rate of rise**
    - **L/L (V) 55**
    - **L/G (V) 55**
  - **@ 1 kA, 8 x 20 µs rate of rise**
    - **L/L (V) 45**
    - **L/G (V) 45**
- **Max. DC Current (mAmps) 150**
- **Typical Capacitance**
  - **L/L (pF) 1800**
  - **L/G (pF) 1800**
- **Series Resistance**
  - **Each line (input to output) (Ohms) 22**

199 Fire Tower Drive
Tonawanda, New York USA 14150
**Phone:** 1.716.629.3800
**Fax:** 1.716.693.9162
**Toll Free:** **1.800.688.0030**
**Email:** solutions@viatran.com
**Website:** www.viatran.com

Viatran
PRESSURE & LEVEL SENSORS

# Viatran LSP Lightning Surge Protector P/N 005871.001

Viatran's Lightning Surge Protector (LSP) is designed to shield equipment connected to transmitter signal lines from transient electrical surges which may cause system damage or disruption.

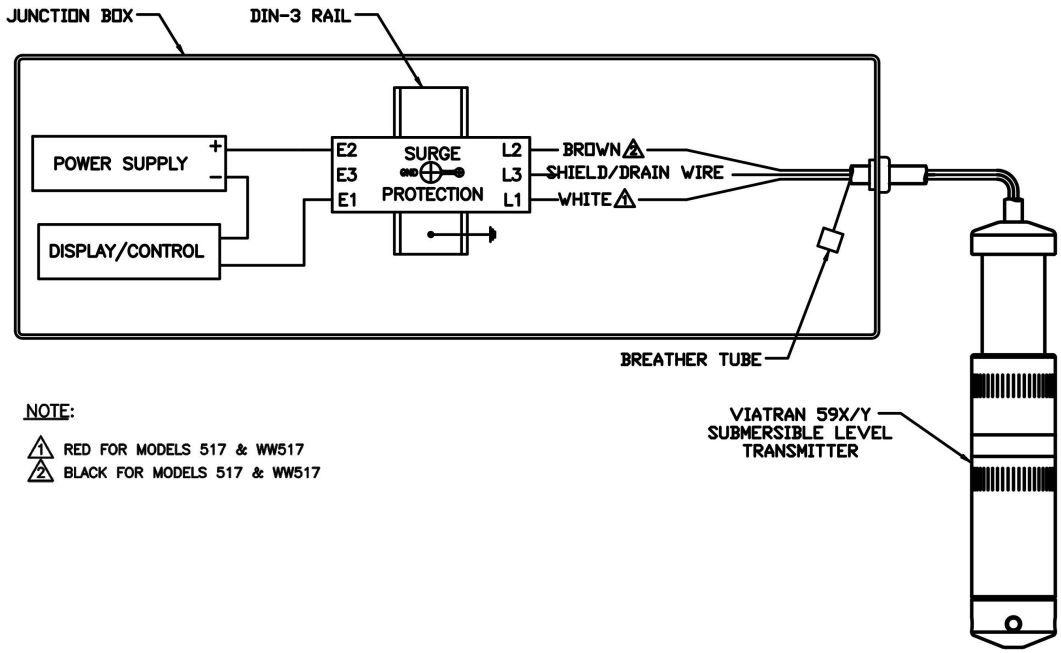
The LSP has both line-to-line and line-to-ground protection elements and is designed protect field-mounted 4-20 mA transmitters with current loops. The LSP should be placed as close as possible to each piece of equipment to be protected.

The LSP provides heavy-duty multi-stage defense. First a solid state sector intercepts the leading edge of the surge with sub-nanosecond response time. Then within microseconds a three-electrode common-chamber gas discharge tube capable of handling 20,000 amps of lightning current initiates and crowbars the surge to ground. The LSP remains in the crowbar state until the current rush has passed and line voltages return to safe levels. The LSP automatically restores the line to normal operation and awaits the next surge without the need for resetting a breaker or replacing a fuse.

The LSP allows for DIN-3 rail mounting and is designed to protect a wide array of twisted pair data and signal interfaces. The LSP has vibration-resistant screw terminals and a flame-resistant epoxy filled housing. The cable shield passes through the protector and may be either grounded or floated by a two-position ground link on top of the protector.

Proper grounding is vital for effective operation of the LSP. The LSP's ground must be common with the equipment ground while providing a low resistance path to earth ground. The LSP should be mounted directly to an earth-grounded bus by way of its DIN-3 rail mounting bracket. For the best protection, use a #6 AWG or larger copper wire to ground the bus. The ground wire run should be as short and straight as possible. Single point grounding will provide the best protection and will permit the LSP to be located further from the equipment.

## Wiring Diagram




**Your Local Representative is:**

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199 Fire Tower Drive | Tonawanda, New York USA 14150
**Phone:** 1.716.629.3800 | **Fax:** 1.716.693.9162 | **Toll Free:**1.800.688.0030
**Email:** solutions@viatran.com | **Website:** www.viatran.com