

Data Line Fitting SPD for Current Loops
RayDat PLP 24
 C1 • C2 • C3



IEC/EN Category: C1/C2/C3
 Mode of Protection: Longitudinal, Transverse
 Coarse Protection: 3 Terminal GDT
 Voltages: 24VDC
 Maximum Operating Voltage: 28VDC
 Frequency Range: 3.0MHz
 Surge Discharge Ratings: I_n : 10kA, I_{max} : 20kA
 Serial Resistance per Path: 5Ω per line
 Series Load Current: 145mA
 Enclosure: 3/4" Stainless Steel Fitting Conduit
 Terminals: Stranded to 2.5 mm²
 Housing: In-line 3/4" Conduit Fitting
 Compliance: IEC/EN 61643-21

The RayDat PLP 24 surge protective device is intended for the protection of data circuits such as 4-20mA current loops, in industrial environments.

The 3/4 inch pipe fitting makes this device ideal for applications such as the protection of field mount sensors, transducers and RTUs. The unit can be configured in-line with the cable conduit and sensor terminals, or in a "T" configuration.

The circuit consists of a multi-stage protector providing both common (longitudinal) mode and differential (transverse) mode protection.

Coarse protection is provided by a three terminal gas discharge tube, while fine protection is provided using a high speed silicon avalanche diode or metal oxide varistor stage. Care is taken to ensure coordination between these two stages without voltage or surge current blind spots occurring.

Thermal protection is provided to reduce the hazards of thermal runaway should there be an inadvertent mains incursion fault.

Technical Data

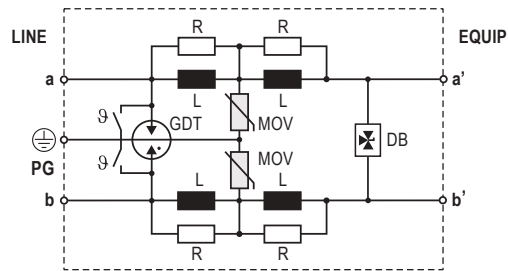
PLP 24		PLP 24V
Electrical		
Number of Protected Pairs		1 (2 conductors)
Nominal Operating Voltage (DC)	U_n	24V
Maximum Continuous Operating Voltage (DC)	U_c	28V
Rated Load Current at 25°C	I_L	145mA
C2 Nominal Discharge Current (8/20µs)	I_n	10kA
Maximum Discharge Current (8/20µs)	I_{max}	20kA
Residual Voltage at 5kA (8/20µs)	(Line-Line) U_{res}	<59V
Rated Spark Overvoltage	(Line-Ground)	90-110V
	(Line-Line)	36-44V
Response Time Overvoltage Protection	t_A	< 1 ns
Insulation Resistance of the Protection	R_{iso}	≥28MΩ
Serial Resistance per Path	R	<5.0Ω
Transverse Capacitance	C	<3nF
Cut-off Frequency	f_G	3MHz
Mechanical		
Temperature Range		-40 °C to +80 °C
Terminal Cross Section Multi-strand		2.5mm ²
Degree of Protection IEC/EN 60529		IP55
Housing Material		Stainless Steel
Mounting IEC/EN 60715		On pipe 3/4 inch
Order Information		
Order Code		
PLP 24		127 700

RayDat PLP 24

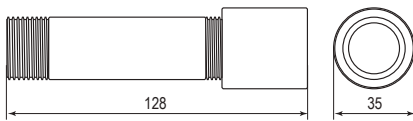
Internal Configuration

Legend

- DB Diode Block
- GDT Gas Discharge Tube
- L Inductor
- MOV Metal Oxide Varistor
- PG Protective Grounding
- R Resistor



Dimensions & Packaging



PLP 24

Dimensions

Weight per Unit	324 g
Packaging Dimensions (Single Unit)	144 × 100 × 80 mm
Minimum Package Quantity	8 pieces