

# Data Line Fitting SPD for Current Loops

## RayDat PLP 24 C1 • C2 • C3

PLP-24V



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:  $< 5 \Omega$  per line  
 Series Load Current: 145mA  
 Enclosure: 3/4" Stainless Steel Fitting Conduit  
 Terminals: Stranded to 2.5 mm<sup>2</sup>  
 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

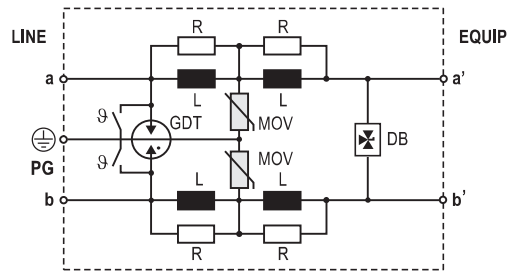
PLP 24		PLP 24V
<b>Electrical</b>		
Number of Protected Pairs		1 (2 conductors)
Nominal Operating Voltage (DC)	$U_n$	24V
Maximum Continuous Operating Voltage (DC)	$U_c$	28V
Rated Load Current at 25°C	$I_L$	145mA
C2 Nominal Discharge Current (8/20µs)	$I_n$	10kA
Maximum Discharge Current (8/20µs)	$I_{max}$	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	$R_{iso}$	$\geq 28 M\Omega$
Serial Resistance per Path	$R$	$< 5.0 \Omega$
Transverse Capacitance	$C$	$< 3 nF$
Cut-off Frequency	$f_G$	3MHz
<b>Mechanical</b>		
Temperature Range		-40 °C to +80 °C
Terminal Cross Section Multi-strand		2.5mm <sup>2</sup>
Degree of Protection IEC/EN 60529		IP 55
Housing Material		Stainless Steel
Mounting IEC/EN 60715		On pipe 3/4 inch
<b>Order Information</b>		
Order Code		
PLP 24		127 700

## RayDat PLP 24

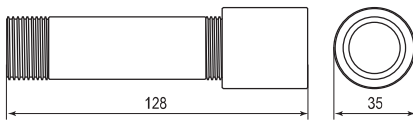
### Internal Configuration

#### 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