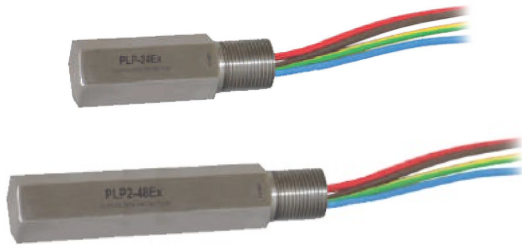


SPD for Explosive Environments

RayDat PLP Ex Series

D1 • C1 • C2 • C3



IEC/EN Category: D1/C1/C2/C3
 Mode of Protection: Longitudinal, Transverse
 Coarse Protection: 3 Terminal GDT
 Voltages: 24, 48, 24/5V DC
 Maximum Operating
 Voltage: U_c : 33, 54, 33/7.5VDC
 Frequency Range: 30MHz
 Surge Discharge Ratings: I_n : 10kA, I_{max} : 20kA, I_{imp} : 2.0kA
 Enclosure: Stainless Steel IP67
 Terminals: Connecting Cables 1mm²,
 250mm length
 Housing: In-line 1/2" Conduit Fitting
 Compliance: IEC/EN 61643-21



The RayDat PLP Ex Series is intended to provide protection to low voltage signal and data circuits located in potentially explosive environments.

It is intended for use on inherently safe circuits in accordance with ATEX directive. The protection module should be located as close to the end-user equipment being protected as possible.

The circuit consists of a multi-stage protector providing both

common (longitudinal) mode and differential (transverse) mode protection.

Coarse protection is provided using a three terminal gas discharge tube while fine protection is provided using a high speed bi-directional silicon stage. Care is taken to ensure coordination between these two stages without voltage or surge current blind spots occurring.

Technical Data

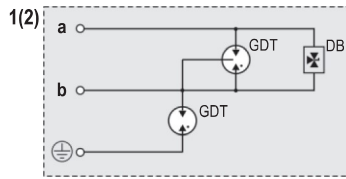
PLPEx		PLP-24Ex	PLP2-24Ex	PLP2-48Ex	PLP 24/5Ex	PLP3L-24Ex
Type						
Intrinsic Safety Parameters						
IEC Type Examination Certificate	Baseefa	Baseefa 14ATEX0364X Ex II 1GD Ex ia IIC T6 Ga (-30 °C ≤ Ta ≤ 50 °C)				
	IEC	IECEx BAS 15.0012X Ex ia IIIC T85 °C Da (-30 °C ≤ Ta ≤ 50 °C)				
Maximum Input Voltage	U_i	50V				
Maximum Input Current	I_i	800mA				
Maximum Input Power	P_i	2W				
Maximum Internal Inductance	L_i	60μH				
Electrical						
Nominal Operating Voltage (DC)	U_n	24V	24V	48V	24V/5V	24V
Maximum Continuous Operating Voltage (DC)	U_c	33V	33V	54V	33V/7.5V	33V
Rated Spark Overvoltage	(Line-Ground)	584-864V	584-864V	584-864V	584-864V	584-864V
	(Line-Line)	36-44V	36-44V	58-68V	36-44V, 9-13V	36-44V
Total Nominal Discharge Current (8/20μs)	I_n	5kA	10kA	10kA	10kA	7.5kA
Total Discharge Current (8/20μs)	I_{max}	10kA	20kA	20kA	20kA	15kA
Total Impulse Current (10/350μs)	I_{imp}	1.0kA	2.0kA	2.0kA	2.0kA	1.5kA
Residual Voltage at I_{max} (8/20μs)	(Line-Line) U_{res}	< 1.3kV	< 1.3kV	< 1.3kV	< 1.3kV	< 1.3kV
Response Time Overvoltage Protection	t_A	< 1 ns				
Insulation Resistance of the Protection (Line-Line)	R_{iso}	> 32MΩ	> 32MΩ	> 32MΩ	> 32MΩ/75kΩ	> 32MΩ
Insulation Resistance at U(Line-Ground) = 500VDC	R	> 1GΩ				
Transverse Capacitance	C	< 30pF				
Cut-off Frequency	f_G	30MHz				
Mechanical						
Ambient Temperature Range		-30 °C < Ta < 60 °C				
Connection Cables	D × L	1 mm ² × 250mm				
Degree of Protection IEC/EN 60529		IP 67				
Housing Material		Stainless Steel				
Dimension	Length	78mm	120mm	120mm	120mm	120mm
Order Information						
Order Code		PLP-24Ex	PLP2-24Ex	PLP2-48Ex	PLP 24/5Ex	PLP3LEx
1/2" NPT		127 594	127 600	127 597	127 603	127 606
M20 × 1.5		127 595	127 601	127 598	127 604	127 607
G 1/2" (BSP 1/2 inch)		127 596	127 602	127 599	127 605	127 608

RayDat PLP Ex Series

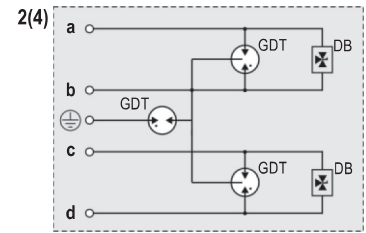
Internal Configuration

Legend

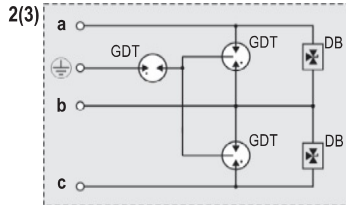
DB Diode Block
GDT Gas Discharge Tube



PLP-24Ex

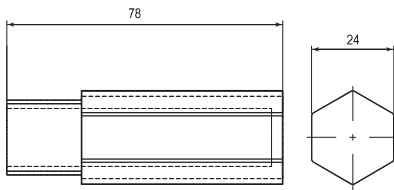


PLP2-xxEx



PLP3L-24Ex

Dimensions & Packaging



PLP-24Ex

PLP-24 Ex
1/2" NPT

PLP-24 Ex
M 20 x 1/2"

PLP-24 Ex
G 1/2"

Dimensions

Weight per Unit

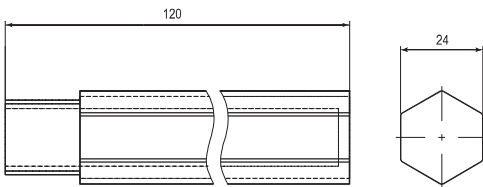
170g

Packaging Dimensions (Single Unit)

78 x 28 x 24 mm

Minimum Package Quantity

6 pieces



PLP2-xxEx

PLP2-xx Ex
1/2" NPT

PLP2-xx Ex
M 20 x 1/2"

PLP2-xx Ex
G 1/2"

Dimensions

Weight per Unit

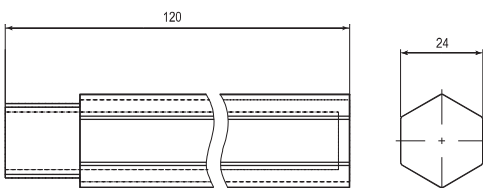
290g

Packaging Dimensions (Single Unit)

120 x 28 x 24 mm

Minimum Package Quantity

6 pieces



PLP3L-24Ex

PLP3L-24 Ex
1/2" NPT

PLP3L-24 Ex
M 20 x 1/2"

PLP3L-24 Ex
G 1/2"

Dimensions

Weight per Unit

290g

Packaging Dimensions (Single Unit)

120 x 28 x 24 mm

Minimum Package Quantity

6 pieces