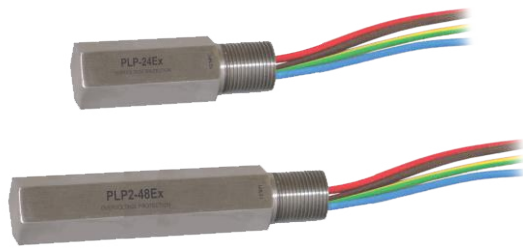


DATA SHEET

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, 24/5 V DC
 Maximum Operating Voltage: U_c : 33, 54, 33/7.5 VDC
 Frequency Range: 30 MHz
 Surge Discharge Ratings: I_n : 10 kA, I_{max} : 20 kA, I_{imp} : 2.0 kA
 Enclosure: Stainless Steel IP67
 Terminals: Connecting Cables 1 mm², 250 mm 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.

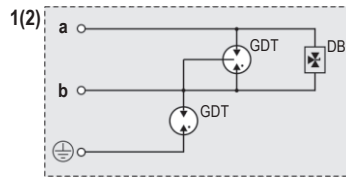
Technical Data

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	800 mA				
Maximum Input Power	P_i	2W				
Maximum Internal Inductance	L_i	60 μH				
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 (8/20 μs)	I_n	5 kA	10 kA	10 kA	10 kA	7.5 kA
Total Discharge Current (8/20 μs)	I_{max}	10 kA	20 kA	20 kA	20 kA	15 kA
Total Impulse Current (10/350 μs)	I_{imp}	1.0 kA	2.0 kA	2.0 kA	2.0 kA	1.5 kA
Residual Voltage at I_{max} (8/20 μs)	(Line-Line) U_{res}	< 1.3 kV	< 1.3 kV	< 1.3 kV	< 1.3 kV	< 1.3 kV
Response Time Overvoltage Protection	t_A	< 1 ns				
Insulation Resistance of the Protection	(Line-Line) R_{iso}	> 32 MΩ	> 32 MΩ	> 32 MΩ	> 32 MΩ/75 kΩ	> 32 MΩ
Insulation Resistance at U(Line-Ground) = 500 VDC	R	> 1 GΩ				
Transverse Capacitance	C	< 30 pF				
Cut-off Frequency	f_G	30 MHz				
Mechanical						
Ambient Temperature Range		-30 °C < Ta < 60 °C				
Connection Cables	D × L	1 mm ² × 250 mm				
Degree of Protection IEC/EN 60529		IP 67				
Housing Material		Stainless Steel				
Dimension	Length	78 mm	120 mm	120 mm	120 mm	120 mm
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

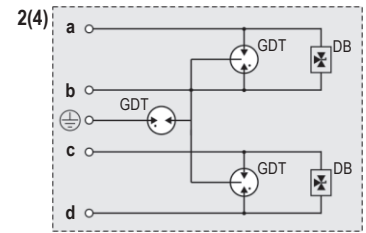
RayDat PLP Ex Series

Internal Configuration

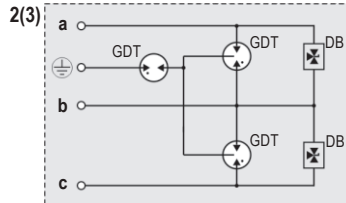
Legend
 DB Diode Block
 GDT Gas Discharge Tube



PLP-24Ex

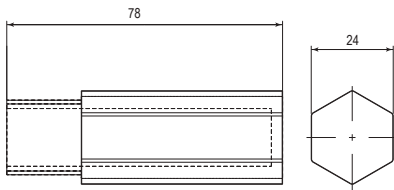


PLP2-xxEx

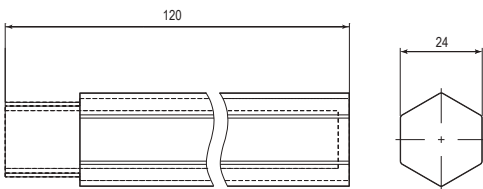


PLP3L-24Ex

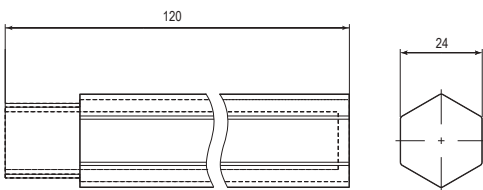
Dimensions & Packaging



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		