

DATA SHEET

SPD for Explosive Environments RayDat PLP Ex Series D1 • C1 • C2 • C3



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.

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: 30 MHz
 Surge Discharge Ratings: I_n : 10kA, I_{max} : 20kA, I_{imp} : 2.0kA
 Enclosure: Stainless Steel IP67
 Terminals: Connecting Cables 1 mm², 250mm length
 Housing: Conduit Fitting
 Compliance: IEC/EN 61643-21
 IEC 60079-0:2011
 IEC 60079-11:2011
 EN 60079-0:2012+A11:2013
 EN 60079-11:2012
 UL 60079-0, 6th Edition
 UL 60079-11, 6th Edition
 CAN/CSA C22.2 No. 60079-0:2015
 CAN/CSA C22.2 No. 60079-11:2014

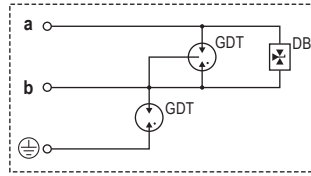


Technical Data

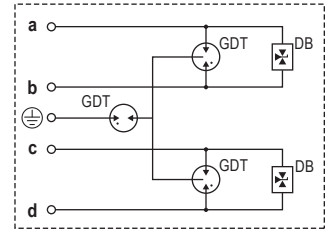
PLPEx	PLP-24Ex	PLP2-24Ex	PLP2-48Ex	PLP-24/5Ex	PLP3L-24Ex	
Type						
Intrinsic Safety Parameters						
IECEX BAS 14.0167X	Ex ia IIC T6 Ga (-30°C ≤ 50°C), Ex ia IIIC T85°C Da (-30°C ≤ 50°C)					
Basefa14ATEX0364X	II 1G Ex ia IIC T6 Ga (-30°C ≤ 50°C), II 1D Ex ia IIIC T85°C Da (-30°C ≤ 50°C)					
SGSNA/18/BAS/00003	Class I, Zone 0 AEx ia IIC T6 Ga (-30°C ≤ 50°C), Ex ia IIC T6 Ga (-30°C ≤ 50°C), Zone 20 AEx ia IIIC T85°C Da (-30°C ≤ 50°C), Ex ia IIIC T85°C Da (-30°C ≤ 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	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	5kA	10kA	10kA	10kA	7.5kA
Total Discharge Current (8/20 μs)	I_{max}	10kA	20kA	20kA	20kA	15kA
Total Impulse Current (10/350 μs)	I_{imp}	1.0kA	2.0kA	2.0kA	2.0kA	1.5kA
Residual Voltage at I_{max} (8/20 μs)	(Line-Ground) 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	<30 pF				
Cut-off Frequency	f_G	30 MHz				
Mechanical						
Ambient Temperature Range		-22 °F < T_a < +140 °F [-30 °C < T_a < +60 °C]				
Connection Cables	D × L	17 AWG x 9.8" [1 mm ² × 250 mm]				
Degree of Protection IEC/EN 60529		IP67				
Housing Material		Stainless Steel				
Dimension	Length	3.07" [78 mm]	4.72" [120 mm]	4.72" [120 mm]	4.72" [120 mm]	4.72" [120 mm]
Order Information						
Order Code		PLP-24Ex	PLP2-24Ex	PLP2-48Ex	PLP-24/5Ex	PLP3L-24Ex
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

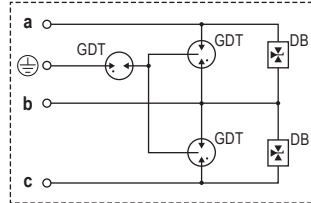
Internal Configuration



PLP-24Ex



PLP2-24Ex
PLP2-48Ex
PLP-24/5Ex

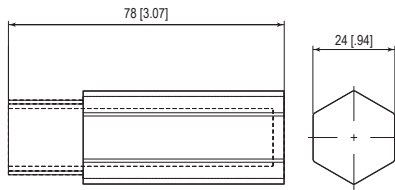


PLP3L-24Ex

Legend

DB Diode Block
GDT Gas Discharge Tube

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

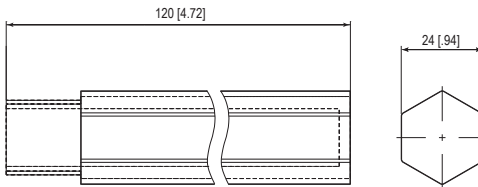
5.99 oz [170 g]

Packaging Dimensions (Single Unit)

1.34 x 1.34 x 4.25" [34 x 34 x 108 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

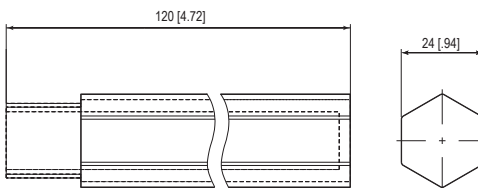
10.22 oz [290 g]

Packaging Dimensions (Single Unit)

1.34 x 1.34 x 5.43" [34 x 34 x 138 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

10.22 oz [290 g]

Packaging Dimensions (Single Unit)

1.34 x 1.34 x 5.43" [34 x 34 x 138 mm]

Minimum Package Quantity

6 pieces

inches
[mm]

Information contained in this document is subject to change at any time without notice.

RoHS COMPLIANT

CE 1180

Ex

SGS 800466

Raycap

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