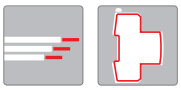
DATA SHEET

SPD for Explosive Environments

RayDat PLP Ex Series

D1 • C1 • C2 • C3



IEC/EN Category: D1/C1/C2/C3
Surge Discharge Ratings: I_n: 10 kA, I_{max}: 20 kA, I_{imp}: 2.0 kA
Voltages: 24, 48, 24/5 V DC
Max. Operating Voltage: U_C: 33, 54, 33/7.5 V DC
Frequency Range: 30 MHz
Enclosure: Stainless Steel IP 54
Terminals: Connecting Cables 1 mm², 250 mm length
Housing: Conduit Fitting
Compliance: IEC/EN 61643-21

CE 1180
IEC 60079-0:2011
IEC 60079-11:2011

Ex
EN 60079-0:2012+A11:2013
EN 60079-11:2012

SGS c us 800466
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	50 V				
Maximum Input Current		I_i	800 mA				
Maximum Input Power		P_i	2 W				
Maximum Internal Inductance		L_i	60 µH				
Electrical							
Nominal Operating Voltage (DC)		U_n	24 V	24 V	48 V	24 V/5 V	24 V
Maximum Continuous Operating Voltage (DC)		U_c	33 V	33 V	54 V	33 V/7.5 V	33 V
Rated Spark Overvoltage	(Line-Ground)		584-864 V	584-864 V	584-864 V	584-864 V	584-864 V
	(Line-Line)		36-44 V	36-44 V	58-68 V	36-44 V, 9-13 V	36-44 V
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-Ground)	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 V DC	R	> 1 GΩ				
Transverse Capacitance		C	< 30 pF				
Cut-off Frequency		f_G	30 MHz				
Mechanical							
Ambient Temperature Range			-22 °F < Ta < +140 °F [-30 °C < Ta < +60 °C]				
Connection Cables	D × L		17 AWG x 9.8" [1 mm² × 250 mm]				
Degree of Protection IEC/EN 60529			IP 54				
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

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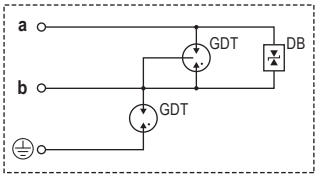
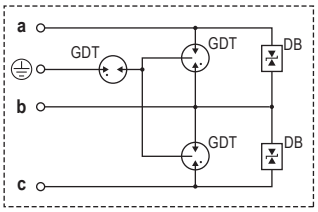
RayDat PLP Ex Series

Internal Configuration

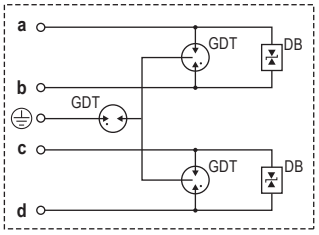
Legend
DB Diode Block
GDT Gas Discharge Tube



PLP-24Ex

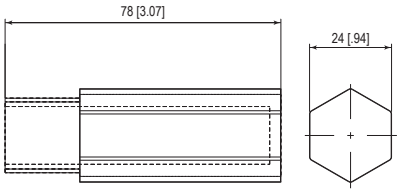


PLP3L-24Ex

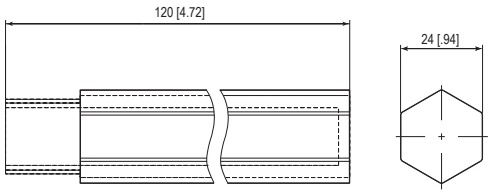


PLP2-24Ex
PLP2-48Ex
PLP-24/5Ex

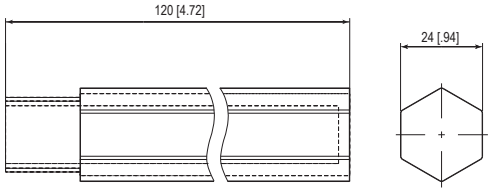
Dimensions & Packaging



PLP-24Ex	PLP-24 Ex 1/2" NPT	PLP-24 Ex M 20 × 1/2"	PLP-24 Ex G 1/2"
Dimensions			
Weight per Unit	5.99 oz [170 g]		
Packaging Dimensions (Single Unit)	1.34 × 1.34× 4.25" [34 × 34 × 108 mm]		
Minimum Package Quantity	6 pieces		



PLP2-xxEx	PLP2-xx Ex 1/2" NPT	PLP2-xx Ex M 20 × 1/2"	PLP2-xx Ex G 1/2"
Dimensions			
Weight per Unit	10.22 oz [290 g]		
Packaging Dimensions (Single Unit)	1.34 × 1.34× 5.43" [34 × 34 × 138 mm]		
Minimum Package Quantity	6 pieces		



PLP3L-24Ex	PLP3L-24 Ex 1/2" NPT	PLP3L-24 Ex M 20 × 1/2"	PLP3L-24 Ex G 1/2"
Dimensions			
Weight per Unit	10.22 oz [290 g]		
Packaging Dimensions (Single Unit)	1.34 × 1.34× 5.43" [34 × 34 × 138 mm]		
Minimum Package Quantity	6 pieces		

inches
[mm]

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RoHS COMPLIANT CE 1180 Ex SGS 800466

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