

Surge Protection Devices – TP48 Series

The TP Series protection network

consists of high-power, solid-state electronics and a gas-filled discharge tube capable of diverting 10kA impulses. The whole unit is encased in an ANSI 316 stainless steel housing, threaded for the common conduit entries used on process transmitters. Versions are available for 1/2" NPT, 20mm ISO, and G1/2" (BSP 1/2 inch) threaded entries.

Specifications TP Series

All figures typical at 77°F (25°C) unless otherwise stated

Maximum surge current

10kA peak current (8/20µs waveform)

Leakage current

Less than 10µA at maximum working voltage

Working voltage

48 VDC maximum

Bandwidth

1MHz

Resistance

No resistance introduced into loop

Ambient temperature limits

-20°C to +80°C (working)

-40°C to +80°C (storage)

Humidity

5% to 95% RH (non-condensing)

Electrical connections

TP48

3 flying leads (line1, line 2 & ground)

TP48 3 Wire

4 flying leads (+ve, -ve, signal & ground)

TP48 4 Wire

5 flying leads (+ve, -ve, signal +ve, signal -ve, ground)

Wire size 32/0.2 (1.0mm², 18 AWG)

Lead length 250mm (minimum)

Casing

ANSI 316 stainless steel hexagonal barstock, male thread

Threads

TP48-3-N & TP48-4-N 1/2" NPT

TP48-3-I & TP48-4-1 20mm ISO (M20 x 1.5)

TP48-3-G & TP48-4-G G 1/2" (BSP 1/2")

Weight

175g (6.2oz)

Dimensions

See Figure 1

EMC compliance

To Generic Immunity Standards EN50082, part 2 for industrial environments

Electrical safety

EEx ia IIC T4, Ceq=0, Leq=0; the unit can be connected without further certification into any intrinsically safe loop with open circuit voltage <60V and input power <1.2W.

EEx d IIC T4; the unit is apparatus-approved to flame proof (explosionproof) standards, and can be fitted into a similarly approved housing.

Approvals

Country (Authority)	Standard	Certificate/File No.	Approved for	Product
Atex Directive 94/9/EC	BS EN 50021:1999	TML02ATEX0032X	Ex n II T6 (-40°C<Tamb<+60°C) EEx n II T5 (-40°C<Tamb<+85°C)	TP48-X-Y-Z
USA (FM)	Class Nos. 3600 (1998), 3610 (1999), 3611 (1999), 3615 (1989), 3810 incl. Supp 1 (1995-07 (1989-03), ANSI/NEMA 250 (1991), ISA-S12.0.01 (1999)	3022293	Intrinsically Safe: I, II, III/1/A-G, I/O/IIC Explosionproof: I/1/A-D Non incendive: I/2/A-D, I/2/IIC Dust ignition proof: II,III/1/EFG Special protection: II/2/FG	TP48-X-Y-Z
Canada (FM)	C22.2 No. 157 C22.2 No. 213 C22.2 No. 142 C22.2 No. 94 C22.2 No. 30	3025374	Intrinsically Safe: I, II, III/1/A-G, I/O/IIC Explosionproof: I/1/A-D Nonincendive: I/2/A-D, I/2/IIC Dust ignition proof: II, III/1/EFG Special protection: II/2/FG	TP48-X-Y-Z
Global	IEC 60079-0:2004 IEC 60079-11:2006 IEC 61241-0:2004 IEC 61241-1:2004	IECEX BAS 07.0045X	Ex ia IIC T4/T5/T6 Ex tD A20 IP6X T85°C/T100°C/T135°C	TP48-X-Y-NDI

Key: X = 3 or 4 or blank, Y = N, I or G, Z = NDI



Ordering Data

Part No.

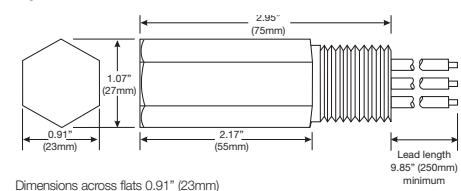
TP48NNDI	Certified SPD - 1/2" NPT thread
TP48INDI	Certified SPD - 20mm ISO thread
TP48GNDI	Certified SPD - G 1/2" (BSP 1/2 inch)
TP483NNDI	Certified SPD - 1/2" NPT thread
TP483INDI	Certified SPD - 20mm ISO thread
TP483GNDI	Certified SPD - G 1/2" - BSP 1/2 inch
TP484NNDI	Certified SPD - 1/2" NPT thread
TP484INDI	Certified SPD - 20mm ISO thread
TP484GNDI	Certified SPD - G 1/2" - BSP 1/2 inch

Installation

The TP units are designed for mounting directly into an unused conduit entry on a process transmitter housing. Generally, two such entries are provided, one of which is used for the loop wiring. On the unused entry, the blanking plug or other closure device is removed and an appropriately threaded TP screwed into its place. The transmitter specification should provide information indicating the required thread type. TP units can be installed using thread adaptors if necessary, including certified adaptors in hazardous area applications. For applications where two conduit entries are not provided or where both are used for electrical connections, TP units can be housed in conventional conduit hub or junction boxes, provided access to the loop terminals is possible. Figure 2 shows connection details for 3 & 4 wire process transmitter.

Dimensions

Figure 1



Dimensions across flats 0.91" (23mm)

Figure 2

