

**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 (1.0mm<sup>2</sup>, 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-I 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, II/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

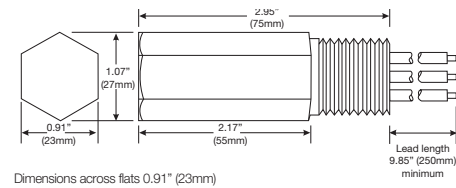
Key: X = 3 or 4 or blank, Y = N, I or G, Z = NDI



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

**Dimensions**

Figure 1



Dimensions across flats 0.91" (23mm)

**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.

Figure 2

