MA15 Series

AC & DC Power Protection

The MA15 Series of surge protection devices protects electronic equipment and computer networks against the effects of noise pollution induced in power supplies. MA15 units filter out and suppress the effects of industrial noise and surges caused by lightning, switching devices, thyristor controls, transmission system overloads and power-factor correction circuits.

Product Features:

- 18kA surge protection and RFI filtering
- Protects panel loads up to 15 Amps in series, unlimited Amps in parallel
- Suitable for AC or DC application
- Thermal and short circuit protection
- LED status indication feature
- 10 year product warranty

SD Series
SLP Series

Data and Signal Protection

The SD Series are ultra-slim user-friendly devices for protecting electronic equipment and systems against surges on signal and I/O cabling, and the SLP Series provides 20kA power surge protection for process control, equipment systems and distribution panels.

Product Features:

- Range of ATEX Certified intrinsically safe surge protectors
- Ultra-slim and space saving designs; easy installation
- Multistage hybrid protection circuitry - 10kA maximum surge current for SD Series, and 20kA maximum surge current for SLP Series
- Range of voltage ratings ideal for process I/O applications
- Designed for high bandwidth, low resistance applications; RTD, Public Switch Telephone Network (PSTN) and 3-wire transmitter versions available in SD Series
- Surge protection for two loops or one 4-wire circuit per SLP Series module
- 10 year product warranty

The SD and SLP Series surge protection devices provide unparalleled packing densities, application versatility, proven and reliable hybrid circuitry, simple installation and optional 'loop disconnect' facilities (SD Series). These features make the SD and SLP Series the ultimate surge protection solutions for process control equipment, I/O systems and communications networks.

TP48 Series

Transmitter and Sensor Protection

The TP48 Series of transmitter protectors safeguards electronic process transmitters against induced surges and transients from field cabling. They uniquely provide a level of protection for 2, 3 and 4 wire field-mounted transmitters that greatly exceeds the optional transient protection facilities available from the transmitter manufacturers without any additional wiring, conduit modifications or other expensive extras.

Product Features:

- Easy and direct mounting – simply screw into spare conduit entry
- Intrinsically safe; flameproof to CENELEC standards; ATEX approved
- Parallel connection avoids introduction of resistance into loop

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^2, 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=O, 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

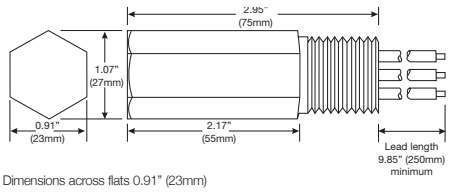
Country (Authority)	Standard	Certificate/File No.	Approved for	Product
Atex Directive 94/9/EC	BS EN 50021:1999	TML02ATEX0032X	Ex n II T6 (-40°C<Tamb<+60°C) EEx n II T5 (-40°C<Tamb<+85°C)	TP48-X-Y-Z
USA (FM)	Class Nos. 3600 (1998), 3610 (1999), 3611 (1999), 3615 (1989), 3810 incl. Supp 1 (1995-07 (1989-03), ANSI/NEMA 250 (1991), ISA-S12.0.01 (1999)	3022293	Intrinsically Safe: I, II, III/1/A-G, I/0/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