

TRANSMITTER PROTECTOR



Protects field-mounted 2, 3 and 4 wire process transmitters against surges and transients induced onto the unit from field cabling

- ◆ **Intrinsically safe and flameproof**
- ◆ **Multi-stage protection offers exceptional safety**
- ◆ **2, 3 and 4 wire protection**
- ◆ **All mode protection**
- ◆ **Full range of thread size**
- ◆ **Compact and easy installation**
- ◆ **Five years warranty**



Intrinsically safe and flameproof -

LEPS TSP series protectors are specially designed to protect field-mount process transmitters. All the models are intrinsically safe, flameproof (explosionproof) and certified to Exd ia IIC T4. They can be added directly to the hazardous area transmitter's casing without affecting the level of safety.

Multi-stage protection offers exceptional safety -

TSP series protectors are multi-stage design which makes it outperform the optional transient protection available from the transmitter manufacturer. They employed high power SAD and high energy gas discharge tube which ensures excellent protections without impeding normal operation.

2, 3 and 4 wire protection - Any kind of process control transmitters, whether it is 2, 3 or 4 wires, TSP series protectors has the suitable models to fulfill users' expectations.

All mode protection - Transients appearing between any signal pairs which commonly called transverse

mode and between signal line and earth is common mode are all effectively and reliably protected by the TSP protectors.

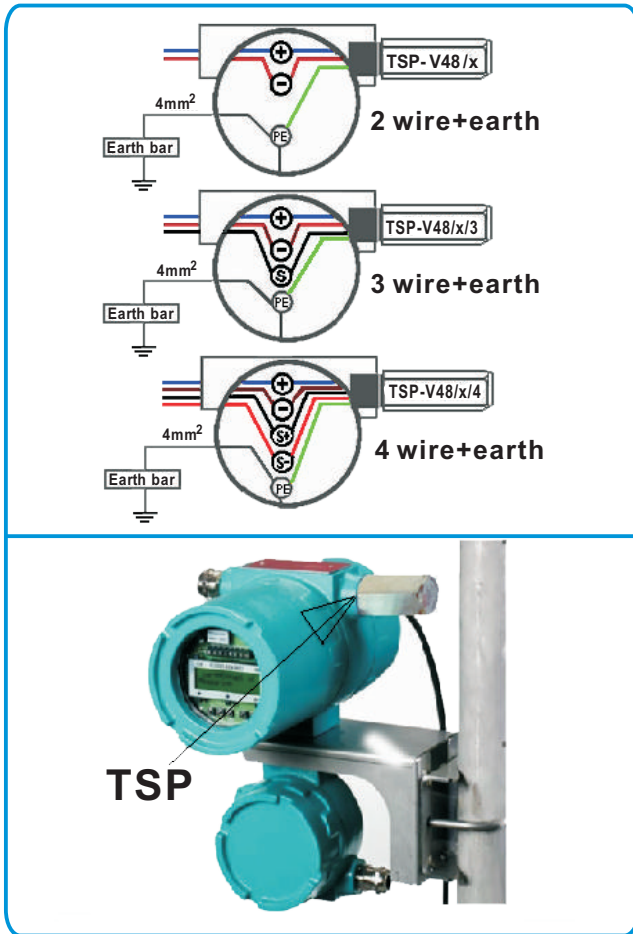
Full range of thread size - No matter it is the NPT, ISO or BSP thread standard, TSP series has the right model to just perfectly fitted into the spare conduit entry of any process transmitter housing.

Compact and easy installation -

TSP protectors are housed in a compact, safe and all metal ANSI 316 enclosure. It can be easily screwed into any existing spare conduit of the process transmitter housing. The leads are connected in parallel to the wire terminal blocks inside the transmitter housing which avoids introduction of any resistance into the loop and not causing any attenuation of the signal.

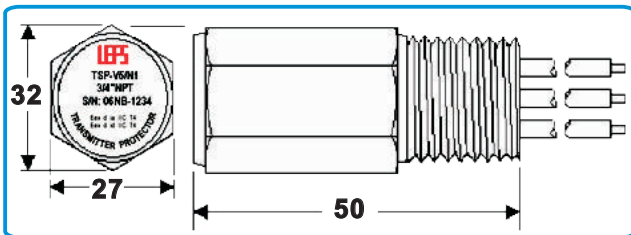
Five years warranty - All LEPS protectors are tested to comply with many international safety standards and with five years warranty.

Installation



For detail installation requirements, pls refer to relevant user manual.

Dimensions



Voltage range

MODEL	MAX. WORKING VOLTAGE, (U _c)	VOLTAGE PROTECTION LEVEL, (U _p)
TSP-V5/x	7V	10V
TSP-V12/x	17V	23V
TSP-V24/x	34V	43V
TSP-V36/x	52V	65V
TSP-V48/x	68V	79V
TSP-V5/x/3	7V	10V
TSP-V12/x/3	17V	23V
TSP-V24/x/3	34V	43V
TSP-V36/x/3	52V	65V
TSP-V48/x/3	68V	79V
TSP-V5/x/4	7V	10V
TSP-V12/x/4	17V	23V
TSP-V24/x/4	34V	43V
TSP-V36/x/4	52V	65V
TSP-V48/x/4	68V	79V
TSP-V24-5/x/4	34V-7V	43V-10V
TSP-V24-120/x/4	34V-160V	43V-230V
TSP-V24-230/x/4	34V-300V	43V-440V

Notes:

- (1) Where X is the type of screw thread, N1=½"NPT, N2=¾"NPT, B=½"BSP, M=20mm ISO
- (2) "/3" for three wires, "/4" for 4 wires
- (3) V24-5 for one pair of 24V and one pair of 5V..etc.

General Specifications

SPD class(EN/IEC):	TYPE 2/Class II
Max. working voltage, U _c :	see Voltage range
Max. discharge current, I _{max} :	10KA(8/20μs)
Voltage protection level, U _p :	see Voltage range(At 5KV 10/700μs)
Protection modes:	common and transverse
Protection stages:	2 stages
Earth leakage current:	<10μA
Response time, t _A :	<5ns
Bandwidth:	2MHz
Capacitance:	30pf
In line resistance:	~0Ω
Standards compliance:	BS EN/IEC 61643-21 AS1768-2007 Cat.A.B.C CP33-1996 Cat.A.B.C UL497B
EMC compliance:	BS EN 60950: 2001 BS EN 61000-6-7:2015
Application zone:	EEx ia IIC T4 EEx d IIC T4
Earth connection:	Flying lead
Case material:	Brass (nickel plated)
Conductor size:	2.5mm ²
Connection wires:	TSP-x Parallel, 3 flying leads(line1, line2 & earth) TSP-x/3 Parallel, 4 flying leads(+ve, -ve, signal & earth) TSP-x/4 Parallel, 5 flying leads(+ve, -ve, s+, s- & earth)
Types of threads:	N1=½"NPT N2=¾"NPT B=½"BSP, M=20mm ISO
Operating temperature, T _u :	-40-85°C
Humidity:	0-95%(R.H.)
Altitude:	0-3650m
Weight:	TSP-x/N1----All models ~114g TSP-x/N2----All models ~114g TSP-x/B---- All models ~158g TSP-x/M----All models ~246g

MODEL	PRODUCT DESCRIPTION	PHOTO/DRAWING
TSP-V5/B/3	BSP 1/2" thread, transmitter protector, 7Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V12/B/3	BSP 1/2" thread, transmitter protector, 17Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V24/B/3	BSP 1/2" thread, transmitter protector, 34Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V36/B/3	BSP 1/2" thread, transmitter protector, 48Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V48/B/3	BSP 1/2" thread, transmitter protector, 58Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V5/B/4	BSP 1/2" thread, transmitter protector, 7Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V12/B/4	BSP 1/2" thread, transmitter protector, 17Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V24/B/4	BSP 1/2" thread, transmitter protector, 34Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V24-7/B/4	BSP 1/2" thread, transmitter protector, 34Vdc(+ve, -ve), 7Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V24-120/B/4	BSP 1/2" thread, transmitter protector, 150Vac(+ve, -ve), 34Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V24-230/B/4	BSP 1/2" thread, transmitter protector, 275Vac(+ve, -ve), 34Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V36/B/4	BSP 1/2" thread, transmitter protector, 48Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V48/B/4	BSP 1/2" thread, transmitter protector, 58Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V5/M	M20x1.5 thread, transmitter protector, 7Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V12/M	M20x1.5 thread, transmitter protector, 17Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V24/M	M20x1.5 thread, transmitter protector, 34Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V36/M	M20x1.5 thread, transmitter protector, 48Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V36/M/T	M20x1.5 thread, transmitter protector and terminator, 48Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V48/M	M20x1.5 thread, transmitter protector, 58Vdc, 2 Wire, 3 flying leads(line 1, line 2 & earth)	
TSP-V5/M/3	M20x1.5 thread, transmitter protector, 7Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V12/M/3	M20x1.5 thread, transmitter protector, 17Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V24/M/3	M20x1.5 thread, transmitter protector, 34Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V36/M/3	M20x1.5 thread, transmitter protector, 48Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V48/M/3	M20x1.5 thread, transmitter protector, 58Vdc, 3 Wire, 4 flying leads(+ve, -ve, signal & earth)	
TSP-V5/M/4	M20x1.5 thread, transmitter protector, 7Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V12/M/4	M20x1.5 thread, transmitter protector, 17Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V24/M/4	M20x1.5 thread, transmitter protector, 34Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V24-7M/4	M20x1.5 thread, transmitter protector, 34Vdc(+ve, -ve), 7Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V24-120/M/4	M20x1.5 thread, transmitter protector, 150Vac(+ve, -ve), 34Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V24-230/M/4	M20x1.5 thread, transmitter protector, 275Vac(+ve, -ve), 34Vdc(signal+ve, signal-ve), 4 Wire+earth, 5 flying leads	
TSP-V36/M/4	M20x1.5 thread, transmitter protector, 48Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
TSP-V48/M/4	M20x1.5 thread, transmitter protector, 58Vdc, 4 Wire, 5 flying leads(+ve, -ve, signal+ve, signal-ve & earth)	
* other thread sizes are available on request		
* other voltages are available on request		

