



■ TSTLP®/TS-SP series Surge Arrester for Information Technology System

- ❖ **INTRODUCTION:** TS-SP series are installed at LPZ 0A -2 or higher, or directly at the upstream near the protected devices. Provide protection for 2 single wires of unbalanced interfaces for measuring and controlling system. Designed according to IEC 61643-21; GB 18802.21; YD/T 1542.
- ❖ Mainly used in lightning protection for measuring and controlling system, such as the field bus, input/output interface of the 0-20mA, 4-20mA control line. (TS-SP110 could also be used for telephone line, ADSL/ISDN line)
- ❖ **We're able to make different CIRCUIT 、 Voltage & Technical Data according to customers' requirement, just tell exact product application needed or send us sample(s) to make.**

Product Photo	Dimension(mm)	TS-SP24 BCD

❖ TECHNICAL DATA

Model		TS-SP5	TS-SP12	TS-SP24	TS-SP48	TS-SP60	TS-SP110
Nominal voltage	U_n	5V	12V	24V	48V	60V	110V
Rated voltage (max. continuous voltage)	U_c	6V-/4.2V~	14V-/10V~	26V-/19V~	55V-/39V~	65V-/50V~	170V-/130V~
Nominal current	I_L	0.5A	0.5A	0.5A	0.5A	0.5A	1A
Lightning discharge current (10/350)	I_{imp}	2.5kA (per line) 5kA (total)					
Nominal discharge current (8/20)	I_n	10kA (per line) 20kA (total)					
Voltage protection level at I_{imp}	U_p	$\leq 30V$ (line-line) $\leq 17V$ (line-PG)	$\leq 60V$ (line-line) $\leq 30V$ (line-PG)	$\leq 90V$ (line-line) $\leq 45V$ (line-PG)	$\leq 150V$ (line-line) $\leq 75V$ (line-PG)	$\leq 200V$ (line-line) $\leq 100V$ (line-PG)	$\leq 600V$ (line-line) $\leq 300V$ (line-PG)
Response time	t_a	$\leq 1ns$ (line-line) $\leq 1ns$ (line-PG)	$\leq 1ns$ (line-line) $\leq 1ns$ (line-PG)	$\leq 1ns$ (line-line) $\leq 1ns$ (line-PG)	$\leq 1ns$ (line-line) $\leq 1ns$ (line-PG)	$\leq 1ns$ (line-line) $\leq 1ns$ (line-PG)	25ns (line-line) 25ns (line-PG)
Bandwidth	f_G	1.6MHz (AD-PG)	2.9MHz (AD-PG)	5.1MHz (AD-PG)	8.5MHz (AD-PG)	10.8MHz (AD-PG)	24.0MHz (AD-PG)
Series impedance per line	R	1.4 Ω	1.9 Ω	2.2 Ω	2.2 Ω	2.2 Ω	0.4 Ω
Capacitance	C	3nF (line-line) 5nF (line-PG)	1nF (line-line) 2nF (line-PG)	0.7nF (line-line) 1.3nF (line-PG)	0.3nF (line-line) 0.6nF (line-PG)	0.3nF (line-line) 0.6nF (line-PG)	0.2nF (line-line) 1.4nF (line-PG)
Operating temperature range		-40°C...+80°C					
Relative humidity		$\leq 95\%$ (25°C)					
Cross-sectional area		Max. 2.5mm ² flexible					
Mounting on		35mm DIN rail					
Enclosure material		Yellow thermoplastic, UL94-V0					
Standards		IEC 61643-21; GB 18802.21; YD/T 1542					
Compliance		CE (LVD, EMC)					

❖ MAIN CHARACTER

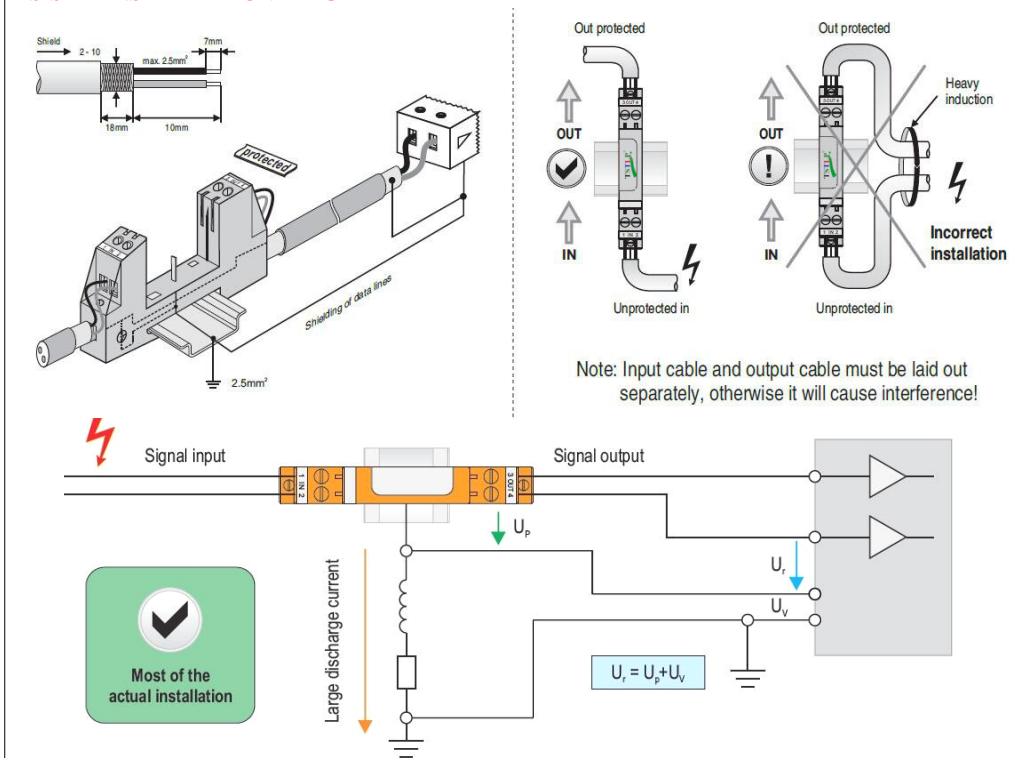
- ✓ Composed by two parts: the base and the protection module
- ✓ The signal will not be disconnected when replacing the module
- ✓ High discharge capacity, low voltage protection level

INSTALLATION INSTRUCTION

1. This product is connected in series to the protected device.
2. Mount the SPD on the 35 mm DIN rail.
3. The out terminal should be connected to the protected devices.
4. There is a earthing terminal in each side, and it is recommended to use the one at output side; earth lead must be connected to the earthing system, ideally using 2.5mm² cable. The cable should be as short as possible.
5. After above, you should ensure the circuit is functioning.

Regularly inspect the operating status, especially after lightning. Once the communication is off, electrician should check/replacethe SPD.

TS-SP24 INSTALLATION DIAGRAM



WARNING:

1. The device must be installed by electrically skilled person, conforming to national standards and safety regulations.
2. It is recommended that installation should be done under power off condition.