



## ■ TSTLP® 10-30kA 385Vac Type 2 Power Surge Arrester

❖ **INTRODUCTION:** TSTLP® Type 2 Power Surge Arrester, designed according to GB 18802.1-2002 / IEC61643-11, is for installation at LPZ 0<sub>B</sub> -1 or higher, protecting low voltage devices from surge. Applied in pluggable SPD Type 2 / Class II / Class C for TN-S power supply system.

Product Photo	Dimension(mm)	BCD-(4+0)	BCD-(3+1)
Product Photo	Dimension(mm)	BCD-(2+0)	BCD-(1+1)
Product Photo	Dimension(mm)	BCD-(1P)	BCD-(N-PE)

## ❖ TECHNICAL DATA

Model Number		TS-385M30RM/4 TS-385M30/4 TS-385M30RM/2 TS-385M30RM (4+0, 2+0, 1P)	TS-385M20RM/4 TS-385M20/4 TS-385M20RM/2 TS-385M20RM (4+0, 2+0, 1P)	TS-385M10RM/4 TS-385M10/4 TS-385M10RM/2 TS-385M10RM (4+0, 2+0, 1P)
4+0 for TN-S system 3P for TN-C system 2+0 for TN system				
Rated voltage (max. continuous voltage)	U <sub>c</sub>	385V~	385V~	385V~
Nominal discharge current (8/20)	I <sub>n</sub>	30 kA	20 kA	10 kA
Max. discharge current (8/20)	I <sub>max</sub>	60 kA	40 kA	20 kA
Voltage protection level	U <sub>p</sub>	≤ 1.8 kV	≤ 1.8 kV	≤ 1.25 kV
Voltage protection level 5kA	U <sub>p</sub>	≤ 1.35 kV	≤ 1.35 kV	
Response time	t <sub>A</sub>	≤ 25ns		
Max. back up fuse (L)		200A gL/gG		
Max. back up fuse (L-L')		125A gL/gG		
Operating temperature range	T <sub>u</sub>	-40°C...+80°C		
Relative humidity:		≤95% (25°C)		
Cross-sectional area		1.5mm <sup>2</sup> ~ 25mm <sup>2</sup> solid / 35mm <sup>2</sup> flexible		
Mounting on		35mm <sup>2</sup> DIN rail		
Enclosure material		White/Red thermoplastic, UL94-V0		
Standards		IEC 61643-11; GB 18802.1; YD/T 1235.1		
Type of remote signalling contact		Switching contact		
Switching capacity	U <sub>N</sub> /I <sub>N</sub>	AC:250V/0.5A DC:250V/0.1A, 125V/0.2A, 75V/0.5A		
Cross-sectional area for remote signalling contact		Max. 1.5mm <sup>2</sup> solid / flexible		
Compliance		CE (LVD, EMC)		

## ❖ MAIN CHARACTER

- ✓ Combined SPD for three-phase TN / TT system
- ✓ Pluggable module, easy for installation and maintenance
- ✓ High discharge capacity, quick response
- ✓ Low residual voltage, fine protection
- ✓ Multifunctional connection for conductor and busbars
- ✓ (SPD with WINDOW indication only) Window will display red when fault occurs, remote alarm terminal at the same time
- ✓ (SPD with both WINDOWS & LIGHTS indication), provide DOUBLE indications for users to check its working status : 4 small WINDOWS and 3 Green lights will display HIGH GREEN when it's working OK, when fault occurs, the windows will display RED color and another RED light will display HIGH RED.



<b>Model Number</b> 3+1 for TN-S/TT system 1+1 for TN/TT system		<b>TS-385M30RM/4</b> <b>TS-385M30RM/2</b> <b>TS-385M30RM</b> <b>(3+1, 1+1, N-PE)</b>		<b>TS-385M20RM/4</b> <b>TS-385M20RM/2</b> <b>TS-385M30RM</b> <b>(3+1, 1+1, N-PE)</b>	
Rated voltage (max. continuous voltage)	Uc	385V~ (L-N)	255V~ (N-PE)	385V~ (L-N)	255V~ (N-PE)
Nominal discharge current (8/20)	In	30 kA(L-N)	40 kA(N-PE)	20 kA(L-N)	40 kA(N-PE)
Max. discharge current (8/20)	Imax	60 kA(L-N)	65 kA (N-PE)	40 kA(L-N)	65 kA (N-PE)
Voltage protection level	Up	≤ 1.8 kV	≤ 1.5 kV	≤ 1.8 kV	≤ 1.5 kV
Voltage protection level 5kA	Up	≤ 1.35 kV		≤ 1.35 kV	
Response time	tA	≤ 25ns	≤ 100ns	≤ 25ns	≤ 100ns
Max. back up fuse (L)		200A gL/gG			
Max. back up fuse (L-L')		125A gL/gG			
Operating temperature range	Tu	-40°C...+80°C			
Relative humidity:		≤95% (25°C)			
Cross-sectional area		1.5mm <sup>2</sup> ~ 25mm <sup>2</sup> solid / 35mm <sup>2</sup> flexible			
Mounting on		35mm <sup>2</sup> DIN rail			
Enclosure material		White/Red thermoplastic, UL94-V0			
Standards		IEC 61643-11; GB 18802.1; YD/T 1235.1			
Type of remote signalling contact		Switching contact			
Switching capacity	UN/IN	AC:250V/0.5A DC:250V/0.1A,125V/0.2A,75V/0.5A			
Cross-sectional area for remote signalling contact		Max. 1.5mm <sup>2</sup> solid / flexible			
Certification		CE (LVD, EMC)			

### INSTALLATION INSTRUCTION

According to lightning protection zones concept, for installation at LPZ 0<sub>B</sub>-1 or higher. This surge protection is usually installed in distribution-box or feeder bus of UPS, protecting devices or equipment downstream. Fuse must be installed at the upstream of the SPD or the lightning arrester to make sure that protected system has double protection. The value of the fuse used in a SPD system should be confirmed to:

1. The value of FUSE should not be larger than the max.withstand capacity of the SPD's backup fuse value.
2. Under the status of the max. current in the power supply & close loop circuit available current, the fuse should be able to disconnect when overloaded or short-circuited.
3. Take 1 & 2 into consideration, the fuse should be as large as possible to allow the maximum surge discharge of SPD.

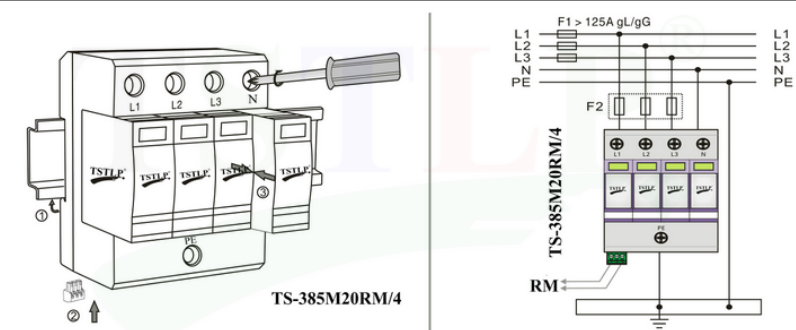
### INSTALLATION STEPS

- 1) Check the product for integrity of the package; make sure the product window indicate green.
  - 2) Mount the SPD on the 35mm DIN rail.
  - 3) Connect conductors, the cross-section area of cable must be larger than 6mm<sup>2</sup>. The withstand voltage value of cable is not smaller than AC500V; ensure wiring reliable.
  - 4) If need remote alarm, it should be connected signal lines to remote signal terminal 1 and 2, or 2 and 3 (When normal,1 and 2 open, 2 and 3 close; when fault, the state is reversed).
- 1) After above, switch on the power supply and turn on the circuit breaker,if the SPD's window does not appear red,(and if the SPD with lights,3 green lights display HIGH GREEN and another red light doesn't display HIGH RED), this indicates the unit is operating normally.

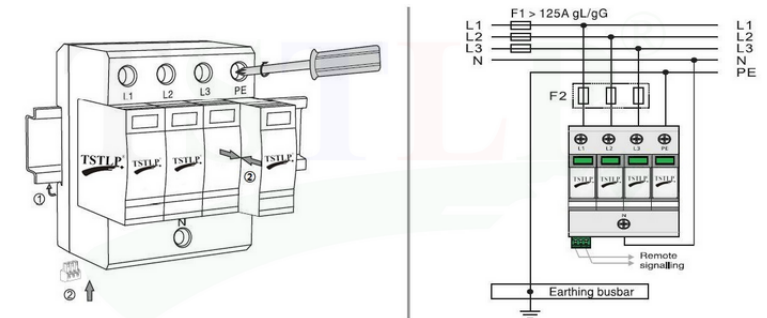
**Regularly inspect the operating status, especially after lightning. Once the fuse upstream break, or the SPD's window indicates red, electrician should check/replace the SPD.**

### INSTALLATION DIAGRAM FOR REFERENCE

(4+0) for TN-S system



(3+1) for TT system



### 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.