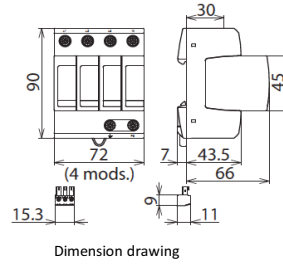
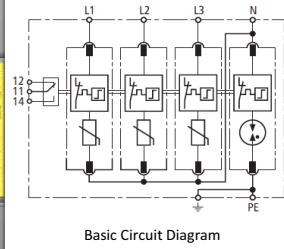
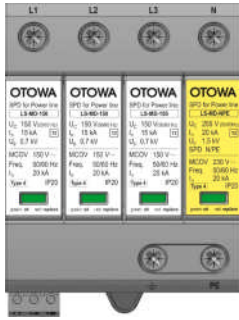


OTOWA Power line Class II (Type2) SPD LS-T for TT system

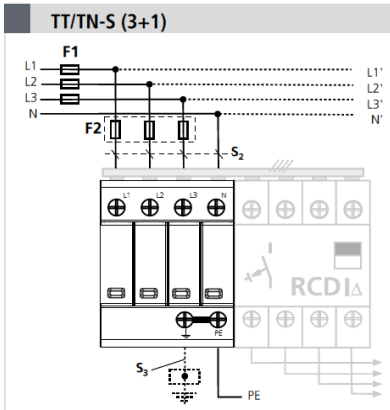
Modular SPD for use in TT and TN-S systems ("3+1" circuit); with floating remote signalling contact.



- Prewired complete unit consisting of a base part and plug-in protection modules.
- High discharge capacity due to heavy duty zinc oxide varistors / spark gap.
- High reliability due to "Thermo Dynamic Control" SPD monitoring device.
- Easy replacement of protection modules without tools due to module locking system with module release button.
- Vibration and shock-tested according to EN 60068-2.

Type	LS-T1515S	LS-T2720S	LS-T3820S
SPD according to EN 61643-11 / IEC 61643-11	type2 Class II		
Nominal a.c. voltage (Un)	120 / 240 V (50 / 60 Hz)	230 / 400 V (50 / 60 Hz)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage [L-N] (Uc)	150V (50 / 60 Hz)	275V (50 / 60 Hz)	385V (50 / 60 Hz)
Max. continuous operating a.c. voltage [N-PE] (Uc)	255V	255V	255V
	(50 / 60 Hz)	(50 / 60 Hz)	(50 / 60 Hz)
Nominal discharge current (8/20 μs) (In)	15kA	20kA	20kA
Max. discharge current (8/20 μs) (Imax)	40kA	40kA	40kA
Voltage protection level [L-N] (Up)	≤ 0.7kV	≤ 1.5kV	≤ 1.75kV
Voltage protection level at 5kA [L-N] (Up)	≤ 0.55kV	≤ 1.0kV	≤ 1.35kV
Voltage protection level [N-PE] (Up)	≤ 1.5kV	≤ 1.5kV	≤ 1.5kV
Follow current extinguishing capability [N-PE] (Ifi)	100 Arms	100 Arms	100 Arms
Response time [L-N] (tA)	≤ 25ns	≤ 25ns	≤ 25ns
Response time [N-PE] (tA)	≤ 100ns	≤ 100ns	≤ 100ns
Max. mains-side overcurrent protection	125 A gG	125 A gG	125 A gG
Short-circuit withstand capability for max. mains-side overcurrent protection (Iscrr)	50 kA rms	50 kA rms	25 kA rms
Temporary overvoltage (TOV) [L-N] (Ut) -Characteristic	175V / 5sec. -withstand	335V / 5sec. -withstand	335V / 5sec. -withstand
Temporary overvoltage (TOV) [L-N] (Ut) -Characteristic	230V 120min. -safe failure	440V 120min. -safe failure	440V 120min. -withstand
Temporary overvoltage (TOV) [N-PE] (Ut) -Characteristic	1200V / 200m sec. -withstand	1200V / 200m sec. -withstand	1200V / 200m sec. -withstand
Operating temperature range (Tu)	-40°C ~ +80°C		
Operating state / fault indication	green / red		
Number of ports	1		
Cross-sectional area (min.)	1.5mm ² solid / flexible		
Cross-sectional area (max.)	35mm ² stranded / 25mm ² flexible		
For mounting on	35mm DIN rails acc. to EN 60715		
Enclosure material	thermoplastic, Gray UL 94 V-0		
Place of installation	Indoor installations		
Degree of protection	IP 20		
Capacity	4 module(s) DIN 43880		
Approvals	-	KEMA, UL	KEMA, UL
Type of remote signalling contact	changeover contact	changeover contact	changeover contact
a.c. switching capacity	250V / 0.5A	250V / 0.5A	250V / 0.5A
d.c. switching capacity	250V / 0.1A ; 125V / 0.2A ; 75V / 0.5A	250V / 0.1A ; 125V / 0.2A ; 75V / 0.5A	250V / 0.1A ; 125V / 0.2A ; 75V / 0.5A
Cross-sectional area for remote signalling terminals	max. 1.5mm ² solid / flexible	max. 1.5mm ² solid / flexible	max. 1.5mm ² solid / flexible

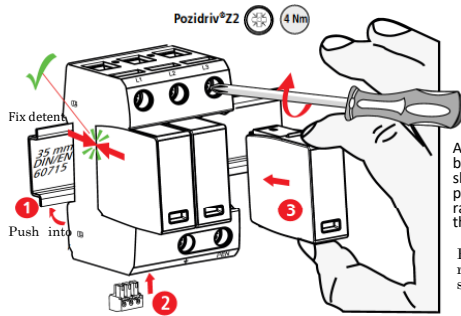
Connection



LS-T2720S		LS-T2720S				
F1 A gG	F1 ≤ 125 A gG	S ₂ / mm ²	S ₃ / mm ²	S ₄ / mm ²	F2 A gG	
25	↓	4	6	6	---	
35	↓	4	6	6	---	
40	↓	4	6	6	---	
50	↓	6	6	6	---	
63	↓	10	10	10	---	
80	↓	10	10	10	---	
100	↓	16	16	16	---	
125	↓	16	16	16	---	
> 125	↓	16	16	16	125	

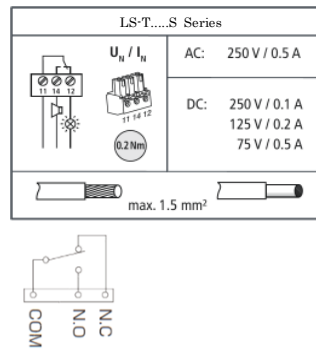
LS-T1515S LS-T3820S		Fuse F1 A gG	S ₂ / mm ²	S ₃ / mm ²	Fuse F2 A gG
25	↓	2.5	6	---	
35	↓	4	6	---	
40	↓	4	6	---	
50	↓	4	6	---	
63	↓	10	10	---	
80	↓	10	10	---	
100	↓	16	16	---	
125	↓	16	16	---	
>125	↓	16	16	125	

Installing the fixing base

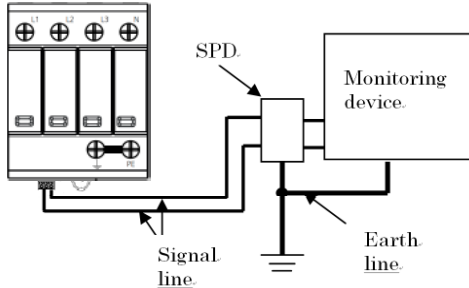


[Fixing]
After positioning the fixing base on DIN rail, pull the slider of the fixing base and push the fixing base into DIN rail. Release the slider, locking the fixing base on to the rail.
Fix the detent to DIN rail and push into slider side of fixing base

Deterioration contact terminal



Protection of monitoring device



Installation example is shown in above diagram. If monitoring device is far from the SPDs, install the SPD adjacent to the monitoring device to protect it from the lightning surge that invades from signal line.

Recommended SPD for protection	
Voltage on signal line	Applied SPD
AC100V	LS-S1515S × 2 or LT-C12G801W
AC200V	LS-N2720S or LT-C12G801W
DC12V	SL-SPM12
DC24V	SL-SPM24
DC48V	SL-SPM48

Regular maintenance

During the lightning season and after lightning strikes, maintain the SPD as follows.

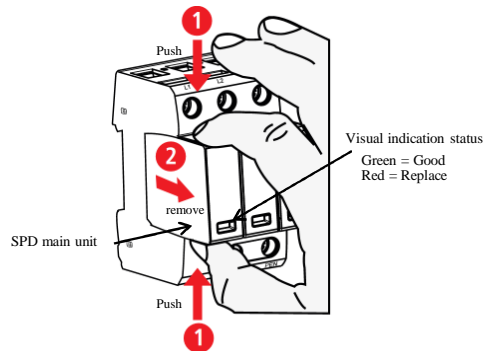
Before maintenance, switch off the isolating switch for inspection (or Earth Leakage Current Breaker (ELCB)) on the electric input side of the SPD.

<Pass criteria for SPD>

Replace the SPD main unit if the SPD is under follow condition. (If the fixing base has also changed color or shape, replace the fixing base.)

- Appearance check
 - The plastic housing has changed color or shape.
 - Status indicator color. (After status indicator change red, the SPD cannot be reused.)
- Leakage current check
- Earth Leakage Circuit Breaker (ELCB) has operated any times. (After replacing SPD, confirm the ELCB has no operation.)

Replace the SPD main



Specifications of UL 1449 3rd edition

Type = LS-NS...S	LS-T2720S				LS-T3820S			
Rated Voltage [V] (50/60 Hz)	400/230V							
Mode	L-L	L-N	L-G	N-G	L-L	L-N	L-G	N-G
MCOV [V]	550	275	275	230	600	600	385	385
MLV [V]	2270	1230	1890	880	3130	1770	2340	880
In [kA]	20							
Max. Ambient Temp.	+80 °C							
Conductors	AWG 4-14 Cu Solid or Standard Torque 35-45 Lbs·in							
Remote indicator	AWG 14-22 Cu Torque 3 Lbs·in							
SPD classification	Type 4 Component assemblies							