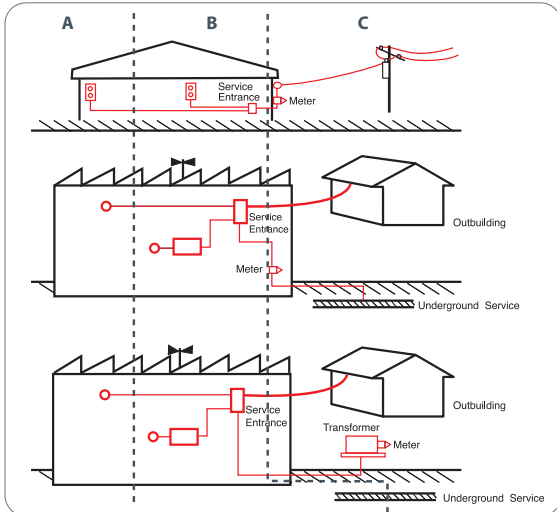


LS-series (SDL-series)

SURGE DIVERTER Power Line Surge Protector



- Easy installation for MDB and load center location
- Parallel installation with main power system
- No effect to load or main power
- All TVSS protection mode ; Line-Line, Line-Neutral, Line-Earth, Neutral-Earth
- LED protected status and replaced indicator
- Remote alarm contact
- Low let-through voltage less than 600 Volt
- Surge capability $I_{max} = 20 \text{ kA}, 40 \text{ kA} (8/20 \mu\text{s})$
- High MCOV 280 Vac
- Accordance with ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.42-2000

Location Category A

- Outlets and long branch circuits.
- All outlets at more than 10 m (30 ft) from Category B.
- All outlets at more than 20 m (60 ft) from Category C.

Location Category B

- Feeders and short branch circuits.
- Distribution panel devices.
- Bus and feeder industrial plants.
- Heavy appliance outlets with "short" connections to service entrance.
- Lighting systems in large buildings.

Location Category C

- Outside and service entrance.
- Service drop from pole to building.
- Run between meter and panel.
- Overhead line to detached building.
- Underground line to well pump.



TVSS ⚡



Tested by
Center of Excellence in Electrical Power Technology, Chulalongkorn University

SPECIFICATIONS	LS-211C (SDL3-20kA)	LS-411C (SDL3-40kA)	LS-231C (SDL5-20kA)	LS-431C (SDL5-40kA)
ELECTRICAL SYSTEM	Single phase (2 wire + earth)		Three phase (3 wire + neutral + earth)	
NOMINAL VOLTAGE	220 V or 240 V		380 V or 415 V	
APPLICATION RANGE (MCOV)	180 - 280 V		310 - 480 V	
FREQUENCY RANGE	45 - 65 Hz			
LET THROUGH VOLTAGE	600 V			
SURGE ENERGY DISSIPATION	1560 joules	3080 joules	3 x 1560 joules	3 x 3080 joules
SURGE CAPABILITY (I_{max})(8/20 μs)	20 kA	40 kA	20 kA / phase	40 kA / phase
LEAKAGE CURRENT (phase to earth)	<60 μA	<120 μA	<200 μA	<400 μA
TVSS PROTECTION MODE	L-N, L-E, N-E		L-L, L-N, L-E, N-E	
LOCATION CATEGORY	A1, A2, A3, B1, B2, B3, C1, C2			
AMBIENT TEMPERATURE	- 40 to 60 °C			
DIMENSIONS (W x H x D) (mm.)	38 x 215 x 82	44 x 251 x 106	120 x 270 x 120	120 x 270 x 120

- Continuous product development is our commitment. In that manner, the above specifications may be changed without prior notice.
- Product Liability Insurance for products that use in Thailand.



TPS-series

TVSS POWER STRIP

Power Line and Signal Surge Protector

SPECIFICATIONS

ELECTRICAL SYSTEM	Single phase L-N-E
NOMINAL INPUT	200-250 Vac, 50-60 Hz
RATED POWER	2,500 VA, 10 A max.
PRINCIPLE	Multi-Surge TVSS
PROTECTION MODE	All mode; L-N, L-E, N-E
HIGH MCOV	280 Vac
SURGE CAPABILITY (Imax)	10 kA (20 kA option)
TVSS STANDARD	ANSI/IEEE C62.41 CAT.B1
OVERLOAD PROTECTION	10 A/250 Vac
NUMBER OF OUTLET	6 x LEONICS type
INDICATOR (LED)	TVSS Protected (green) Fault wiring (red)
PRIMARY STATE	Gas arrester
TVSS FUNCTION	Long discharge transient
IMPULSE SPARK OVER VOLTAGE	900 V at 100 V/μs
SECONDARY STATE	Star varistor
TVSS FUNCTION	Fast response transient
CLAMP VOLTAGE	710 / 775 V
TRANSIENT CURRENT	10-20 kA (8/20 μs wave form)
TOTAL TRANSIENT ENERGY	3,800 Joules
TRANSIENT RESPONSE TIME	less than 25 ns

SIGNAL SURGE PROTECTION

PEAK PLUSE POWER DISSIPATION	1,500 W (10/1000 μs wave form)
FAST RESPONSE TIME	5 ns
LOW LINE CAPACITANCE	less than 15 pF
HIGH SPEED BUADRATE	less than 20 MHz
DC ISOLATED GROUND	V _{iso} = 1,000/6,000 V
REPITITIVE PEAK PLUS CURRENT	I _{iso} = 100 A (8/20 μs wave form)
ENVIRONMENT	0-40°C 0-95% RH (non-condensing)
DIMENSIONS (WxHxD)	120 x 260 x 60 mm.
WEIGHT	1.5 kg.



2 Channels-Signal TVSS



- Easy installation for basic extension power
- 6 outlets AC protector and 2 channels signal surge protection
- LED protected status and fault wiring indicator
- All TVSS protection mode ; L-N, L-E, N-E
- Built-in signal surge protection for IT and telecom.
- AC multi-surge TVSS in location CAT. A or B
- Accordance with ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.42-2000

SIGNAL SURGE PROTECTION Double state protection with DC isolated ground

MODEL	APPLICATIONS	CONNECTOR	LINE PROTECTION	BREAKDOWN VOLTAGE (V _{BR})	8/20 μs WAVE FORM		10/100 μs WAVE FORM	
					V _{CL}	A _{CL}	V _{CL}	A _{CL}
TPS-RS232	RS-232C	Modular plug RJ45-8C	1-8	33	59	169	45.7	33
TPS-RS485	RS-485/RS-422		1-8	6.8	13.4	746	10.5	143
TPS-LAN*	LAN 10Base-T		1-8	6.8	13.4	746	10.5	143
TPS-TEL.	Tel./Fax/Modem		4-5	180	1,500	100	1,000	50
TPS-ISDN*	ISDN		4-5	180	1,500	100	1,000	50
TPS-DSL	Digital lease line		4-5, 3-6	180	317	31.5	246	6.1
TPS-ADSL*	ADSL		4-5	270	1,500	100	1,000	50
TPS-HDSL	HDSL		4-5, 3-6	270	388	26	328	4.6
TPS-PLC	PLC 24 Volt		1-8	33	59	169	45.7	33
TPS-DATA	Telecom 48 Volt		1-8	68	121	83	92	16.3
TPS-CATV	CATV 70 Volt	Coaxial F-type	center-shield	90	600	10k	-	-
TPS-SOHO	Tel./Fax/Modem	Modular plug RJ45-8C	4-5	180	1,500	100	1,000	50
	LAN 10Base-T		1-8	6.8	13.4	746	10.5	143
TPS-HOME*	Tel./Fax/Modem	Coaxial F-type	4-5	180	1,500	100	1,000	50
	CATV 70 Volt		center-shield	90	600	10k	-	-
TPS-MFG	RS-232C	Modular plug RJ45-8C	1-8	33	59	169	45.7	33
	RS-485/RS-422			6.8	13.4	746	10.5	143

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