

TECHNICAL DATA SHEET

LPI® Bluetooth Range of Surge Filters 200 A and Above (Three Phase)

Technical Specifications

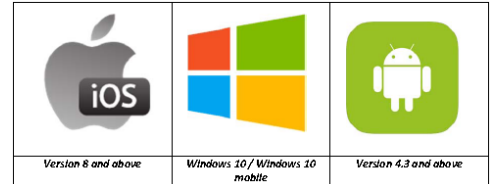
Description	LPI® Bluetooth Range of Surge Filters 200 A and Above		
Nominal Operating Voltage Un:	220 – 240	V AC P-N @ 50/60 Hz	220 - 277
Max Continuous Operating Voltage Uc:	385 Vrms		480 Vrms
Operating Time:	< 1 ns		
Power Distribution Systems:	TT, TN-S, TN-C, TN-C-S (MEN)		
Primary Surge Protection Rating per Phase:	135 kA 8/20 μ s single shot surge capacity between phase and neutral. 800 A and above, phase to neutral protection is 110 kA 10/350 μ s.		
Secondary Surge Protection Rating per Phase:	50 kA 8/20 μ s single shot surge capacity between phase and neutral, Bluetooth Technology		
Total Surge Protection per Phase:	185 kA 8/20 μ s		
N–E Protection:	100 kA 10/350 μ s, 150kA 8/20 μ s. For 800 A and above, neutral to earth protection is 110 kA 10/350 μ s.		
Protection Modes:	Transverse and common mode		
Inductor:	Air-Cored, low pass, power and noise filtering		
Capacitor Type:	Self-healing X grade		
Surge Counter:	Build-in memory retained surge counter displayed via LPI SPD App		
Current Crest Factor:	> 3:1		
Voltage Drop:	< 2 V at full load		
Efficiency:	99 %		
Frequency Response:	3 dB point below 3000 Hz		
Performance:	Typical let-through voltage for all models < 2 x mains peak voltage		
Standards (Primary and Secondary):	IEC 61643-1		
Standards (N-E):	IEC 61643-1		
Surge Withstand:	ANSI/IEEE C62.41 and AS 1768 Cat. A, B and C surge tests		
Environmental Rating:	IP 66		
Enclosure:	Metal enclosure with durable polyester powder coat finish		
Colour:	RAL 7032		
Mounting:	Wall mount		
Operating Temperatures:	-35 to +40 °C, 0 – 95 % humidity		
Warranty:	5 years manufacturer's warranty		

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Specification Detail for SPD Modules Used in Surge Filters

LPI® Bluetooth Connectivity for Surge Filters

Refer to Page 3 for further details.



LPI® SST150B Module

Primary and Secondary protection for surge filters. Refer to page 5 & 6 for specification detail.

- Applicable to 32 A – 125 A surge filter, primary and secondary protection
- Applicable to secondary protection for 200 A surge filters and above

LPI® Spark Gap

Primary protection for 200 A surge filters. Refer to page 9 for specification detail.

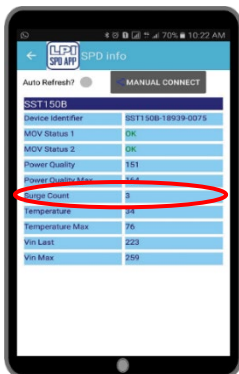


LPI® Neutral / Earth Protection for Surge Filters

Refer to page 11 for specification detail.

LPI® Alarm Interface Module (AIMCB)

Refer to page 12 for specification detail.



Surge Counter

The LPI Bluetooth range of SPD modules removes the need for a hardwired surge counter to be included with surge filters. As highlighted in the attached image a surge count is given via Bluetooth connectivity for each module. For three phase applications, this information assists in identifying problem issues where one phase may be carrying more current than other phases.

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Summary of Specification Detail for Surge Filters

Surge Filter Type	Enclosure Dimensions mm (Unpacked: W x H x D)	Weight kg (Unpacked)
SF132	300 x 300 x 150	5
SF140	300 x 300 x 150	6
SF163	300 x 300 x 150	6
SF1125	300 x 300 x 150	7
SF332	400 x 400 x 150	10
SF340	400 x 400 x 150	10
SF363	400 x 400 x 150	10
SF3125	400 x 400 x 150	11
SF3200	500 x 600 x 200	40
SF3315	600 x 700 x 200	64
SF3400	600 x 700 x 200	64
SF3630	1200 x 800 x 350	105
SF3800	1200 x 800 x 350	153
SF31000	1200 x 800 x 350	165
SF31250	1200 x 800 x 350	165
SF31500	1200 x 800 x 350	170
SF31750	1200 x 800 x 350	175
SF32000	1200 x 800 x 350	185

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LPI® Bluetooth Range of Surge Filters

Single Phase Surge Filters

Surge Filter Type:	Nominal Operating Voltage U_n : @ 50/60 Hz	Surge Rating (I_{max}): @ 8/20 μ s Per SST150B module primary/secondary	Nominal Discharge Current (I_n): @ 8/20 μ s	Max. Continuous Operating Voltage (U_c):	Response Time:	Power Distribution Systems:
SF1-230	110-120Vac	50 kA	20 kA	230 Vrms	<5 ns	WYE, L-N mode
SF1-385	220-240 Vac	50 kA	20 kA	385 Vrms	<5 ns	TN, TT & for L-N mode
SF1-480	220-277 Vac	50 kA	20 kA	480 Vrms	<5 ns	TT & TN

Split Phase Surge Filters (32A – 125A)

Surge Filter Type:	Nominal Operating Voltage U_n : @ 50/60 Hz	Surge Rating (I_{max}): @ 8/20 μ s Per SST150B module primary/secondary	Nominal Discharge Current (I_n): @ 8/20 μ s	Max. Continuous Operating Voltage (U_c):	Response Time:	Power Distribution Systems:
SF2-230	110-120Vac	50 kA	20 kA	230 Vrms	<5 ns	Split Phase L-N mode

3 Phase Surge Filters (32 A – 125 A)

Surge Filter Type:	Nominal Operating Voltage U_n : @ 50/60 Hz	Surge Rating (I_{max}): @ 8/20 μ s Per SST150B module primary/secondary	Nominal Discharge Current (I_n): @ 8/20 μ s	Max. Continuous Operating Voltage (U_c):	Response Time:	Power Distribution Systems:
SF3-230	110-120Vac	50 kA	20 kA	230 Vrms	< 5 ns	WYE for L-N mode
SF3-385	220-240 Vac	50 kA	20 kA	385 Vrms	<5 ns	TN, TT & for L-N mode
SF3-480	220-277 Vac	50 kA	20 kA	480 Vrms	<5 ns	TT & TN

3 Phase Surge Filters (200 A – 2000 A)

Surge Filter Type:	Nominal Operating Voltage U_n : @ 50/60 Hz	Primary Surge Rating (I_{max}): @ 8/20 μ s	Secondary Surge Rating (I_{max}): @ 8/20 μ s	Nominal Discharge Current (I_n): @ 8/20 μ s	Max. Continuous Operating Voltage (U_c):	Response Time:	Power Distribution Systems:
SF3-230	110— 230Vac	135 kA	50 kA	20 kA	230 Vrms	<5 ns	WYE for L-N mode
SF3-385	220-240 Vac	135 kA	50 kA	20 kA	385 Vrms	<5 ns	TN, TT & for L-N mode
SF3-480	220-277 Vac	135 kA	50 kA	20 kA	480 Vrms	<5 ns	TT & TN

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Surge Filter Part Number Key

Product Type	Phases	Load Current (A)	MCOV (V)	Primary Protection (8/20 μ s unless specified)	Secondary Protection (8/20 μ s)	Alarm Module
T	UU	VVVV	WWW	XXX	YYY	Z
SF	1	32	230	100 kA	50 kA	AIMCB
	3	40	385	150 kA	100 kA	
		63	480			
		125				
		200		≥ 200 A: 135 kA		
		315				
		400		≥ 800 A: 110 kA (10/350 μ s)		
		630				
		800				
		1000				
		1250				
		1500				
		1750				
		2000				

Surge Filter Ordering Code:

Product Order Code: T-UU-VVVV-WWW-XXX-YYY-Z

Refer to above part number key.

1. First select product type which for surge filter = SF.
2. Select number of phases.
3. Select load current.
4. Select operating voltage.
5. Select primary protection. Note: for surge filters 200 A and above primary protection is 135 kA.
6. Select secondary protection.
7. Include alarm module.

Example product code for single phase filter = **SF132-385-100+50-AIMCB**Example product code for three phase filter = **SF3125-385-150+50-AIMCB**Example product code for three phase filter 200 A and above = **SF3630-480-135-50-AIMCB**Example product code for three phase filter 800 A and above = **SF3800-480-110-50-AIMCB**

Notes:

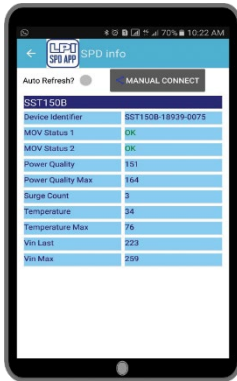
- All filters are fitted with 100 kA 10/350 μ s or 200 kA 8/20 μ s neutral earth protection.
- 630 – 2000 A current ratings filters have had a redesign of the busbar network that provides the integral inductor (replacing a separate steel core inductor) that forms part of the L-C filter network within the product.
- Busbars are no longer tinned for filters rated at 1500 A and above
- All filters are supplied with cable ties securing SST150B modules for transport purposes. Remove all cable ties when installing.

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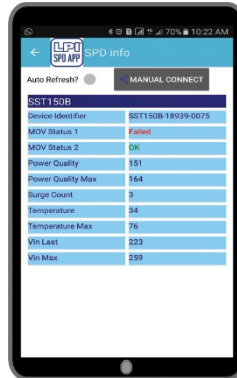
Installation & Maintenance for Surge Filters

All installation work *must* be carried out by licensed electrical personnel.

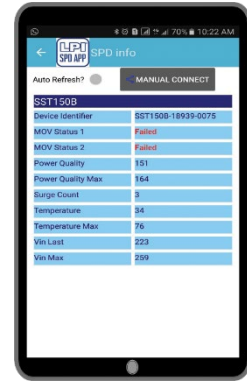
The power *must* be disconnected. Ensure no dangerous neutral to earth voltages exist prior to commencing installation work.



Operational



Replace as protection is reduced



Replace as no protection is left

1. The surge filter should be installed as close as practical to the power distribution panel. Filters rated at 315 A and above are fitted with two mounting rails to assist with mounting the unit to the wall.
2. The input and output power cables that connect to the surge filter must have a current rating at least equal to that of the unit being installed.
3. All cables are routed through the bottom of the cabinet. Suitable cable glands should be fitted to the gland plates. All connection points are clearly labelled on the backplane.
4. Connect the input and output power lines as illustrated in figure 4 and figure 5. Input cables are considered "dirty" and must be physically separate by at least 300 mm from the "clean" output cables. This will prevent any over voltage carried by the incoming cables from being induced onto the outgoing or "clean" cables.
5. The earthing impedance of the electrical system should be less than 10 Ω , with 5 Ω recommended.
6. Connect the earth terminal on the surge filter unit to the nearest electrical main earth using the shortest possible route. Earthing cable should be a minimum of 16 mm² with 25 mm² recommended.
7. All connections must be rechecked to confirm that they are securely connected.
8. Connect power to the surge filter and confirm that power is being delivered to the load and that all status indicators are green. The surge filter is in series with the load and turning off the filter's internal circuit protection will disconnect power to the load.