

- **Technical Data Sheet: LPI SS480 Surge Filters 32A, 40A 63A**
 - High performance surge protector for an operating voltage of 220 - 277Vac
 - Designed to sustain fault and over-voltage conditions up to 480Vac
 - Nominal impulse discharge current 160kA + 40kA 8/20 μ s Ph-N
 - Three stage protection best suited for sensitive electronic equipment



LPI® SS480 Surge Filters 32A, 40A, 63A

- **Product Description**



- Designed to suit TT, TN-C, TN-S, TN-C-S & IT distribution systems
- Non-saturating inductors – dv/dt and di/dt of the incoming surge will be reduced by 1000 times
- Primary (160kA 8/20 μ s) and secondary (40kA 8/20 μ s) surge protection
- High N - E protection – 100kA 10/350 μ s or 150kA 8/20 μ s
- Surge Counter (optional), LED status indication

Electronic equipment is highly susceptible to damage from lightning and other transient pulses (including man made switching transients), which arrive via the powerlines through direct strike, or inductive, capacitive coupling. Efficient filtering and clamping at the point of entry to sensitive electronic equipment is essential to mitigate physical equipment damage, loss of operations and economic loss.

The LPI Surge Filter provides multiple stage protection against incoming surges & transients and shall be installed in series with the incoming 220-277Vac single phase (Phase – Neutral) mains power supply to the equipment or building. Shunt-only clamping alone is not sufficient, as it does not limit the excessive wavefront characteristic of the pre-clamped waveform. The LPI Surge Filter will reduce the rate of rise of voltage (dv/dt) to below 10V/ μ s as per AS1768-1991 Cat B 3kA 8/20 μ s applied impulse and to below 30V/ μ s for AS 1768-1991 Cat C 20kA μ s applied impulse.

The Surge Filter is designed for multistroke lightning events and comes with the SS140-480 as the primary protection rated at 160kA 8/20 μ s per phase as the first stage to absorb the majority of the energy. The SS offers the ultimate level of safety and reliability whilst retaining optimum protection levels critical for electronic equipment. SS ensures that the protection device is virtually immune to the effects of 50/60 Hz sustained over voltages, allowing fault voltages up to 480Vac.

The second stage consists of low pass non-saturating inductors and capacitors (L-C Filtering) which further attenuates the let-through voltage already clamped by the primary stage. The filter attenuates noise and any harmonics present on the power system and is designed to attenuate transverse and common mode noise. The third stage consists of further surge diverters rated at 40kA 8/20 μ S connected across the load side, these are designed to suppress surges generated by load side equipment.

LPI Surge Filter limits the voltage differential due to a lightning induced impulse between phase and neutral as well as from neutral to ground. Thus providing both common mode and differential (transverse) mode protection. Neutral to earth protection rated at 100kA 10/350 μ s (or 150kA 8/20 μ s) is provided to limit feedback currents if the site earth goes high potential with respect to the sub-station or transformer earth. This is a common occurrence due to a near-by direct strike.

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- **Technical Data**

Rated voltage:	200 – 277Vac Ph - N @ 50/60Hz
Max continuous fault voltages @ 50/60Hz:	480Vac Ph-N
Operating time:	< 1ns
Power distribution systems:	TT, TN-S, TN-C, TN-C-S (MEN)
Primary surge protection rating Ph-N:	160kA 8/20 μ s single shot surge capacity
Secondary surge protection rating Ph-N:	40kA 8/20 μ s single shot surge capacity
N – E protection:	100kA 10/350 μ s or 150kA 8/20 μ s
Protection Modes:	Transverse and common mode
Inductor:	Non-saturating, low pass, power and noise filtering
Capacitor type:	Self healing polypropylene
Surge counter (Optional**):	7 Digit electro-mechanical display
Current crest factor:	> 3:1
Voltage drop:	< 2V at full load
Efficiency:	99%
Overload / short circuit protection:	In-line circuit breaker
Performance:	Typical let-through voltage < 600V
Filter 3dB point:	Approx 6000Hz
Standards (Primary and secondary):	IEC 61643-1, Meets UL1449 Ed 3 requirements, BS 6651 Cat A & B
Standards (N - E):	E DIN VDE 0675 part 6 as well as IEC 61643-1
Surge withstand: Cat. A,B and C surge tests	ANSI/IEEE C62.41 – 1991 and AS 1768 –1991
Protection status indication:	LED status indication, and remote alarm contact
Environmental rating:	IP 55
Enclosure:	Metal enclosure with durable polyester powder coat finish
Colour:	Oyster grey
Mounting:	Wall mount
Operating temperatures:	0 to +50°C, 0 – 95% humidity
Conductor size:	Accepts up to 35mm ²
Warranty:	5 Years manufacturer's warranty

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- **Ordering Data:**

Ordering Code	Description	Phase	Rated Voltage Ph - N	Dimensions (mm)	Weight (Kg)
SF132A-NE-SS480	1Ph, 32A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	1	200 – 277V (50-60Hz)	300x200x150	7
SF140A-NE-SS480	1Ph, 40A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	1	200 – 277V (50-60Hz)	300x200x150	7
SF163A-NE-SS480	1Ph, 63A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	1	200 – 277V (50-60Hz)	300x200x150	7
SF332A-NE-SS480	3Ph, 32A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	3	220 – 277V (50-60Hz)	300x400x150	14
SF340A-NE-SS480	3Ph, 40A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	3	220 – 277V (50-60Hz)	300x400x150	14
SF363A-NE-SS480	3Ph, 63A, 160+40kA 8/20 μ s Ph - N, SS480, 100kA 10/350 μ s NE, LED visual indicator, alarm contact	3	220 – 277V (50-60Hz)	300x400x150	14

** Optional – Add “C” to the part number for surge counter, enclosure sizes are larger for this option.



- LPI has a policy of continuing product development. Therefore, the above specifications are subject to change without notice.

LPI® - Comprehensive Lightning and Surge Protection Solutions



Direct Strike Protection



Surge & Transient Protection for Power, Data, Communications and RF lines



Earthing Products & Solutions

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