

# EAT•N

# Powerware

## Powerware CSFi Din Rail Compact Surge Filter

Product Focus

Series Filter with Shunt surge diverter,  
1 Phase 3-25A, 25kA Primary



The CSFi is designed for mounting in distribution boards to provide secondary protection against power surges caused by external sources such as lightning strikes and substation switching as well as providing a measure of protection from surge events generated on the secondary side of the filter. An ideal device for Category B locations.

The CSFi is a 3-stage protection unit utilising primary and secondary MOV protection in conjunction with a Low-Q LC filter. The unit provides filtering of the line harmonics, noise and RF transmitters with a cut-off frequency of <math><10\text{kHz}</math> and a nominal attenuation of 45dB.

### Features

- Surge suppression and filtering in a single package
- 2 mode, 3 Element Series Filter
- 3 mode, 2 Stage Surge Diverter
- Modular design
- Enclosed in IP 20 ABS plastic housing
- DIN rail mountable (4 pole wide)
- Protection Fail Alarm Relay
- 12 Month Warranty

### Typical applications:

- Secondary power circuits, Sub-boards
- UPS Systems and Rectifiers
- Telecommunications Systems
- Process and Control Systems, Homes & Units
- Computer Systems and Medical Systems
- All sensitive Electronic Equipment

All CSFi units are provided with indicators showing power and protection status. Alarms are indicated on the front panel of the unit. The alarm function provides a summary alarm output for protection degradation as well as power failure. The protection alarm is configured to partial protection failure. The summary alarm relay contacts provide remote signalling to other equipment.

# Technical Specifications

## POWERWARE CSFi

Technical Specifications	CSFi
Input voltage	200-250VAC 1 Phase
Maximum continuous voltage - MCOV	300VAC
Temporary Overvoltage	320VAC, 15 mins
Service type	TT, TN, TN C-S or any single-phase system with a grounded neutral. This unit must not be connected to an ungrounded system
Energy Absorption rating - per mode (Joules)	Primary protection L-N = 370J Primary common mode protection L-E & N-E = 480J Secondary protection L-N = 225J Secondary common mode protection L-E & N-E = 480J Aggregate rating = 1555J
Current rating - continuous	3 - 25A
Recommended max. overcurrent protection	25A (C curve MCB 25A)
Protection modes	Line-Neutral, Line-Earth, Neutral-Earth
In 8/20us (Line-Neutral) Nominal surge life	10kA x 20 hits
In 8/20us (Line-Earth) Nominal surge life	3kA x 20 hits
In 8/20us (Neutral-Earth) Nominal surge life	3kA x 20 hits
I <sub>max</sub> 8/20us (Line-Neutral) Max surge level	25kA
I <sub>max</sub> 8/20us (Line-Earth) Max surge level	10kA
I <sub>max</sub> 8/20us (Neutral-Earth) Max surge level	10kA
Residual voltage (V <sub>pl</sub> ) (Line-Neutral). (Let through voltage)	<1100 (3kA, 8/20uS)
Residual voltage (V <sub>pl</sub> ) (Line-Earth). (Let through voltage)	<1400 (3kA, 8/20uS)
Residual voltage (V <sub>pl</sub> ) (Neutral-Earth). (Let through voltage)	<1400 (3kA, 8/20uS)
Filter attenuation	45dB nominal above 1MHz
Initial clamp voltage (Line-Neutral)	560V (350Vac RMS)
Initial clamp voltage (Line-Earth)	680V (420Vac RMS)
Initial clamp voltage (Neutral-Earth)	680V (420Vac RMS)
Internal protection (fusing)	All surge diverter connections are fused via HRC fuses to IEC269-2-1
Terminations	6mm <sup>2</sup> PCB Mounted Terminals
Alarms/indicators	2 LED display, Power OK & Protection OK LEDs, Dry contact alarm relay output – 250Vac/32Vdc, 5A, 5kV isolation, Alarm under-voltage cutoff 180Vac
Location Category	Indoor
Enclosure rating	IP20
Design Standards:	IEC61643-1, IEC610006-1,2,3,4 ANSI/IEEE C62.41 Cat B,C,D,E AS1768-1991 Cat B,C,D,E AS3000,AS3100, CE mark
Dimensions & Weight	70 x 68 x 90 mm (W x D X H), 200g
Environment	-10 to 65 C, 10 to 95%RH (non-condensing)

In the interests of continual product improvement all specifications are subject to change without notice.

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