

TECHNICAL SPECIFICATION

DSFi SURGE FILTER

(Single Phase, 32A, 50kA Primary)

APPLICATIONS

- Secondary power circuits / Sub-boards
- Telecommunication Systems / Rectifiers
- Process and Control Systems / UPS's up to 6kVA
- Computer and Medical Systems / AV circuits for clubs & hotels
- All sensitive Electronic Equipment

FEATURES

- | | |
|---|---|
| ✓ Surge suppression and filtering in a single package | ✓ Enclosed in IP20 painted metal housing |
| ✓ Small mounting footprint / Modular design | ✓ Protection fail alarm relay |
| ✓ 3 mode protection (L-N, L-E, N-E) | ✓ 3 stage protection (MOV, Inductor, MOV) |
| ✓ Surge suppression rating of 50kA (L-N) | ✓ 5 year warranty |



FUNCTIONAL DESCRIPTION

The DSFi is designed to provide 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. The unit has been designed in accordance with AS3100, AS1768, IEC61643-1, IEC61000-6-1, 2, 3, 4 and other standards and codes as applicable.

The DSFi is a 3-stage protection unit utilising primary and secondary MOV protection in conjunction with a 2-stage Low-Q LC filter (ie. 2 inductive coils) using separate differential mode and common mode circuits. The unit provides filtering of the line harmonics, noise and RF transmitters with a cut-off frequency of <1.5kHz and a minimum attenuation of >55dB to 10MHz.

Secondary MOV protection (in all 3 modes) is located after the inductive coils, to provide further surge reduction and to protect against load-generated surges. An ideal device for Category B locations.

OPERATION

Indicators - The operation status of the DSFi is indicated by lamps on the front panel. The 'OK' light indicates that power is applied to the DSFi. The 'FAULT' light indicates that the surge protection circuitry is damaged and the unit should be replaced. When the fault indicator lights, the protection relay contacts change over.

Enclosures – DSFi is fully enclosed. Enclosures are manufactured in powder-coated mild steel for exposure category IP20. The Enclosure includes 25mm access on opposing sides for cable entry and exit and the unit is supplied with terminal covers.

WARRANTY

Eaton Power Quality warrants the DSFi products against faulty parts and workmanship for a period of 5 years from the date of purchase. For further information, refer to EATON Powerware warranty statement.

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Technical Specification – DSFi Rev A

Tvss Doc# 520036

PHYSICAL AND ELECTRICAL SPECIFICATIONS

Manufacturers name and model	DSFi
Number of ports	2 Port
Method of mounting	Fixed.
Input voltage – Uc	200-250VAC 1Ø
Maximum continuous voltage – MCOV	285VAC L-N
Temporary overvoltage - TOV	300VAC L-N, 15 mins
Service type	TT, TN, TN C-S or any 1-phase system with a grounded neutral. This unit must not be connected to an ungrounded system
Test classification (according to IEC61643-1)	Class II
Energy Absorption rating – per mode (Joules)	Primary protection L-N = 740J Primary Common Mode protection L-E & N-E = 780J Secondary protection L-N = 225J Secondary Common Mode protection L-E & N-E = 480J Aggregate rating = 2,225J
Current rating - continuous	32A
Recommended maximum over current protection	32A
Residual current	<1 mA
Short circuit withstand (1 sec)	Suitable for use with a 6kAIC C or D Curve MCB
Protection modes	Line-Neutral, Line-Earth, Neutral-Earth
In 8/20us (Line-Neutral). Nominal surge life.	15kA x 20 hits
In 8/20us (Line-Earth). Nominal surge life.	10kA x 20 hits
In 8/20us (Neutral-Earth). Nominal surge life.	10kA x 20 hits
Ismax 8/20us (Line-Neutral). Maximum surge level.	50kA
Ismax 8/20us (Line-Earth). Maximum surge level.	25kA
Ismax 8/20us (Neutral-Earth). Maximum surge level.	25kA
Filter attenuation – Differential mode (Line-Neutral)	20dB at 5kHz, 40dB at 50kHz, >55dB to 10MHz
Filter attenuation – Common mode (Line-Neutral & Line-Earth)	20dB at 5kHz, 40dB at 50kHz, >55dB to 10MHz
Initial clamp voltage (Line-Neutral)	560V
Initial clamp voltage (Line-Earth)	680V
Initial clamp voltage (Neutral-Earth)	680V
Residual voltage (Vpl) (Line-Neutral). (Let through voltage)	<1100 (3kA, 8/20uS)
Residual voltage (Vpl) (Line-Earth). (Let through voltage)	<1000 (3kA, 8/20uS)
Residual voltage (Vpl) (Neutral-Earth). (Let through voltage)	<1000 (3kA, 8/20uS)
Internal protection (fusing)	All surge diverter connections are fused via HRC fuses to IEC269-2-1
Thermal Fusing	On all MOV elements, 126°C
External disconnecter requirements	Line side: C or D curve MCB 32AMP Load side: C or D curve MCB 32AMP
Terminations	10mm ² PCB Mount
Alarms/indicators	2 LED display, dry contact alarm relay output – 250VAC/32VDC, 5A, 5kV isolation, alarm under-voltage cutoff 180VAC.
Location Category	Indoor
Enclosure rating	IP20
Standards. Designed in accordance with :	IEC61643-1, IEC61006-1,2,3,4 ANSI/IEEE C62.41 Cat B,C,D,E AS1768-1991 Cat B,C,D,E AS3000,AS3100, CE mark
Installation instructions	Supplied with unit.
Dimensions	140 x 50 x 270 mm (W x D X H)
Weight	1.5kg
Environment	-10 to 65°C, 10 to 90%RH (non-condensing)
Warranty	5 years, workmanship and materials

NOTE:- Installation must be carried out by suitably qualified personnel. Please refer to installation instructions for details.

FRONT
PANEL
DISPLAY



TERMINAL
COVERS
REMOVED



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