

Eaton® PPFi

Class II/Cat C & D, 3 Phase Premium Power Filter



Series Power & Noise Filter with Shunt Surge Diverter 3 Phase, 100-400A, 80-240kA

Applications:

- All Power Circuits including "Point-of-Entry"
- Telecommunications Systems & Rectifiers
- Process & Control Systems & UPS Systems
- Computer Systems & Medical Systems
- AV circuits for clubs & hotels
- All sensitive Electronic Equipment

Key Features:

- Surge suppression & filtering in a single package
- Standard Current ratings from 100A to 400A
- 1 mode, Multi-Element Series Filter
- 2 mode, 3 stage Surge Diverter
- Surge suppression ratings from 80kA to 240kA
- Provides extensive high frequency & RF filtering
- Incorporates a EN certified EMI/RFI filter
- Panel-mounted mimic display
- Protection Fail Alarm Relay
- Enclosed in IP24 painted steel cabinet
- 5 Year Warranty

Options:

- Custom configurations
- Isolation switches & circuit breakers
- Custom cabinets
- Chassis Mount versions

The PPFi is designed to provide point-of-entry (Category C) & sub-circuit protection (Category B) against power surges caused by external sources such as lightning strikes & 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 all Category locations.

The PPFi is a 3-stage protection system utilising primary & secondary MOV protection in conjunction with a Low-Q LC filter. The unit provides filtering of the line harmonics, noise & RF transmitters with a cut-off frequency of <10kHz & a minimum attenuation of 70dB above 1MHz. Special care has been taken in the design of the filter to minimise ringing caused by light loads, surge diverter operation & inductive load back-EMF.

All models in the PPFi Series are fully enclosed in wall mounting IP24 steel enclosures. A graphical mimic display provides at-a-glance indication of the status of the PPFi with indicators showing correct functions in green & faults in red. The alarm function provides a summary alarm output for protection failure & power failure.



Technical Specifications	PPFXX3CEi	PPFXX3DEi	PPFXX3EEi
Input voltage	380 - 440VAC 3 Phase		
Maximum continuous voltage – MCOV	300VAC L-N		
Temporary overvoltage - TOV	320VAC, 15 mins		
Service type	TT, TN, TN C-S or any 3-phase system with a grounded neutral. This unit must not be connected to an ungrounded system		
Test classification	Class II		
Energy Absorption rating - per mode (Joules) Primary protection L-N: Secondary protection L-N: Common mode protection N-E: Aggregate rating:	1,200J/ph, 3,600J total. 600J/ph, 1,600J total. 2,130J. 7,530J.	1,800J/ph, 5400J total. 600J/ph, 1800J total. 710J. 7,910J.	3,600J/ph, 10,800J total. 600J/ph, 1,800J total. 710J. 13,310J.
Current rating – continuous (standard models)	100A, 160A, 200A, 300A, 400A		
Recommended maximum over current protection	100A, 160A, 200A, 300A, 400A		
Residual current	<1 mA		
Short circuit withstand (1 sec)	29kA		
Protection modes	Line-Neutral, Neutral-Earth	Line-Neutral, Neutral-Earth	Line-Neutral, Neutral-Earth
In 8/20us (Line-Neutral) Nominal Surge Life	30kA x 20 hits/ph	45kA x 20 hits/ph	90kA x 20 hits/ph
In 8/20us (Neutral-Earth) Nominal Surge Life	45kA x 20 hits	45kA x 20 hits	45kA x 20 hits
Ismax 8/20us (Line-Neutral) Max surge level	80kA	120kA	240kA
Ismax 8/20us (Neutral-Earth) Max surge level	120kA	40kA	40kA
Filter attenuation	70dB nominal above 1MHz		
Initial clamp voltage (Line-Neutral)	560V (350Vac RMS)		
Initial clamp voltage (Line-Earth)	1240V (700Vac RMS)		
Initial clamp voltage (Neutral-Earth)	680V (420Vac RMS)		
Residual voltage (Vpl) Line-Neutral	<900Vac (3kA, 8/20uS) IEC61643.1		
Residual voltage (Vpl) Line-Earth	<1100Vac (3kA, 8/20uS) IEC61643.1		
Residual voltage (Vpl) Neutral-Earth	<1000Vac (3kA, 8/20uS) IEC61643.1		
Internal protection (fusing)	All surge diverter connections are fused via HRC fuses to IEC269-2-1		
Terminations	Bolted lug. 8mm bolts for phase & neutral connections. 8mm PE (earth) stud provided on geartray.		
Alarms/indicators	Mimic panel display via LED (2 colour), OK - Green; Protection Fault - Red. Dry contact alarm relay output – 250Vac/32Vdc, 10A, 4kV isolation, Alarm under-voltage cutoff 180Vac.		
Enclosure rating	IP24		
Design standards:	IEC61643-1, IEC610006-1,2,3,4 ANSI/IEEE C62.41 Cat B,C,D AS1768-2007 Cat B,C,D,E AS3000, AS3100, CE mark		
Dimensions	600 x 200 x 800 mm (W x D x H) = 100A to 200A 800 x 400 x 1000 mm (W x D x H) = 300A & 400A		
Weight	100A & 160A = 50 kg, 200A = 60 kg, 300A & 400A = 75 kg		
Environment	-10 to 65°C, 10 to 90%RH (non-condensing)		

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Eaton® PPFi

Block Diagram & Mimic Display

Surge Category

The PPFi is suitable for use in all category locations:

Class II/Cat D

(6kV/30kA) Point of Entry, High Exposure

Class II/Cat C

(6kV/15kA) Point of Entry/ Service Entrance

Class II/Cat B (Special Applications)

(6kV/3kA) Major sub mains & short final sub circuits



