schaffner
energy efficiency and reliability

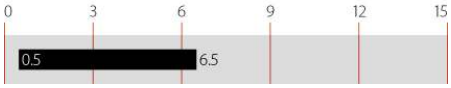
Low Cost PCB Filter

- Rated currents from 0.5 to 6.5 A
- Compact PCB-mountable design
- Very low profile
- Optional medical versions (B type)

Performance indicators

Attenuation performance

Rated current [A]



Technical specifications

Maximum continuous operating voltage	250 VAC, 50/60 Hz
Operating frequency	dc to 400 Hz
Rated currents	0.5 to 6.5 A @ 40 °C max.
High potential test voltage	P –> PE 2000 VAC for 2 sec (standard types) P –> N 760 VAC for 2 sec P –> PE 2500 VAC for 2 sec (B types)
Temperature range (operation and storage)	-25 °C to +100 °C (25/100/21)
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
Flammability corresponding to	UL 94 V-0 or better
MTBF @ 40°C/230V (Mil-HB-217F)	1,900,000 hours

Approvals

The FN 402 PCB filter is a single-phase filter designed for easy and fast PCB-mounting. Choosing the FN 402 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptance. Standard PCB single-phase filters are a practical solution helping you to pass EMI system approval in a short time. A selection on amperage ratings and medical types are designed to offer you the desired standard product.

Features and benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- PCB through hole mounting
- Low cost low profile
- Custom specific versions on request

Typical applications

- Electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment

Filter selection table

Filter	Rated current @ 40 °C (25 °C) [A]	Leakage current* @ 230 VAC/50 Hz [µA]	Inductance L [mH]	Capacitance Cx [nF]	Capacitance Cy [nF]	Resistance R [kΩ]	Input/Output connections	Weight [g]
FN402-0.5-02	0.5 (0.6)	373	40	100	2.2	1000	-02	40
FN402-1-02	1 (1.2)	373	10	100	2.2	1000	-02	40
FN402-1.6-02	1.6 (1.9)	373	6	100	2.2	1000	-02	40
FN402-2.5-02	2.5 (3)	373	2	100	2.2	1000	-02	40
FN402-4-02	4 (4.7)	373	1	100	2.2	1000	-02	40
FN402-6.5-02	6.5 (7.5)	373	1	100	2.2	1000	-02	40
FN402B-0.5-02	0.5 (0.6)	2	40	100		1000	-02	40
FN402B-1-02	1 (1.2)	2	10	100		1000	-02	40
FN402B-1.6-02	1.6 (1.9)	2	6	100		1000	-02	40
FN402B-2.5-02	2.5 (3)	2	2	100		1000	-02	40
FN402B-4-02	4 (4.7)	2	1	100		1000	-02	40
FN402B-6.5-02	6.5 (7.5)	2	1	100		1000	-02	40

* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

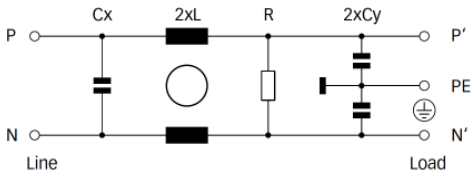
Product selector

FN 402x-yy-..

- 02: PCB through hole mounting
- 0.5 to 6.5: Rated current
- Blank: Standard version
- B: Medical version (without Y2-capacitor)

For example: FN 402-0.5-02, FN 402B-6.5-02

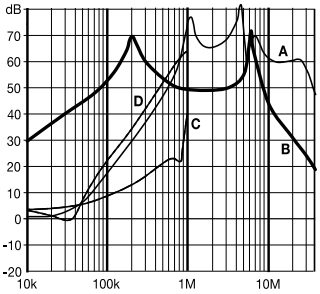
Typical electrical schematic



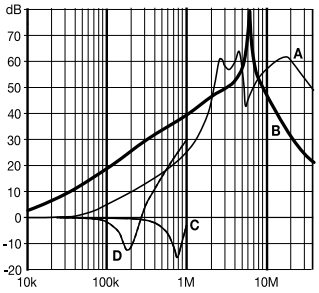
Typical filter attenuation

Per CISPR 17; A = 50 Ω/50 Ω sym; B = 50 Ω/50 Ω asym; C = 0.1 Ω/100 Ω sym; D = 100 Ω/0.1 Ω sym

0.5 to 1.6 A types

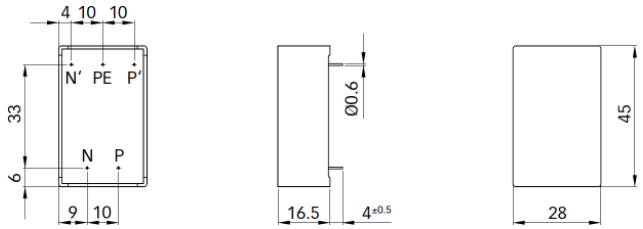


2.5 to 6.5 A types

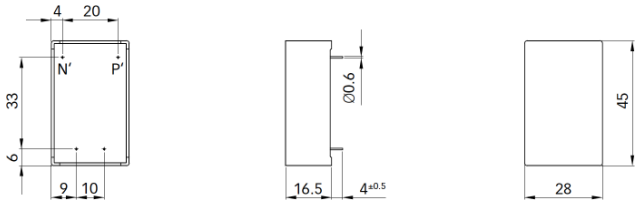


Mechanical data

FN 402



FN 402B



All dimensions in mm; 1 inch = 25.4 mm
Tolerances according: ISO 2768-m / EN 22768-m

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