

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]



Approvals & Compliances



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

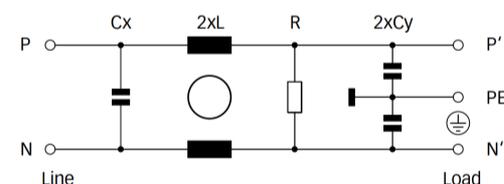
Technical Specifications

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

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

Typical electrical schematic



Filter Selection Table

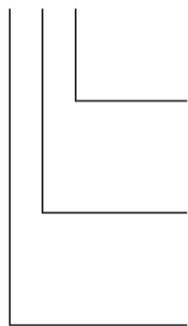
Filter	Rated current	Leakage current*	Inductance**	Capacitance**		Resistance**	Input/Output connections	Weight
	@ 40°C (25°C)	@ 230 VAC/50 Hz	L	Cx	Cy	R		
	[A]	[μA]	[mH]	[nF]	[nF]	[kΩ]	⊥	[g]
FN 402-0.5-02	0.5 (0.6)	373	40	100	2.2	1000	-02	40
FN 402-1-02	1 (1.2)	373	10	100	2.2	1000	-02	40
FN 402-1.6-02	1.6 (1.9)	373	6	100	2.2	1000	-02	40
FN 402-2.5-02	2.5 (3)	373	2	100	2.2	1000	-02	40
FN 402-4-02	4 (4.7)	373	1	100	2.2	1000	-02	40
FN 402-6.5-02	6.5 (7.5)	373	1	100	2.2	1000	-02	40
FN 402 B-0.5-02	0.5 (0.6)	2	40	100		1000	-02	40
FN 402 B-1-02	1 (1.2)	2	10	100		1000	-02	40
FN 402 B-1.6-02	1.6 (1.9)	2	6	100		1000	-02	40
FN 402 B-2.5-02	2.5 (3)	2	2	100		1000	-02	40
FN 402 B-4-02	4 (4.7)	2	1	100		1000	-02	40
FN 402 B-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.

** Tolerances apply: Inductance: -30/+50%, Capacitance: ±20%, Resistance: ±10%

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)

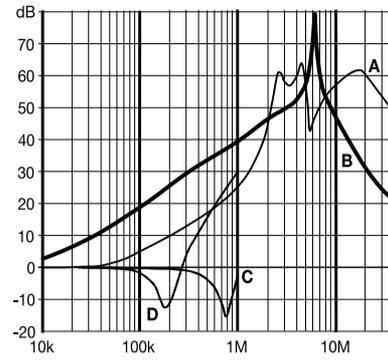
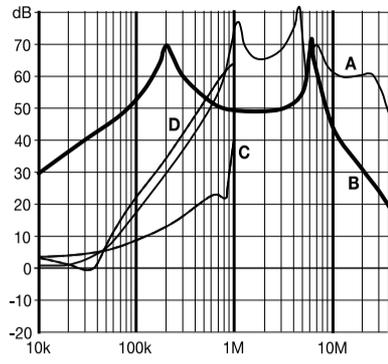
For example: FN 402-0.5-02, FN 402 B-6.5-02

Typical Filter Attenuation

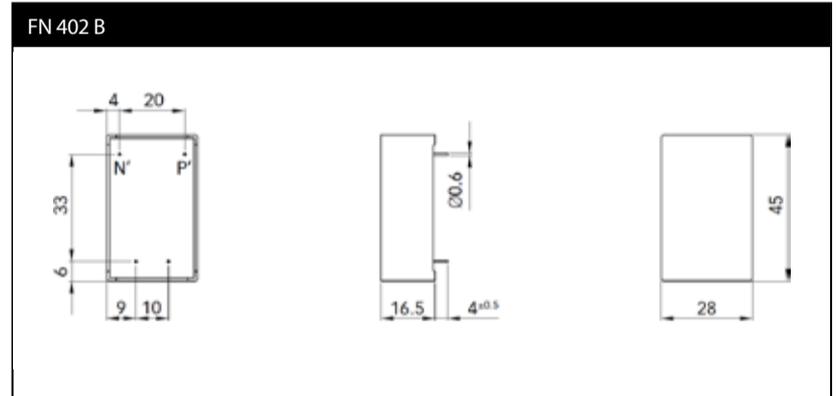
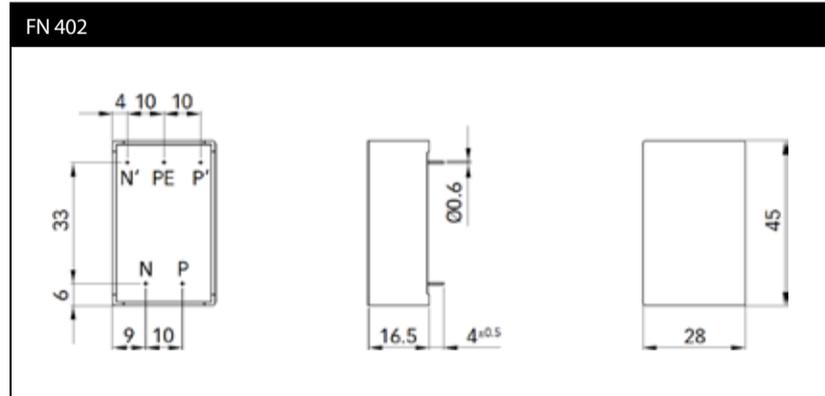
Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

0.5 to 1.6 A types

2.5 to 6.5 A types



Mechanical Data



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

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