

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

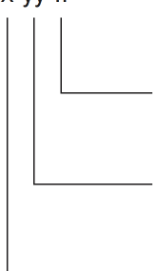
Filter selection table

| Filter | Rated current @ 40 °C (25 °C) [A] | Leakage current* @ 230 VAC/50 Hz [µA] | Inductance L [mH] | Capacitance | | Resistance R [kΩ] | Input/Output connections | Weight [g] |
|----------------------|---|---|-------------------------|-------------|------------|-------------------------|-----------------------------|---------------|
| | | | | Cx [nF] | Cy [nF] | | | |
| 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.

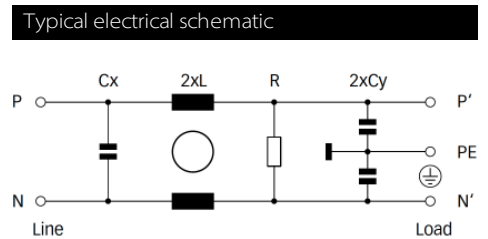
Product selector

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

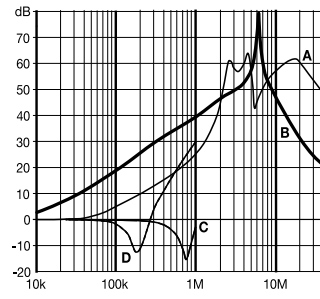
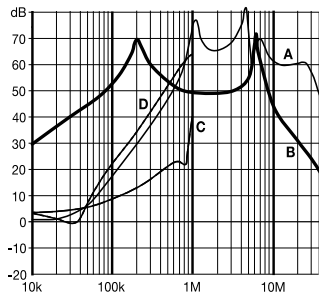


Typical filter attenuation

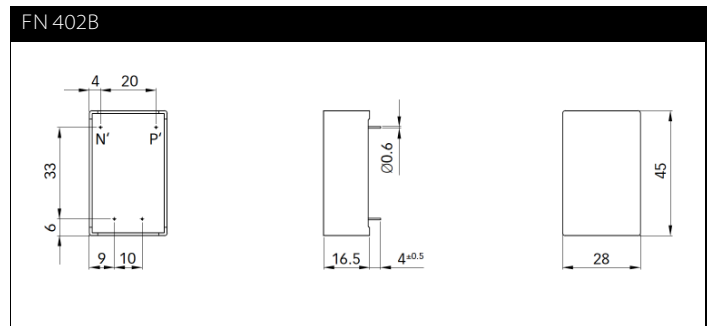
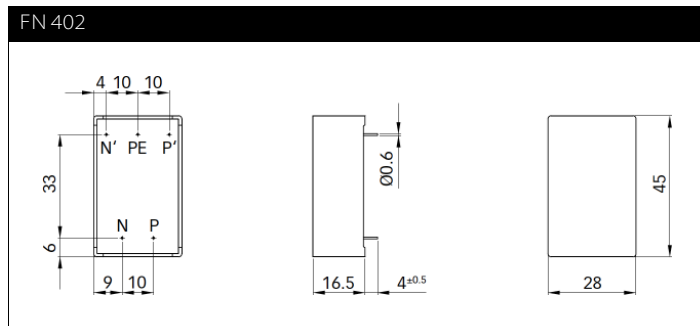
Per CISPR 17; A = 50 Ω/50 Ω sym; B = 50 Ω/50 Ω asym; C = 0.1 Ω/100 Ω sym; D = 100 Ω/0.1 Ω sym

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: ISO 2768-m / EN 22768-m



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