

## Ultra Compact EMC Filter



- Rated currents from 0.5 to 8.4 A
- Aluminium case
- Very compact PCB-mountable design
- Low profile
- Optional medical versions (B type)



### Performance indicators

Attenuation performance



Rated current [A]



### Approvals



The FN 406 PCB filter is a single-phase filter designed for easy, fast and compact PCB- mounting. Choosing the FN 406 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 profile.
- Custom specific versions on request.

### Technical specifications

|                                                  |                                                                                                              |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Maximum continuous operating voltage</b>      | 250 VAC, 50/60 Hz                                                                                            |
| <b>Operating frequency</b>                       | dc to 400 Hz                                                                                                 |
| <b>Rated currents</b>                            | 0.5 to 8.4 A @ 40 °C max.                                                                                    |
| <b>High potential test voltage</b>               | P → PE 2000 VAC for 2 sec (standard types)<br>P → N 760 VAC for 2 sec<br>P → PE 2500 VAC for 2 sec (B types) |
| <b>Temperature range (operation and storage)</b> | -25 °C to +100 °C (25/100/21)                                                                                |
| <b>Design corresponding to</b>                   | UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939                                                                   |
| <b>Flammability corresponding to</b>             | UL 94 V-0                                                                                                    |
| <b>MTBF @ 40°C/230V (Mil-HB-217F)</b>            | 1,900,000 hours                                                                                              |

### 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<br>@ 40 °C (25 °C)<br>[A] | Leakage current*<br>@ 230 VAC/50 Hz<br>[µA] | Inductance<br>L<br>[mH] | Capacitance |            | Resistance<br>R<br>[kΩ] | Input/Output<br>connections | Weight<br>[g] |
|----------------|-----------------------------------------|---------------------------------------------|-------------------------|-------------|------------|-------------------------|-----------------------------|---------------|
|                |                                         |                                             |                         | Cx<br>[nF]  | Cy<br>[nF] |                         |                             |               |
| FN 406-0.5-02  | 0.5 (0.6)                               | 373                                         | 24                      | 100         | 2.2        | 1000                    | -02                         | 36            |
| FN 406-1-02    | 1 (1.2)                                 | 373                                         | 12                      | 100         | 2.2        | 1000                    | -02                         | 36            |
| FN 406-3-02    | 3 (3.6)                                 | 373                                         | 2.5                     | 100         | 2.2        | 1000                    | -02                         | 36            |
| FN 406-6-02    | 6 (6.9)                                 | 373                                         | 0.78                    | 100         | 2.2        | 1000                    | -02                         | 36            |
| FN 406-8.4-02  | 8.4 (9.6)                               | 373                                         | 0.3                     | 100         | 2.2        | 1000                    | -02                         | 36            |
| FN 406B-0.5-02 | 0.5 (0.6)                               | 2                                           | 24                      | 100         |            | 1000                    | -02                         | 36            |
| FN 406B-1-02   | 1 (1.2)                                 | 2                                           | 12                      | 100         |            | 1000                    | -02                         | 36            |
| FN 406B-3-02   | 3 (3.6)                                 | 2                                           | 2.5                     | 100         |            | 1000                    | -02                         | 36            |
| FN 406B-6-02   | 6 (6.9)                                 | 2                                           | 0.78                    | 100         |            | 1000                    | -02                         | 36            |
| FN 406B-8.4-02 | 8.4 (9.6)                               | 2                                           | 0.3                     | 100         |            | 1000                    | -02                         | 36            |

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

Product selector

FN 406x-yy-..

02:

0.5 to 8.4:

Blank:

B:

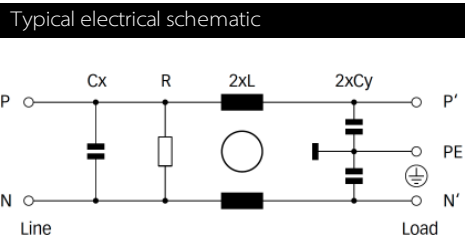
PCB through hole mounting

Rated current

Standard version

Medical version (without Y2-capacitor)

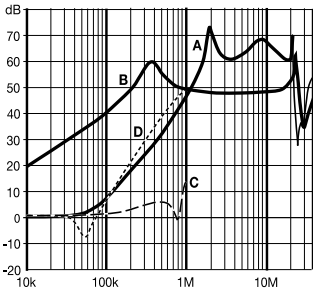
For example: FN 406-0.5-02, FN 406B-8.4-02



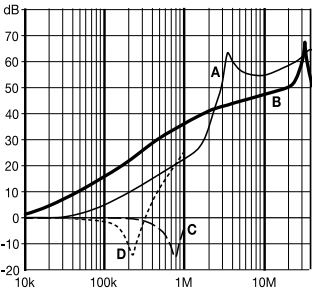
Typical filter attenuation

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

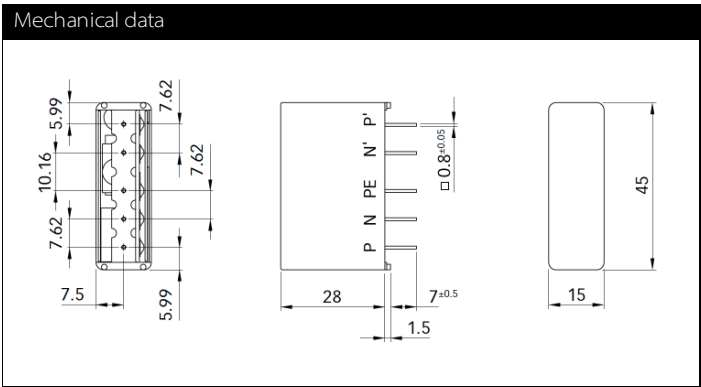
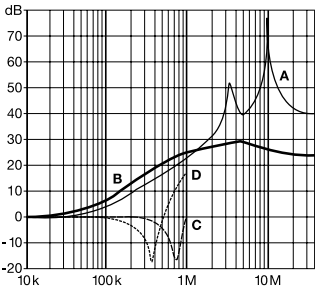
0.5 to 3 A types



6 A types



8.4 A types



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

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.



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