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

<table>
<thead>
<tr>
<th>Standard</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>18</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>27</td>
<td>30</td>
<td>33</td>
</tr>
</tbody>
</table>

### Technical specifications

- **Maximum continuous operating voltage**: 250 VAC, 50/60 Hz
- **Operating frequency**: DC to 400 Hz
- **Rated currents**: 0.5 to 8.4 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
- **MTBF @ 40°C/230 V (Mil-HB-217F)**: 1,900,000 hours

### Approvals

- UL®
- CSA®
- I4
- RoHS

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.

### 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

```
  P  --  Cx  --  R  --  2xL  --  2xCy  --  P'
       |        |        |        |        |
       |        |        |        |        |
       |        |        |        |        |
  N  --  PE  --  N'  --  Load
```
## Filter selection table

<table>
<thead>
<tr>
<th>Filter</th>
<th>Rated current @ 40 °C (25 °C)</th>
<th>Leakage current* @ 230 VAC/50 Hz</th>
<th>Inductance** L</th>
<th>Capacitance** Cx</th>
<th>Capacitance** Cy</th>
<th>Resistance** R</th>
<th>Input/Output connections</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 406-0.5-02</td>
<td>0.5 (0.6)</td>
<td>373</td>
<td>24</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-1-02</td>
<td>1 (1.2)</td>
<td>373</td>
<td>12</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-3-02</td>
<td>3 (3.6)</td>
<td>373</td>
<td>2.5</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-6-02</td>
<td>6 (6.9)</td>
<td>373</td>
<td>0.78</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-8.4-02</td>
<td>8.4 (9.6)</td>
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<td>0.3</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406 B-0.5-02</td>
<td>0.5 (0.6)</td>
<td>2</td>
<td>24</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>FN 406 B-1-02</td>
<td>1 (1.2)</td>
<td>2</td>
<td>12</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>FN 406 B-3-02</td>
<td>3 (3.6)</td>
<td>2</td>
<td>2.5</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
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<td>FN 406 B-8.4-02</td>
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<td>2</td>
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<td>100</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

* 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%
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

Mechanical data

FN 406

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

Please visit www.schaffner.com to find more details on filter connectors.
To find your local partner within Schaffner’s global network: www.schaffner.com

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