High Performance Two-stage PCB-mounting EMC Filter

**Performance indicators**

<table>
<thead>
<tr>
<th>Attenuation performance</th>
<th>standard</th>
<th>high</th>
<th>very high</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rated current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</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 6 A @ 40°C max.
- **High potential test voltage**
  - P → PE: 2000 VAC for 2 sec
  - P → N: 760 VAC for 2 sec
- **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-2 or better
- **MTBF @ 40°C/230 V (Mil-HB-217F)**: 675,000 hours

**Approvals**

- UL®, CSA®, 14, ROHS

The FN 410 PCB filter is a single-phase, two-stage filter designed for easy and fast PCB-mounting. Choosing the FN 410 product line brings you the rapid availability of a standard high performance 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 are designed to offer you the desired standard product.

**Features and benefits**

- Very good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Two-stage single-phase design
- PCB through hole mounting
- 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

**Typical electrical schematic**
### 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**</th>
<th>Capacitance**</th>
<th>Resistance**</th>
<th>Input/Output connections</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[A]</td>
<td>[μA]</td>
<td>[mH]</td>
<td>[mH]</td>
<td>[nF]</td>
<td>[nF]</td>
<td>[kΩ]</td>
</tr>
<tr>
<td>FN 410-0.5-02</td>
<td>0.5 (0.6)</td>
<td>373</td>
<td>24</td>
<td>24</td>
<td>33</td>
<td>2.2</td>
<td>-0.02</td>
</tr>
<tr>
<td>FN 410-1-02</td>
<td>1 (1.2)</td>
<td>373</td>
<td>10</td>
<td>10</td>
<td>33</td>
<td>2.2</td>
<td>-0.02</td>
</tr>
<tr>
<td>FN 410-3-02</td>
<td>3 (3.6)</td>
<td>373</td>
<td>2</td>
<td>2</td>
<td>33</td>
<td>2.2</td>
<td>-0.02</td>
</tr>
<tr>
<td>FN 410-6-02</td>
<td>6 (6.9)</td>
<td>373</td>
<td>0.8</td>
<td>0.8</td>
<td>33</td>
<td>2.2</td>
<td>-0.02</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%.

### Product selector

For example: FN 410-0.5-02, FN 410-6-02

### 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 and 1 A types

3 and 6 A types

### Mechanical data

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.
To find your local partner within Schaffner’s
global network: www.schaffner.com

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