General Purpose AC/DC EMI Filter

- Rated currents from 1 to 60 A
- General purpose filtering performance
- Optional medical versions (B type)
- Optional safety versions (A type)
- Optional enhanced performance versions
- Optional DC optimized versions

### Performance indicators

<table>
<thead>
<tr>
<th>Attenuation performance</th>
<th>standard</th>
<th>high</th>
<th>very high</th>
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</thead>
<tbody>
<tr>
<td>Rated current [A]</td>
<td>0</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

### Technical specifications

- **Rated voltage**: 250 VAC, 50/60 Hz; 250 VDC
- **Operating frequency**: DC to 400 Hz
- **Rated currents**: 1 to 60 A @ 40°C max.
- **High potential test voltage**
  - P –> PE 2000 VAC for 2 sec (equiv. cap <88 nF)
  - P –> PE 2550 VDC for 2 sec (equiv. cap >88 nF)
  - P –> PE 2500 VAC for 2 sec (B types)
  - P –> N 1100 VDC for 2 sec
- **Temperature range (operation and storage)**
  - -25 °C to +100 °C (25/100/21)**
- **Certified to**
  - UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 (applies to AC and DC applications)
- **Flammability corresponding to**
  - Terminal plastic for -06/-08 version: UL 94 V-0
  - Laces for -07 version: UL 94 VW-1
  - Grommet for -07 version: UL 94 V-0
- **Overvoltage category**: II acc. IEC 60664-1
- **Pollution degree**: 2 acc. IEC 60664-1
- **Altitude**: 2000m (above derating applies)**
- **MTBF @ 40°C/230 V (MIL-HB-217F)**
  - 1,250,000 hours
  - 3,200,000 hours (B types)

* maximum RMS operating voltage at rated frequency or the maximum DC operating voltage

** for dedicated requests exceeding this specification (e.g. -40 °C or higher altitude) please contact your local Schaffner sales office

### Features and benefits

- FN 2010 filters are designed for easy and fast chassis mounting
- FN 2010 filters are available as B versions without Y-capacitors for medical applications as well as A version with low capacitance for safety critical applications with necessity for low leakage currents
- FN 2010 filters are also available as enhanced performance and DC optimized versions. With higher attenuation in very compact housing (M, N1,N types)
- All filters provide a general purpose conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- FN 2010 filters can be used to cover a broad range of usage and they offer a good size/amperage ratio
- Various terminal options allow you to select the desired connection style

### Typical applications

- Electrical and electronic equipment
- Consumer goods
- Household equipment
- Medical equipment
- Office automation equipment
- Datacom equipment

### Typical electrical schematic
## Filter selection table

<table>
<thead>
<tr>
<th>Filter*</th>
<th>Rated current@ 40°C (25°C)</th>
<th>Leakage current**@ 250 VAC/50 Hz (@ 120 VAC/60 Hz)</th>
<th>Inductance***[L]</th>
<th>Capacitance***[Cx, Cy]</th>
<th>Resistance***[R]</th>
<th>Input/Output connections</th>
<th>Weight[g]</th>
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<tbody>
<tr>
<td><strong>FN 2010-1-..</strong></td>
<td>1 (1.15)</td>
<td>0.07 (0.04)</td>
<td>1.2</td>
<td>0.1</td>
<td>0.47</td>
<td>1000</td>
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<tr>
<td><strong>FN 2010-3-..</strong></td>
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<tr>
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<td>0.07 (0.04)</td>
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<td>-06</td>
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<td><strong>FN 2010-10-..</strong></td>
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<tr>
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<tr>
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<tr>
<td><strong>FN 2010-60-24</strong></td>
<td>60 (69)</td>
<td>0.79 (0.46)</td>
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<td>330</td>
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<td><strong>FN 2010 A-1-..</strong></td>
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<tr>
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<tr>
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<td><strong>FN 2010 B-16-..</strong></td>
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<td><strong>FN 2010 B-30-08</strong></td>
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<td><strong>FN 2010 B-60-24</strong></td>
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<td>330</td>
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<td>-07</td>
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<td><strong>Enhanced performance</strong></td>
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<tr>
<td><strong>FN 2010 N1-1-06</strong></td>
<td>1 (1.15)</td>
<td>5.34 (3.08)</td>
<td>12</td>
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<td>5.34 (3.08)</td>
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<td>5.34 (3.08)</td>
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<td>3.69 (2.13)</td>
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<td><strong>FN 2010 N3-08</strong></td>
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<td><strong>FN 2010 N6-0-24</strong></td>
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<td>330</td>
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<td>-07</td>
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</tbody>
</table>

* To compile a complete part number, please replace the -.. with the required I/O connection style (e.g. FN 2010-30-08, FN 2010B-10-06). The different letters code the used Cy values in the filter type (A = 0.47nF; M = 47nF; N1 = 47nF; N = 100nF).

** Maximum leakage under usual AC operating conditions (acc. IEC 60959-3). 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
Mechanical data

**Connection style -06, 1 to 12 A types**

**Connection style -06, 16 and 20 A types**

**Connection style -07, 1 to 12 A types (same dimensions as style -06)**

**Connection style -07, 16 and 20 A types (same dimensions as style -06)**

**Connection style -08, 16 and 20 A types**

**Connection style -08, 30 A types**

**Connection style -24**
## Dimensions

<table>
<thead>
<tr>
<th></th>
<th>1 A</th>
<th>3 A</th>
<th>6 A</th>
<th>10 A</th>
<th>12 A</th>
<th>16 A</th>
<th>20 A</th>
<th>30 A</th>
<th>60 A</th>
<th>Tolerances</th>
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<td>64</td>
<td>64</td>
<td>64</td>
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### Connection style -06

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### AWG type wire

- AWG 20
- AWG 18
- AWG 16
- AWG 14

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### Connection style -08

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<th>1.2 - 1.3</th>
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### Earth terminal

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<th>1.5 - 1.7</th>
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### Connection style -24

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### Recommended torque (Nm)

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### Earth Terminal

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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 connections.
Headquarters, global innovation and development

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