Multi-stage Performance AC/DC EMI Filter

- Rated currents from 1 to 36 A
- High differential and common-mode attenuation
- High frequency attenuation
- Optional medical versions (B type)
- Optional safety versions (A type)

**Performance indicators**

**Attenuation performance**

<table>
<thead>
<tr>
<th>Standard</th>
<th>High</th>
<th>Very High</th>
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**Rated current (A)**

<table>
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<tr>
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<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
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<tr>
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</table>

**Technical specifications**

<table>
<thead>
<tr>
<th>Rated voltage*</th>
<th>250 VAC, 50/60 Hz; 250 VDC</th>
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<tbody>
<tr>
<td>Operating frequency</td>
<td>DC to 400 Hz</td>
</tr>
<tr>
<td>Rated currents</td>
<td>1 to 36 A @ 40°C max</td>
</tr>
<tr>
<td>High potential test voltage</td>
<td>P -&gt; PE 2000 VAC for 2 sec; P -&gt; PE 2500 VAC for 2 sec (B types); P -&gt; N 1100 VDC for 2 sec</td>
</tr>
<tr>
<td>Temperature range (operation and storage)</td>
<td>-25°C to +100°C (25/100/21)</td>
</tr>
<tr>
<td>Certified to</td>
<td>UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 (applies to AC and DC applications)</td>
</tr>
<tr>
<td>Flammability corresponding to</td>
<td>UL 94 V-2 or better</td>
</tr>
<tr>
<td>Design corresponding to</td>
<td>UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939</td>
</tr>
<tr>
<td>MTBF @ 40°C/230 V (Mil-HB-217F)</td>
<td>1,550,000 hours (A type); 1,600,000 hours (B types)</td>
</tr>
</tbody>
</table>

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

**Approvals**

- UL
- CSA
- CE
- RoHS

**Features and benefits**

- FN 2070 two-stage filters are designed for easy and fast chassis mounting
- FN 2070 filters are also 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
- All filters provide a high conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- FN 2070 two-stage filters are designed for high frequency attenuation
- FN 2070 filters are also available as single-stage filters (FN 2030 series)
- FN 2070 filters are also available with differential mode choke (FN 2080 series)
- Various terminal options allow you to select the desired connection style

**Typical applications**

- Electrical and electronic equipment
- Consumer goods
- Household equipment
- Building automation
- Industrial applications
- Machinery
- Medical equipment
- Electronic data processing equipment
- Office automation and datacom equipment
- Various noisy applications requiring good filter performance
- Single Phase Motor Drives

**Typical electrical schematic**

[Diagram]

- P
- L
- R
- CK
- N
- PE
- Line
- Cy
- Cy
- Load
## 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</th>
<th>Capacitance Cy</th>
<th>Resistance R</th>
<th>Input/Output connections</th>
<th>Weight [g]</th>
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<tr>
<td>FN 2070-1-..</td>
<td>1 (1.2)</td>
<td>0.66 (0.38)</td>
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<td>1000</td>
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<td>FN 2070 M-25-08</td>
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<td>2.2</td>
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</table>

* To compile a complete part number, please replace the -.. with the required I/O connection style (e.g. FN 2070-25-08, FN 2070B-10-06).
** Maximum leakage under usual AC operating conditions (acc. IEC 60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level. Leakage current for DC application is 0 mA;
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

Standard Types
1 A types
3 A to 12 A types
16 A types
25 and 36 A types

Enhanced Performance Types
1 A types
3 A to 12 A Types
16 A Types
25 A and 36 A Types
# Mechanical data

### Connection style -06, 1 and 3 A types

![Diagram](image1)

### Connection style -06, 6 to 12 A types

![Diagram](image2)

### Connection style -06, 16 A types

![Diagram](image3)

### Connection style -07, 1 and 3 A types (same dimensions as style -06)

![Diagram](image4)

### Connection style -07, 6 to 12 A types (same dimensions as style -06)

![Diagram](image5)

### Connection style -07, 16 A types (same dimensions as style -06)

![Diagram](image6)

### Connection style -08, 16 A types

![Diagram](image7)

### Connection style -08, 25 and 36 A types

![Diagram](image8)
### 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>25 A</th>
<th>36 A</th>
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<td>85 ±0.5</td>
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<td>156</td>
<td>119</td>
<td>156</td>
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<td>B</td>
<td>54 ±0.5</td>
<td>54 ±0.5</td>
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#### Connection style -06

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#### Connection style -08

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All dimensions in mm; 1 inch = 25.4 mm

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.
Headquarters, global innovation and development

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T +41 32 681 66 26
info@schaffner.com

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

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