AC Feedthrough Filter

Technical specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum continuous operating voltage</td>
<td>300 VAC, 50/60 Hz (ENEC)</td>
</tr>
<tr>
<td></td>
<td>250 VAC, 50/60 Hz (UL)</td>
</tr>
<tr>
<td></td>
<td>1000 VDC max</td>
</tr>
<tr>
<td>Rated currents</td>
<td>10 to 63 A @ 60°C max.</td>
</tr>
<tr>
<td>Capacitor class</td>
<td>Y2</td>
</tr>
<tr>
<td>High potential test voltage</td>
<td>3000 VDC for 2 sec</td>
</tr>
<tr>
<td>Insulation resistance (100VDC after 60 sec)</td>
<td>&lt;0.33 μF, R &gt; 15,000 MΩ</td>
</tr>
<tr>
<td></td>
<td>&gt;0.33 μF, τ &gt; 5000 s</td>
</tr>
<tr>
<td>Temperature range (operation and storage)</td>
<td>-40°C to +100°C (40/100/21)</td>
</tr>
<tr>
<td>Flammability corresponding to MTBF @ 60°C/300 V (MIL-HB-217F)</td>
<td>UL 94 V-2 or better</td>
</tr>
<tr>
<td></td>
<td>&lt;200 A: &gt;675,000 hours</td>
</tr>
<tr>
<td></td>
<td>≥200 A: &gt;494,000 hours</td>
</tr>
<tr>
<td>Operating frequency</td>
<td>DC to 60 Hz</td>
</tr>
</tbody>
</table>

Features and benefits

- Very low internal series inductance
- Very high self-resonant frequency
- Self-healing dielectric
- High quality and reliability
- Through-bulkhead mounting
- Anti-twist protection
- Custom-specific or dual-versions on request

Typical applications

- Power line filter for 110/240 VAC power lines
- Increasing system and information security
- Power supplies
- Switching and cellular equipment
- Computer servers
- UPS power supplies
- Medical equipment
- Shielded rooms

Typical electrical schematic

![Typical electrical schematic](image)
### Feedthrough selector table

<table>
<thead>
<tr>
<th>Feedthrough</th>
<th>Rated current @ 60°C [A]</th>
<th>Leakage current* @ 250 VAC/50 Hz [mA]</th>
<th>Capacitance** C [nF] @ 10 kHz</th>
<th>Inductance L [nH] @ 25°C</th>
<th>DC resistance*** R [mΩ] @ 25°C</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 7611-10-M3</td>
<td>10</td>
<td>1.89</td>
<td>10</td>
<td>70</td>
<td>1.2</td>
<td>55</td>
</tr>
<tr>
<td>FN 7612-10-M3</td>
<td>10</td>
<td>8.86</td>
<td>47</td>
<td>70</td>
<td>1.52</td>
<td>70</td>
</tr>
<tr>
<td>FN 7611-16-M4</td>
<td>16</td>
<td>4.15</td>
<td>22</td>
<td>70</td>
<td>0.65</td>
<td>80</td>
</tr>
<tr>
<td>FN 7612-16-M4</td>
<td>16</td>
<td>18.65</td>
<td>100</td>
<td>70</td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>FN 7611-32-M4</td>
<td>32</td>
<td>4.15</td>
<td>22</td>
<td>70</td>
<td>0.65</td>
<td>80</td>
</tr>
<tr>
<td>FN 7612-32-M4</td>
<td>32</td>
<td>18.65</td>
<td>100</td>
<td>70</td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>FN 7611-63-M6</td>
<td>63</td>
<td>28.3</td>
<td>150</td>
<td>186</td>
<td>0.47</td>
<td>250</td>
</tr>
<tr>
<td>FN 7612-63-M6</td>
<td>63</td>
<td>88.6</td>
<td>470</td>
<td>124</td>
<td>0.53</td>
<td>500</td>
</tr>
</tbody>
</table>

* Tolerance +20%
** Tolerance ±20%
*** Tolerance +15%

### Typical filter attenuation

Full load, 50 Ω system

**10 A types**

![Graph 10 A types](image1)

**16 A types**

![Graph 16 A types](image2)

**32 A types**

![Graph 32 A types](image3)

**63 A types**

![Graph 63 A types](image4)

A = FN 7612-10-M3
B = FN 7611-10-M3

A = FN 7612-16-M4
B = FN 7611-16-M4

A = FN 7612-32-M4
B = FN 7611-32-M4

A = FN 7612-63-M6
B = FN 7611-63-M6
MECHANICAL DATA

**FN 761x 10 A**

**Panel cut out**

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>E (mm)</th>
<th>L (mm)</th>
<th>Ø (mm)</th>
<th>M (mm)</th>
<th>N (mm)</th>
<th>S (mm)</th>
<th>T (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 7611-10-M3</td>
<td>107</td>
<td>12</td>
<td>20</td>
<td>17</td>
<td>16</td>
<td>66</td>
<td>10.3</td>
<td>Ø12.3</td>
<td>M3</td>
<td>M12x1</td>
<td></td>
</tr>
<tr>
<td>FN 7612-10-M3</td>
<td>140</td>
<td>12</td>
<td>20</td>
<td>17</td>
<td>16</td>
<td>99</td>
<td>10.3</td>
<td>Ø12.3</td>
<td>M3</td>
<td>M12x1</td>
<td></td>
</tr>
<tr>
<td>FN 7611-16-M4</td>
<td>116</td>
<td>14</td>
<td>25</td>
<td>22</td>
<td>18</td>
<td>69</td>
<td>14.3</td>
<td>Ø16.3</td>
<td>M4</td>
<td>M16x1</td>
<td></td>
</tr>
<tr>
<td>FN 7612-16-M4</td>
<td>148</td>
<td>14</td>
<td>25</td>
<td>22</td>
<td>18</td>
<td>101</td>
<td>14.3</td>
<td>Ø16.3</td>
<td>M4</td>
<td>M16x1</td>
<td></td>
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<td>14.3</td>
<td>Ø16.3</td>
<td>M4</td>
<td>M16x1</td>
<td></td>
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<td>FN 7612-32-M4</td>
<td>148</td>
<td>14</td>
<td>25</td>
<td>22</td>
<td>18</td>
<td>101</td>
<td>14.3</td>
<td>Ø16.3</td>
<td>M4</td>
<td>M16x1</td>
<td></td>
</tr>
<tr>
<td>FN 7611-63-M6</td>
<td>173</td>
<td>16</td>
<td>32</td>
<td>27</td>
<td>26</td>
<td>105</td>
<td>18.3</td>
<td>Ø20.3</td>
<td>M6</td>
<td>M20x1</td>
<td></td>
</tr>
<tr>
<td>FN 7612-63-M6</td>
<td>189</td>
<td>19</td>
<td>54</td>
<td>41</td>
<td>26</td>
<td>118</td>
<td>24.3</td>
<td>Ø27.3</td>
<td>M6</td>
<td>M27x1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Tolerances**

- ±2
- ±0.2

All dimensions in mm; 1 inch = 25.4 mm

Tolerances according: ISO 2768-m/EN 22768-m

**Recommended torque**

<table>
<thead>
<tr>
<th>Terminal thread</th>
<th>M3</th>
<th>M4</th>
<th>M6</th>
<th>M8</th>
<th>M12</th>
<th>M12x1</th>
<th>M16x1</th>
<th>M20x1</th>
<th>M27x1.5</th>
<th>M32x1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nm</td>
<td>0.5</td>
<td>1.2</td>
<td>2.5</td>
<td>5</td>
<td>11</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mounting thread</th>
<th>M3</th>
<th>M4</th>
<th>M6</th>
<th>M8</th>
<th>M12</th>
<th>M12x1</th>
<th>M16x1</th>
<th>M20x1</th>
<th>M27x1.5</th>
<th>M32x1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nm</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>12</td>
<td>14</td>
<td></td>
<td></td>
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27 Sep 2021

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