Versatile Medical Class II EMC/EMI Filter

- Medical filter suitable for compliance with Protection Class II (ME) according IEC 60601-1
- Fulfills the requirement for two MOPP (means of patent protection), compliant with IEC/EN 60601-1
- No leakage current to earth
- Rated currents up to 15 A
- Excellent performance/size ratio
- Front mount, rear mount and snap-in versions (B, MB and S1B type)
- Plastic enclosure for higher dielectric strength insulation
- Fast-on terminals or wire leads
- V-lock-compatible

Performance indicators

<table>
<thead>
<tr>
<th>Rated current (A)</th>
<th>Standard</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical specifications

- Maximum continuous operating voltage: 250 VAC, 50/60 Hz
- Rated currents: 1 to 15 A @ 40°C max.
- Operating frequency: DC to 400 Hz
- High potential test voltage: P –> N 760 VAC for 2 sec
- Temperature range (operation and storage): up to 15A: UL 60939-3, CSA Std C22.1 No. 8-13, up to 10A: IEC/EN 60939-3, GB/T15287, GB/T15288
- Design corresponding to: P 40 according to IEC 60529 (front side, with inserted plug)
- Plastic enclosure for higher dielectric strength insulation
- Flammability corresponding to: Plastic Material: UL 94 V-0
- Compliance with insulation requirement: IEC 60601-1; 4kVAC; 60s
- MTBF @ Rated amb. Temp./Voltage (Mil-HB-217F): >1,000,000 hours
- UL/IEC 60939-3, C22.2 No. 8. CQC/CCC GB/T15287 and GB/T15288

Electrical schematic

VERSATILE MEDICAL CLASS II EMC/EMI FILTER

Approvals & Compliances

- Suitable for class II medical equipment (ME)
- Compliant with the requirements of IEC/EN 60601-1 medical electric equipment
- Fulfills the requirements in IEC/EN 60335-1 - safety in household and similar electrical appliances
- Fulfills the requirements Reinforced Insulation in IEC 61010-1:2010 - safety requirements
- All versions certified according UL/IEC 60939-3, C22.2 No. 8. CQC/CCC GB/T15287 and GB/T15288
- Rear and front flange or snap-in mounting options
- V-lock notch standard

Typical applications

- General medical devices (MDD)
- In-vitro diagnostic medical devices (IVDD)
- LCD and OLED Displays
- Test and measurement equipment
- Portable electrical and electronic equipment
- Small to medium-sized machines
- Single-phase power supplies, switch-mode power supplies (SMPS)
- Audio / video / communication equipment (IEC/UL 62368-1)
## Filter selection table

<table>
<thead>
<tr>
<th>Filter</th>
<th>Rated current @ 40°C</th>
<th>Leakage current*</th>
<th>Inductance L1</th>
<th>Capacitance Cx</th>
<th>Resistor R</th>
<th>Input connections</th>
<th>Output connections</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN9274XXB-1-ZZ</td>
<td>1</td>
<td>0</td>
<td>41.1</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
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<td>FN9274XXB-2-ZZ</td>
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<td>0</td>
<td>20.1</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
</tr>
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<td>FN9274XXB-4-ZZ</td>
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<td>0</td>
<td>7.2</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
</tr>
<tr>
<td>FN9274XXB-6-ZZ</td>
<td>6</td>
<td>0</td>
<td>3.2</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
</tr>
<tr>
<td>FN9274XXB-10-ZZ</td>
<td>10</td>
<td>0</td>
<td>1.3</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
</tr>
<tr>
<td>FN9274XXB-15-ZZ</td>
<td>15</td>
<td>0</td>
<td>0.4</td>
<td>0.2</td>
<td>1</td>
<td>C18</td>
<td>-05 -07</td>
<td>&lt;40</td>
</tr>
</tbody>
</table>

* Zero leakage current, due to the medical application focus.
** Standard length is 160 mm

### Test conditions:
Temperature: 25°C ± 2°C; measuring frequency for inductance: 1 kHz, 50 mV
Tolerances: Inductance: +50% - 30%; capacitance: ±25%; resistance: ±15%. For mechanical tolerances, please refer to the mechanical data section

### Design-in recommendation:
- EMC and functional test with FN9274B-XX-05 (safety stock all currents - front mount, fast-on types)
- Mechanical integration with FN9274XXB-15-ZZ (safety stock for all variants - 15A-types)

## Typical filter attenuation

Per CISPR 17 / symmetrical 50 Ω/50 Ω - Differential Mode (DM) / asymmetrical 50 Ω/50 Ω - Common Mode (CM)
Mechanical data - front mount

**FN9274B-XX-05**

*Recommended torque for M3 = 0.5 Nm*

**FN9274B-XX-07**

*Recommended torque for M3 = 0.5 Nm*

For dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies
Mechanical data - rear mount

FN9274MB-XX-05

- Recommended torque for M3 = 0.5 Nm

FN9274MB-XX-07

- Recommended torque for M3 = 0.5 Nm

For dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies
**Mechanical data - snap-in**

**FN9274S1B-XX-05**

- Dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies

**FN9274S1B-XX-07**

- Dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies

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**CURRENT [A]  LACE**

- 1: AWG 18
- 2: AWG 18
- 4: AWG 18
- 6: AWG 18
- 10: AWG 16
- 15: AWG 16

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**PANEL CUT-OUT**

- Panel thickness [mm]: 1.0 - 2.5

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For dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies
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