High performance dual-stage IEC C14 and C20 inlet filter

- Rated currents up to 20 A
- Excellent performance/size ratio
- IEC C14 or C20 inlet acc. IEC 60320-1
- Medical versions (B type) acc. to IEC/EN 60601-1
- Snap-in and rear mount versions (S and M type)
- Earth line choke version (Refer to FN9255 E)

Performance indicators

<table>
<thead>
<tr>
<th>Attenuation performance</th>
<th>standard</th>
<th>high</th>
<th>very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current (A)</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Technical specifications

- Maximum continuous operating voltage: 250 VAC, 50/60 Hz
- Rated currents: 2 to 20 A @ 40°C max.
- Operating frequency: DC to 400 Hz
- Approvals by rated current:
  - ENEC and CQC: IEC C14 Inlet - 2 to 10 A
  - ENEC and CQC: IEC C20 Inlet - 16 A
  - UL: IEC C14 Inlet - 2 to 15A
  - UL: IEC C20 Inlet - 16 to 20A

- High potential test voltage:
  - P –> PE 2000 VAC for 2 sec (standard types)
  - P –> N 760 VAC for 2 sec
  - P –> PE 2500 VAC for 2 sec (B types)
- Protection category: IP 40 according to IEC 60529
- Temperature range (operation and storage): -25°C to +85°C (25/85/21)
- Design corresponding to: UL 60939-3, CSA Std C22.2 No. 8, IEC/EN 60939-3, GB/T 15287, GB/T 15288
- Flammability according to: UL 94 V-0
- MTBF @ Rated amb. Temp./Voltage (MIL-HB-217F): > 1,000,000 hours

Approvals

- CE, CQC, UL, ENEC
- RoHS

Features and benefits

- Exceptional attenuation performance from 150kHz to 300MHz due to dual-stage design
- High saturation resistance and excellent thermal behavior
- Rear and Front flange or snap-in mounting options
- FN 9255 B versions comply with the requirements of 1MOP acc. to IEC/EN 60601-1 for creepage and clearance, leakage current and high potential testing
- Optional earth line choke see FN 9255 E versions
- All versions according IEC/EN 62368-1

Typical applications

- Medical devices (MDD)
- In-vitro diagnostic medical devices (IVDD)
- Computing & accessories
- LCD and OLED Displays
- Test and measurement equipment
- Household and similar products as per IEC/EN55014
- Portable electrical and electronic equipment
- Small to medium-sized machines
- Single-phase power supplies, switch-mode power supplies (SMPS)

For electrical schematic refer to page 3
## Filter selection table

<table>
<thead>
<tr>
<th>Filter</th>
<th>Rated current @ 40°C</th>
<th>Leakage current* @ 250 VAC/50 Hz ( @ 120 VAC/60 Hz)</th>
<th>Inductance L1</th>
<th>L2</th>
<th>Capacitance Cx</th>
<th>Cy1</th>
<th>Cy2</th>
<th>Resistor R</th>
<th>Input connections</th>
<th>Output connections</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 9255 x-2-..</td>
<td>2</td>
<td>0.45 (0.26)</td>
<td>4.8</td>
<td>18</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C14</td>
<td>-</td>
<td>52</td>
</tr>
<tr>
<td>FN 9255 x-4-..</td>
<td>4</td>
<td>0.45 (0.26)</td>
<td>2.1</td>
<td>18</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C14</td>
<td>-</td>
<td>52</td>
</tr>
<tr>
<td>FN 9255 x-6-..</td>
<td>6</td>
<td>0.45 (0.26)</td>
<td>0.9</td>
<td>18</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C14</td>
<td>-</td>
<td>52</td>
</tr>
<tr>
<td>FN 9255 x-10-..</td>
<td>10</td>
<td>0.45 (0.26)</td>
<td>0.2</td>
<td>18</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C14</td>
<td>-</td>
<td>54</td>
</tr>
<tr>
<td>FN 9255 x-15-..</td>
<td>15</td>
<td>0.45 (0.26)</td>
<td>0.13</td>
<td>8</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C14</td>
<td>-</td>
<td>54</td>
</tr>
<tr>
<td>FN 9255 x-16-..</td>
<td>16</td>
<td>0.45 (0.26)</td>
<td>0.3</td>
<td>0.7</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C20</td>
<td>-</td>
<td>130</td>
</tr>
<tr>
<td>FN 9255 x-20-..</td>
<td>20</td>
<td>0.45 (0.26)</td>
<td>0.3</td>
<td>0.7</td>
<td>0.1</td>
<td>2.2</td>
<td>1</td>
<td></td>
<td>C20</td>
<td>-</td>
<td>130</td>
</tr>
<tr>
<td>FN 9255 xB-2-..</td>
<td>-</td>
<td>-</td>
<td>4.8</td>
<td>18</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C14</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-4-..</td>
<td>-</td>
<td>-</td>
<td>2.1</td>
<td>18</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C14</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-6-..</td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td>18</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C14</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-10-..</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
<td>18</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C14</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-15-..</td>
<td>-</td>
<td>-</td>
<td>0.13</td>
<td>8</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C14</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-16-..</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>0.7</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C20</td>
<td>-</td>
</tr>
<tr>
<td>FN 9255 xB-20-..</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>0.7</td>
<td>0.1</td>
<td>-</td>
<td></td>
<td></td>
<td>1000</td>
<td>C20</td>
<td>-</td>
</tr>
</tbody>
</table>

Test conditions: 25°C±2°C; Measuring frequency for Inductance: 1 kHz; 50 mV; Tolerances: Inductance: ±50%, -30%; Capacitance: ±25%; Resistor: ±15%; For mechanical tolerances refer to mechanical data section.

* Maximum leakage under normal operating conditions (acc. to IEC60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

** Standard length is 100 mm

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### Product selector

![Product selector diagram](image)

For example: FN 9255 MB-15-06 - FN 9255 dual stage IEC inlet with rear mount flanges, medical version, 15A rated current and fast-on terminals.
Detailed electrical schematic

Schematic standard version (2 to 15A)

Schematic standard version (16 to 20A)

Schematic B version (2 to 20A)

Typical filter attenuation

Per CISPR 17

symmetrical 50 Ω/50 Ω - Differential Mode (DM)

asymmetrical 50 Ω/50 Ω - Common Mode (CM)

2 A (Standard Type) 2 A (B Type) 4 A (Standard Type) 4 A (B Type)

6 A (Standard Type) 6 A (B Type) 10 A (Standard Type) 10 A (B Type)

15 A (Standard Type) 15 A (B Type)

16 A (Standard Type) 16 A (B Type) 20 A (Standard Type) 20 A (B Type)
Mechanical data

FN 9255 - 2 to 15 A

Panel cut out

-07 connection style

Installation

FN 9255 - 16 to 20 A

FN 9255 M - 2 to 15 A

FN 9255 S - 2 to 15 A
## Dimensions

<table>
<thead>
<tr>
<th></th>
<th>FN 9255</th>
<th>FN 9255 M</th>
<th>FN 9255 S</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>48</td>
<td>53</td>
<td>51.85</td>
</tr>
<tr>
<td>B</td>
<td>22.4</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>C</td>
<td>40 ± 0.2</td>
<td>42 ± 0.2</td>
<td>40 ± 0.2</td>
</tr>
<tr>
<td>D</td>
<td>-06: 54.5, -07: 52.5</td>
<td>-06: 54.5, -07: 52.5</td>
<td>-06: 54.5, -07: 52.5</td>
</tr>
<tr>
<td>E</td>
<td>28.1 ± 0.3</td>
<td>34.6 ± 0.3</td>
<td>28.1 ± 0.3</td>
</tr>
<tr>
<td>F</td>
<td>5.8 ± 0.2</td>
<td>3.9 ± 0.2</td>
<td>5.8 ± 0.2</td>
</tr>
<tr>
<td>G</td>
<td>20 ± 0.3</td>
<td>26.7 ± 0.3</td>
<td>20 ± 0.3</td>
</tr>
<tr>
<td>H</td>
<td>Ø 3.3</td>
<td>Ø 3.5</td>
<td>M3</td>
</tr>
<tr>
<td>I</td>
<td>14 ± 0.5</td>
<td>14 ± 0.5</td>
<td>14 ± 0.5</td>
</tr>
<tr>
<td>J</td>
<td>13.3</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td>M</td>
<td>R ≤ 3</td>
<td>R ≤ 3</td>
<td>R ≤ 1</td>
</tr>
<tr>
<td>N</td>
<td>21.5 ± 0.5/0</td>
<td>27.1 ± 0.2/0</td>
<td>22.9 ± 0.2/0</td>
</tr>
<tr>
<td>P</td>
<td>28.5 ± 0.5/0</td>
<td>34.9 ± 0.2/0</td>
<td>30.4 ± 0.2/0</td>
</tr>
<tr>
<td>R²</td>
<td>M3</td>
<td>M3</td>
<td>Ø 3.4</td>
</tr>
<tr>
<td>S</td>
<td>90°</td>
<td>90°</td>
<td>Ø 3.4</td>
</tr>
<tr>
<td>T</td>
<td></td>
<td>1.5 - 2.2</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>AWG 18</td>
<td>AWG 14</td>
<td>AWG 18</td>
</tr>
<tr>
<td>Y</td>
<td>100 ± 5</td>
<td>100 ± 5</td>
<td>100 ± 5</td>
</tr>
<tr>
<td>Z</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

* Recommended torque for M3 (90° countersunk flat head) is 0.5 Nm

All dimensions in mm; 1 inch = 25.4 mm
For values without dedicated tolerances ISO 2768-m/EN 22768-m applies.

Please visit www.schaffner.com to find more details on connectors.
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