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 FN9255E)

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 type)
- 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
  - UL 94 V-0
- Flammability according to:
- MTBF @ Rated amb. Temp./Voltage (MIL-HB-217F): > 1,000,000 hours

Approvals & Compliances

- CE
- ENEC
- CQC
- UL
- IEC
- EN
- UL 60939-3
- CSA Std C22.2
- IEC/EN 60601-1
- IEC/EN 62368-1
- GB/T 15287
- GB/T 15288
- UL 94 V-0
- IP 40

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 [g]</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>-06 -07</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>-06 -07</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>-06 -07</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>-06 -07</td>
<td>52</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>-06 -07</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>-06 -07</td>
<td>54</td>
</tr>
<tr>
<td>FN 9255 x-10-..</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>-06 -07</td>
<td>130</td>
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<td>18</td>
<td>0.1</td>
<td>-</td>
<td>1000</td>
<td></td>
<td></td>
<td>C14</td>
<td>-06 -07</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>1000</td>
<td></td>
<td></td>
<td>C14</td>
<td>-06 -07</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>1000</td>
<td></td>
<td></td>
<td>C14</td>
<td>-06 -07</td>
</tr>
<tr>
<td>FN 9255 xB-10-..</td>
<td></td>
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<td>0.2</td>
<td>18</td>
<td>0.1</td>
<td>-</td>
<td>1000</td>
<td></td>
<td></td>
<td>C14</td>
<td>-06 -07</td>
</tr>
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<td>FN 9255 xB-15-..</td>
<td></td>
<td></td>
<td>0.13</td>
<td>8</td>
<td>0.1</td>
<td>-</td>
<td>1000</td>
<td></td>
<td></td>
<td>C14</td>
<td>-06 -07</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>1000</td>
<td></td>
<td></td>
<td>C20</td>
<td>-06 -07</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>1000</td>
<td></td>
<td></td>
<td>C20</td>
<td>-06 -07</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

**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**

- **FN 9255 wx - yy - (zz)**
  - **S**: Snap-in range for S version only
  - **Blank**: Snap-in range 0.7 to 1.5 mm
  - **20**: Snap-in range 1.5 to 2.2 mm
  - **06**: Faston 6.3 x 0.8 mm (spade/soldering)
  - **07**: Wire leads
  - **Blank**: Standard version
  - **B**: Without Y-capacitors, with discharge resistors (Medical Version)
  - **Blank**: Standard housing with mounting flanges (front mount)
  - **M**: Standard housing with mounting flanges (rear mount)
  - **S**: Snap-in version, snapper on vertical side
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**

**FN 9255 M - 2 to 15 A**

**FN 9255 S - 2 to 15 A**

**FN 9255 - 16 to 20 A**

Panel cut out

-07 connection style

Installation
### 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>20.6±0.3</td>
<td>26.7±0.3</td>
<td>20.6±0.3</td>
</tr>
<tr>
<td>H</td>
<td>ø3.3</td>
<td>ø3.5</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 ≤ 3</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>R*</td>
<td>M3</td>
<td>M3</td>
<td>Ø3.4</td>
</tr>
<tr>
<td>S</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
</tr>
<tr>
<td>T</td>
<td>1.5 - 2.2</td>
<td>1.5 - 2.2</td>
<td>1.5 - 2.2</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](http://www.schaffner.com) to find more details on connectors.
Accessories

Power Cord with angled Locking System C13

- Locking system for standardized IEC C14 inlet filter
- No accidental disconnection
- Rated current up to 15 A
- Fits any Schaffner IEC C14 inlet filter
- Retrofit for any IEC C14 inlet
- Various power line plugs for international usage

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IL 13P IEC C13 Rewireable Angled Connectors with Locking System

- Locking system for standardized IEC C14 inlet filter
- No accidental disconnection
- Rated current up to 15 A
- Fits any Schaffner IEC C14 inlet filter
- Retrofit for any IEC C14 inlet
- Various power line plugs for international usage

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IL 13P IEC C13 Rewireable Connectors with Locking System

- Guards against accidental disconnection
- Requires no other equipment or special inlets to secure it
- Rewireable - offering total flexibility when assembling cables
- Fits any Schaffner IEC C14 inlet Filter
- Can be retrofitted
- Various power line plugs for international usage
- LSZH - Low smoke zero halogen

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