Ultra Compact and Versatile Filtered Power Entry Module

- Single stage filter
- Ultra compact design
- Rated currents up to 10 A
- Dual-fuse holder
- Fuses Φ5x20 mm
- 2-pole rocker switch
- Good attenuation performance
- Faston or spring cage terminals

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>
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<tr>
<td>0</td>
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<td></td>
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<td>4</td>
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<td>8</td>
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<td>12</td>
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<td>20</td>
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</table>

Technical Specifications

- Maximum continuous operating voltage: 250 VAC, 50/60 Hz
- Flammability corresponding to: UL 94 V-2 or better
- Operating frequency: DC to 400 Hz
- Rated currents: 1 to 10 A
- Temperature range (operation and storage): –25°C to +85°C (25/85/21)
- Design corresponding to: UL 1283, CSA 22.2 No. 1886, EN 60939, EN 60950, EN 60601-1, UL 544, EN 60320
- Protection category: IP 40 according to IEC 60529 (front side)
- Switch ratings:
  - Europe (ENEC): 10 A (4 A), 250 VAC*
  - Rated currents: 1 to 10 A @ 40°C max
- Mechanical life: 50,000 cycles
- Electrical specifications:
  - Inrush current: 82 A
  - 6,000 on-off operations according to UL 1054
  - 10,000 on-off operations according to ENEC
  - Fuse holder: 2 fuses (Ø5 x 20 mm) max: 250 V (certified to IEC 60127-6), power acceptance 1.6 W @ Ta 23°C per pole
  - Terminals/Housing: Spare part mounting flanges available with order number: SAP427532

* Value in () relates to the inductive current charge: cos (φ) = 0.65

Approvals & Compliances

(CQC except Hi-types; Patent US 20110227692/US 8766761; CN ZL201080069589.0)

Choosing FN 9280/90 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances and a high attenuation performance. For higher attenuation performance the FN 9290 family with a dual stage filter and identical panel cut-out can be used.

Standard IEC connector filters are a practical solution to pass EMI system approval in a short time. A wide selection of amperage ratings, mounting possibilities and also filters for medical applications are designed to offer you the best solution.

Features and Benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Deep-drawn iron-sheet housing for best possible shielding against magnetic fields
- Rear/front flange mounting or snap-in versions
- Dual and additional spare fuse holder
- 2-pole rocker switch
- Faston or spring cage terminals
- FN 928K B versions comply with the requirements of IMO acc. to IEC/EN 60601-1
- All versions according IEC/EN 62368-1

Typical Applications

- Portable electrical and electronic equipment
- Consumer goods
- EDP and office equipment
- Single-phase and switch-mode power supplies
- Test and measurement equipment
- Medical electrical devices (MD) and In-Vitro-Diagnostics (IVD) equipment
- Audio/Video, information and communication technologies

Typical electrical schematic

FN 9280 Standard types (B types without Cy)

FN 9280 E types (B types without Cy)
## 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 L</th>
<th>Capacitance C</th>
<th>Resistance R</th>
<th>Output connections</th>
<th>Weight [g]</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>[A]</td>
<td>[mA]</td>
<td>[mH]</td>
<td>[μH]</td>
<td>[nF]</td>
<td>[pF]</td>
<td>[kOhm]</td>
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* To compile a complete part number, please replace the -.. with the required output connection style (e.g. FN 9289-1-06, FN 9289-4-100)
** Maximum leakage current under normal conditions (according to IEC60939-3)
Product selector

**FN 92wxx-yy-zz**

- **Blank:** Snap in range 1.0 to 2.5 mm
- **Optional:** Snap in range >2.5 to 3.5 mm
- **06:** Fast-On 6.3 x 0.8 mm (spade/soldering)
- **100:** Spring cage
- **1 to 10:** Rated current [A]

**Blank:** Standard version

- **B:** Medical version (without Y2-capacitor)
- **Optional:** E: Earth line choke
- **EB:** Medical version (without Y2-capacitor) with earth line choke

- **0:** Flange version vertical/horizontal/front/rear mounting set
- **9:** Snap-in version, snapper on horizontal side (top / bottom)
- **Optional:**
  - 1: Front Flange mounting (top / bottom)
  - 2: Rear Flange mounting (left / right)
  - 3: Front Flange mounting (left / right)
  - 4: Snap-in version, snapper on vertical side (left / right)

- **8:** Single stage filter

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All FN 9280/FN 9290 are equipped with a dual fuse holder with a spare fuse holder.

**Note:** All FN 9280/FN 9289/FN 9290 B/FN 9290 B/FN 9299/FN 9299 B are stock types from our distribution partners.

Order Examples:

FN 9280 B-6-100: Medical version of single stage, dual fuse EMC/EMI filter, flange set for vertical/horizontal/front/rear mounting, 6 A, spring cage terminals, from stock available.

FN 9298-6-06-30: Dual stage, dual fuse EMC/EMI filter, snap-in version, snapppers for snap-in panel thickness range >2.5 to 3.5 mm, snapper on vertical side, 6 A, fast-on terminals, non-stock order type

Accessories: The 4D flanges can be ordered separately. The order number is 427532. Please note that the minimum order quantity is one box of 50 pieces. One item includes both type of flanges (vertical and horizontal).

**Standard type filters**

**B-type filters** (without Cy)

**E-type filters** (with earth line choke)

**EB-type filters** (with earth line choke and without Cy)

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* Fuses are not included
Typical Filter Attenuation

FN 9280 Series | Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym

FN 9280 B Series | Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym

FN 9280 E Series | Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym

FN 9280 EB Series | Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym
Mechanical Data

**FN 9280-x-06/FN 9280 B-x-06**

**FN 9280-X-100/FN 9280 B-X-100**

**FN 9289-x-06/FN 9289 B-x-06**

**FN 9289-X-100/FN 9289 B-X-100**

Legend:

- Max. R: 28.8" x 2.2"
Mechanical Data

FN 9280 E-x-06/FN 9280 EB-x-06

FN 9280 E-x-100/FN 9280 EB-x-100

FN 9289 E-x-06 / FN 9289EB-x-06

FN 9289E-x-100 / FN 9289EB-x-100
Assembly Instructions

Terminal -100
clamping range, solid wire / flex wire 0,20 mm² –1,5 mm², AWG24 –AWG16
operating force of slider max. 40 N
recommended stripped length 8 mm

Removal Of The Combined Switch / Fuse Holder Unit

An additional fuse mark on the switch indicates the fuses holders behind the switch. The red frame shows the outline of the removable unit.

With a simple tool like a Swiss Army knife or a screwdriver No 1 or smaller the unit (1) can be removed from the filter. On the topside (2) behind the switch there are two fuse holders for each live connection. On the bottom side (3) is a clip to carry an additional spare fuse.

Fuses are not in the scope of delivery.

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

**IL 13P IEC C13 Rewireable Connectors with Locking System**

The locking system has a tensile force of typical 300N. It is recommended to use it with flange mount filters. For details refer to our Application Note “Using IEC Lock Power Cords with IEC Inlets and Filters”.

Schaffner power connector with IEC lock guard against accidental disconnection of all electrical appliances with an IEC inlet. No exchange or modification of the IEC inlet or IEC inlet filter system is needed. Easy retrofit for all electronic equipments and devices.

[Technical Data Sheet](#)

**IL 13P IEC C13 Rewireable Angled Connectors with Locking System**

- Protects appliances that are vulnerable to vibration
- Connector cannot be accidentally pulled or vibrated out of the inlet
- Space availability/constraints
- Different angles for ease of access
- Space saving
- Release locking mechanism
- Prevents accidental disconnection

[Technical Data Sheet](#)

**Power Cord with angled Locking System C13**

- Protects appliances that are vulnerable to vibration
- Connector cannot be accidentally pulled or vibrated out of the inlet
- Space availability/constraints
- Different angles for ease of access
- Space saving
- Release locking mechanism
- Prevents accidental disconnection

[Technical Data Sheet](#)
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