Versatile Filtered Power Entry Module

- Rated currents up to 6 A
- Single or dual-fuse holder
- Fuses Ø6.3 x 32 mm Ø5 x 20 mm
- 2-pole rocker switch
- General purpose application
- Optional medical versions (B type)

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>
<tr>
<td></td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Technical specifications

- Maximum continuous operating voltage: 250 VAC, 50/60 Hz
- Operating frequency: DC to 400 Hz
- Rated currents: 2 to 6 A @ 40°C max.
- High potential test voltage: P –> PE 2000 VAC for 2 sec (standard types), P –> PE 2500 VAC for 2 sec (B types), P –> N 760 VAC for 2 sec
- 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 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
- Flammability corresponding to: UL 94 V-2 or better
- MTBF @ 40°C/230 V (Mil-HB-217F): 550,000 hours
- Function: 2-pole, dark not illuminated
- Marking I - 0
- Electrical specifications: Inrush current 51 A, 10,000 on-off operations according to ENEC, 6,000 on-off operations according to UL 1054, TV 5
- Mechanical life: 50,000 cycles
- Switch ratings: 6 A (4 A), 250 VAC
- Europe (ENEC), USA (UL), Canada (CSA): 6 A, 125 VAC, 4 A, 250 VAC, 1/10 HP

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

Approvals & Compliances

The FN 380 power entry module combines an IEC inlet, a mains filter with a single or dual fuse holder and a 2-pole rocker switch. Choosing FN 380 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances. Standard IEC connector filters are a practical solution helping you to pass EMI system approval in a short time. A wide selection on amperage ratings, fuse options, mounting possibilities and filters for medical applications are designed to offer you the desired solution.

Features and benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Front or snap-in mounting
- Single or dual-fuse holder
- USA Ø6.3 x 32 mm or EU Ø5 x 20 mm fuses
- 2-pole rocker switch

Typical applications

- Portable electrical and electronic equipment
- Consumer goods
- EDP and office equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment

Typical electrical schematic (single fuse)

Typical electrical schematic (dual fuse)
## Filter selection table

<table>
<thead>
<tr>
<th>Filter*</th>
<th>Rated current@ 40°C (25°C) [A]</th>
<th>Leakage current**@ 230 VAC/50 Hz [μA]</th>
<th>Inductance*** [mH]</th>
<th>Capacitance*** [nF]</th>
<th>Resistance*** [kΩ]</th>
<th>Fuses****</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 380-2-2 z</td>
<td>2 (2.4)</td>
<td>373</td>
<td>0.70</td>
<td>47</td>
<td>2.2</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>FN 380-4-2 z</td>
<td>4 (4.8)</td>
<td>373</td>
<td>0.30</td>
<td>47</td>
<td>2.2</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>FN 380-6-2 z</td>
<td>6 (7.2)</td>
<td>373</td>
<td>0.18</td>
<td>47</td>
<td>2.2</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>FN 382-2-2 z</td>
<td>2 (2.4)</td>
<td>373</td>
<td>0.70</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>55</td>
</tr>
<tr>
<td>FN 382-4-2 z</td>
<td>4 (4.8)</td>
<td>373</td>
<td>0.30</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>55</td>
</tr>
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<td>FN 382-6-2 z</td>
<td>6 (7.2)</td>
<td>373</td>
<td>0.18</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>55</td>
</tr>
<tr>
<td>FN 388-2-2 z</td>
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<td>373</td>
<td>0.70</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>60</td>
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<tr>
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<td>0.30</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>FN 388-6-2 z</td>
<td>6 (7.2)</td>
<td>373</td>
<td>0.18</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>FN 389-2-2 z</td>
<td>2 (2.4)</td>
<td>373</td>
<td>2.00</td>
<td>47</td>
<td>2.2</td>
<td>2</td>
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<tr>
<td>FN 389-4-2 z</td>
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<td>0.80</td>
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<tr>
<td>FN 389-6-2 z</td>
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<td>70</td>
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<tr>
<td>FN 382 B-2-2 z</td>
<td>2 (2.4)</td>
<td>2</td>
<td>0.70</td>
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<td>1000</td>
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<td>55</td>
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<tr>
<td>FN 382 B-4-2 z</td>
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<td>0.30</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>55</td>
</tr>
<tr>
<td>FN 382 B-6-2 z</td>
<td>6 (7.2)</td>
<td>2</td>
<td>0.18</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>55</td>
</tr>
<tr>
<td>FN 385 B-2-2 z</td>
<td>2 (2.4)</td>
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<td>2.00</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>65</td>
</tr>
<tr>
<td>FN 385 B-4-2 z</td>
<td>4 (4.8)</td>
<td>2</td>
<td>0.80</td>
<td>47</td>
<td>1000</td>
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<tr>
<td>FN 385 B-6-2 z</td>
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<td>0.50</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>65</td>
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<tr>
<td>FN 389 B-2-2 z</td>
<td>2 (2.4)</td>
<td>2</td>
<td>2.00</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>70</td>
</tr>
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<td>0.50</td>
<td>47</td>
<td>1000</td>
<td>2</td>
<td>70</td>
</tr>
</tbody>
</table>

* Select the requested fuse holder for fuse EUR-1 or USA-1 (z).
** Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.
*** Tolerances apply: Inductance: ±30/+50%, Capacitance: ±20%, Resistance: ±10%
**** Filters are delivered without fuse.

### Product selector

1. Fuse Ø5 x 20mm (FUSE-H EUR-1)
2. Fuse Ø6.3 x 32mm (FUSE-H USA-1)
2. Rocker switch, 2-pole, dark not illuminated
2 to 6. Rated current
Blank: Standard version
B: Medical version (with bleed resistor and without Y2-capacitor)

0: Snap-in version, single-fuse, standard performance
2: Snap-in version, dual-fuse, standard performance
5: Snap-in version, dual-fuse, high performance
8: Flange mounting version, dual-fuse, standard performance
9: Flange mounting version, dual-fuse, high performance
**Typical filter attenuation**

Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

<table>
<thead>
<tr>
<th>FN 380/FN 382/FN 388</th>
<th>FN 385/FN 389</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Graph A]</td>
<td>![Graph B]</td>
</tr>
</tbody>
</table>

**Mechanical data**

<table>
<thead>
<tr>
<th>FN 380/FN 382/FN 385</th>
<th>FN 388/FN 389</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Mechanical Diagram A]</td>
<td>![Mechanical Diagram B]</td>
</tr>
</tbody>
</table>

**Connection designation**

- I, J, G', G, P', N' - external connections
- I', J', H', H, P, N - single fuse

**Output terminal (Filter and Fuse)**

- ![Output Terminal Diagram A]

**Output terminal (Switch)**

- Blade terminals of switch acc. DIN 46 244-A4.8-0.8 (do not connect by soldering)

**Panel cut out**

- ![Panel Cut Out Diagram]
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>FN 380</th>
<th>FN 382</th>
<th>FN 385</th>
<th>FN 388</th>
<th>FN 389</th>
<th>Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>50</td>
<td>50</td>
<td>±0.3</td>
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<tr>
<td>B</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>±0.3</td>
</tr>
<tr>
<td>C</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>50</td>
<td>50</td>
<td>±0.3</td>
</tr>
<tr>
<td>D</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>±0.3</td>
</tr>
<tr>
<td>E</td>
<td>51</td>
<td>51</td>
<td>61</td>
<td>51</td>
<td>61</td>
<td>±0.1</td>
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<tr>
<td>F</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>±0.1</td>
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<tr>
<td>G</td>
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<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>±0.1</td>
</tr>
<tr>
<td>H</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>±0.1</td>
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<tr>
<td>J</td>
<td>Ø3.3</td>
<td>Ø3.3</td>
<td>Ø3.3</td>
<td>Ø3.3</td>
<td>Ø3.3</td>
<td>±0.1</td>
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<tr>
<td>K</td>
<td>12.5</td>
<td>12.5</td>
<td>12.5</td>
<td>12.5</td>
<td>12.5</td>
<td>±0.1</td>
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<tr>
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<td>R ≤2</td>
<td>R ≤2</td>
<td>R ≤2</td>
<td>R ≤2</td>
<td>R ≤2</td>
<td>±0.1</td>
</tr>
<tr>
<td>M</td>
<td>55.9/<em>56.2</em>*</td>
<td>55.9/<em>56.2</em>*</td>
<td>55.9/<em>56.2</em>*</td>
<td>55.9/<em>56.2</em>*</td>
<td>55.9/<em>56.2</em>*</td>
<td>±0.2/-0</td>
</tr>
<tr>
<td>N</td>
<td>28.5</td>
<td>28.5</td>
<td>28.5</td>
<td>28.5</td>
<td>28.5</td>
<td>±0.2/-0</td>
</tr>
<tr>
<td>O</td>
<td>M3</td>
<td>M3</td>
<td>M3</td>
<td>M3</td>
<td>M3</td>
<td>±0.2/-0</td>
</tr>
<tr>
<td>P</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
<td>±0.2/-0</td>
</tr>
</tbody>
</table>

* For a back panel thickness between 0.8 and 2.0 mm
** For a back panel thickness between 2.1 and 3.2 mm

All dimensions in mm; 1 inch=25.4 mm
Tolerances according: ISO 2768-m/EN 22768-m

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