

Versatile Filtered Power Entry Module



- Rated currents up to 10 A
- For one or two fuses
- Fuses Ø6.3 x 32 mm or Ø5 x 20 mm
- 2-pole rocker switch
- Voltage selector
- Optional earth line choke (E type)



Performance indicators

Attenuation performance



Rated current [A]



Approvals & Compliances



The FN 390 power entry module combines an IEC inlet, mains filter with single or dual-fuse holder, voltage selector and 2-pole rocker switch. Choosing FN 390 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. Multiple options designed to offer you the desired solution.

Features and Benefits

- High conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Rear or front mounting
- Single or dual-fuse holder
- USA Ø6.3 x 32 mm or EU Ø5 x 20 mm fuses
- 2-pole rocker switch
- Voltage selector 110-120 V/220-240 V
- Custom-specific versions are available on request

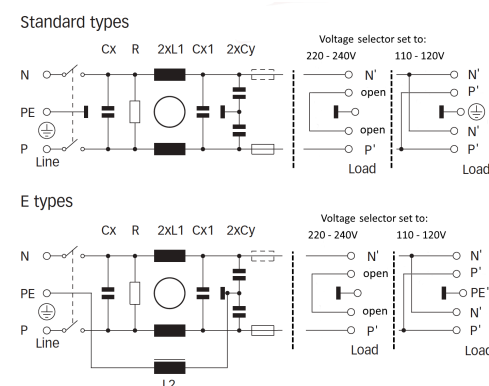
Technical Specifications

| | |
|--|---|
| Maximum continuous operating voltage | 250 VAC, 50/60 Hz |
| Operating frequency | DC to 400 Hz |
| Rated currents | 1 to 10 A @ 40°C max. |
| High potential test voltage | P → PE 2000 VAC for 2 sec 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 94V-2 or better |
| MTBF @ 40°C/230 V (Mil-HB-217F) | 2,200,000 hours |
| Voltage selector description | |
| Function | Series/parallel |
| Voltage marking | |
| Series | 110-120 V |
| Parallel | 220-240 V |
| Rocker switch description | |
| Fuse holder | 1 or 2 fuses (Ø5 x 20 mm) (certified to IEC 60127-6), power acceptance 1.6W @ Ta 23°C per pole for 2 fuses. 2.5W, if only 1 pole is used. |
| Function | 2-pole, dark not illuminated Marking I - 0 |
| Electrical specifications | Inrush current 51 A 6,000 on-off operations according to UL 1054, TV 5 10,000 on-off operations according to ENEC |
| Mechanical life | 50,000 cycles |
| Switch ratings | |
| USA (UL) and Canada (C-UL) | 10 A, 125 VAC; 10 A, 250 VAC; 1/3 HP |
| Europe (ENEC) | 10 A (4 A), 250 VAC* |

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

Typical electrical schematic



* Value in () relates to the inductive current charge: $\cos \varphi = 0.65$

Filter Selection Table

| Filter | Rated current | Leakage current* | Inductance | | Capacitance | | | Resistance | Output | Fuses** | Weight |
|---------------------------|---------------|------------------|------------|------|-------------|------|------|------------|---|---------|--------|
| | @ 40°C (25°C) | @ 230 VAC/50 Hz | L1 | L2 | Cx | Cx1 | Cy | R | connections | [Qty] | [g] |
| | [A] | [µA] | [mH] | [mH] | [nF] | [nF] | [nF] | [kΩ] |  | | |
| FN 393-1-05-11 | 1 (1.2) | 560 | 7.5 | | 220 | | 3.3 | 1000 | 05-11 | 1 | 200 |
| FN 393-2.5-05-11 | 2.5 (3) | 560 | 2 | | 220 | | 3.3 | 1000 | 05-11 | 1 | 200 |
| FN 393-6-05-11 | 6 (7.2) | 560 | 0.45 | | 220 | | 3.3 | 1000 | 05-11 | 1 | 200 |
| FN 394-1-05-11 | 1 (1.2) | 560 | 7.5 | | 220 | | 3.3 | 1000 | 05-11 | 2 | 200 |
| FN 394-2.5-05-11 | 2.5 (3) | 560 | 2 | | 220 | | 3.3 | 1000 | 05-11 | 2 | 200 |
| FN 394-6-05-11 | 6 (7.2) | 560 | 0.45 | | 220 | | 3.3 | 1000 | 05-11 | 2 | 200 |
| FN 393 E-1-05-11 | 1 (1.2) | 560 | 7.5 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 1 | 205 |
| FN 393 E-2.5-05-11 | 2.5 (3) | 560 | 2 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 1 | 205 |
| FN 393 E-6-05-11 | 6 (7.2) | 560 | 0.45 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 1 | 205 |
| FN 394 E-1-05-11 | 1 (1.2) | 560 | 7.5 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 2 | 205 |
| FN 394 E-2.5-05-11 | 2.5 (3) | 560 | 2 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 2 | 205 |
| FN 394 E-6-05-11 | 6 (7.2) | 560 | 0.45 | 0.4 | 220 | | 3.3 | 1000 | 05-11 | 2 | 205 |
| FN 1393-1-05-11 | 1 (1.2) | 797 | 16 | | 220 | 100 | 4.7 | 470 | 05-11 | 1 | 210 |
| FN 1393-2.5-05-11 | 2.5 (3) | 797 | 8 | | 220 | 100 | 4.7 | 470 | 05-11 | 1 | 210 |
| FN 1393-6-05-11 | 6 (7.2) | 797 | 2.5 | | 220 | 100 | 4.7 | 470 | 05-11 | 1 | 210 |
| FN 1393-10-05-11 | 10 (12) | 797 | 0.6 | | 220 | 100 | 4.7 | 470 | 05-11 | 1 | 210 |
| FN 1394-1-05-11 | 1 (1.2) | 797 | 16 | | 220 | 100 | 4.7 | 470 | 05-11 | 2 | 210 |
| FN 1394-2.5-05-11 | 2.5 (3) | 797 | 8 | | 220 | 100 | 4.7 | 470 | 05-11 | 2 | 210 |
| FN 1394-6-05-11 | 6 (7.2) | 797 | 2.5 | | 220 | 100 | 4.7 | 470 | 05-11 | 2 | 210 |
| FN 1394-10-05-11 | 10 (12) | 797 | 0.6 | | 220 | 100 | 4.7 | 470 | 05-11 | 2 | 210 |

* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

** Filters are delivered without fuse.

Note: for medical versions please contact your local partner within Schaffner's global network.

Product selector

FN (1)39xx-y-zz

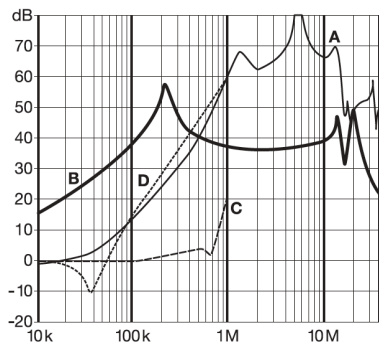


- 05-11: Faston 6.3 x 0.8mm
- 1 to 10: Rated current
- Blank: Standard version
- E: Optional earth line choke
- 3: 1 fuse (Ø5 x 20mm or Ø6.3 x 32mm)
- 4: 2 fuses (Ø5 x 20mm or Ø6.3 x 32mm)
- Blank: Standard version
- 1: Additional Cx1 capacitor and higher inductivity

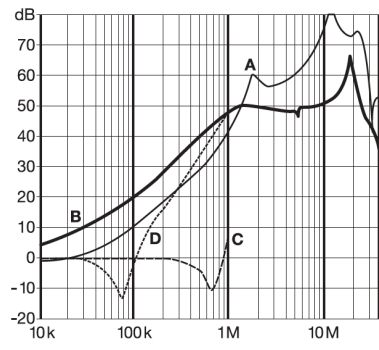
For example: FN 393-1-05-11, FN 394 E-2.5-05-11, FN 1394-10-05-11

Typical Filter Attenuation

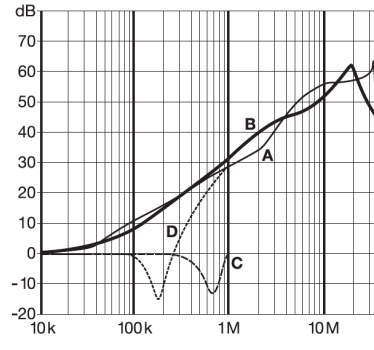
Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym



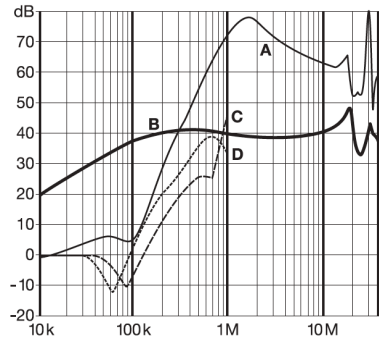
FN 39x: 1 A types



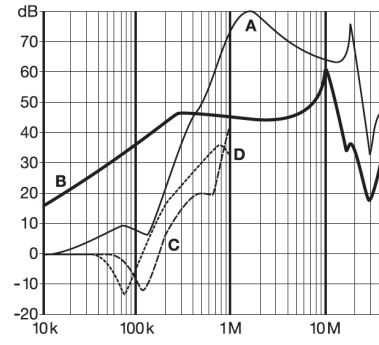
FN 39x: 2.5 A types



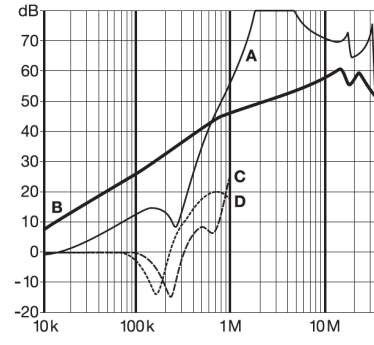
FN 39x: 6 A types



FN 139x: 1 A types



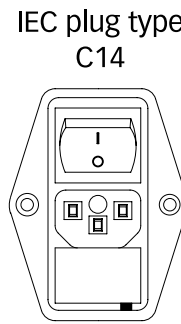
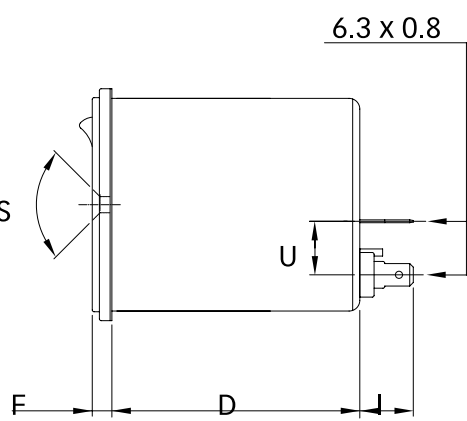
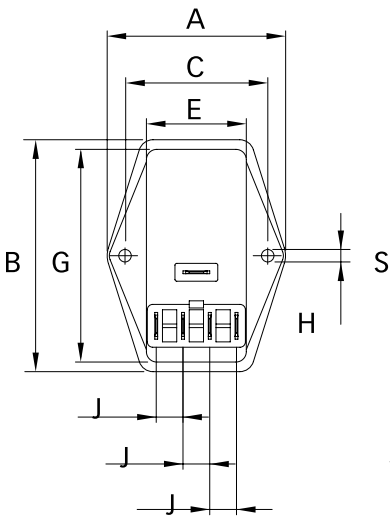
FN 139x: 2.5 A types



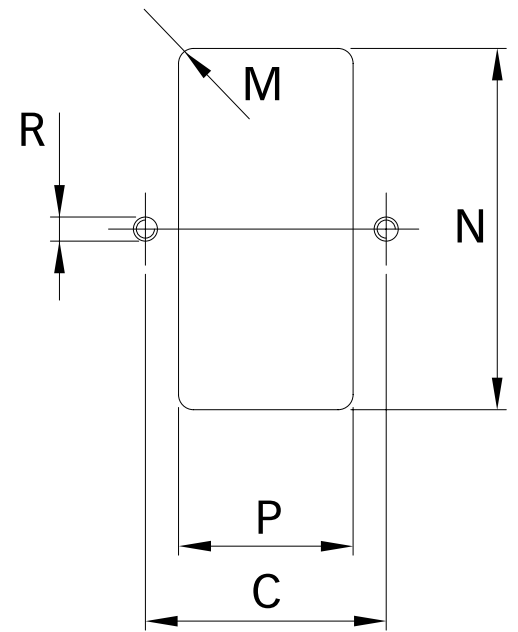
FN 139x: 6 and 10 A types

Mechanical Data

1 to 10 A types



Panel cut out



Dimensions

| | 1 to 10 A | Tolerances |
|----------|-----------|------------|
| A | 50 | ±0.3 |
| B | 65 | ±0.3 |
| C | 40 | ±0.1 |
| D | 70 | ±0.5 |
| E | 28.5 | ±0.3 |
| F | 5.5 | ±0.3 |
| G | 59.8 | ±0.2 |
| H | Ø 3.3 | |
| I | 13.5 | ±0.5 |
| J | 7.5 | |
| M | R ≤ 2.5 | |
| N | 60 | +0.5/-0 |
| P | 29 | +0.5/-0 |
| R | M3 | |
| S | 90° | |
| U | 15 | ±0.3 |

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 connections.