

Excellent Performance EMC/RFI Filter with Earth Line Choke



- Rated currents up to 15 A
- Superior attenuation performance
- Integrated earth line choke
- Complies with IEC/EN 60601-1
- Snap-in versions (S and S1 type)
- Hot inlet versions (HI type)



Performance indicators Attenuation performance standard high very high Rated current [A] 0 4 8 12 16 20 1 1 15

Technical Specifications

| Maximum continuous operating voltage | 250 VAC, 50/60 Hz | | | |
|--|--|--|--|--|
| Nominal operating voltage | 230 VAC | | | |
| Rated currents | 1 to 15 A @ 50°C | | | |
| Operating frequency | DC to 400 Hz | | | |
| High potential test voltage | P -> PE 2000 VAC for 2 sec (standard types) P -> PE 2500 VAC for 2 sec (B types) P -> N 1000 VAC for 2 sec | | | |
| Temperature range (operation and storage) | -25°C to +85°C (25/85/21) | | | |
| Duetostion actorism | IP 40 according to IEC 60529 | | | |
| Protection category | IP 40 according to IEC 60529 | | | |
| Flammability corresponding to | P 40 according to IEC 60529 Plastic material: UL 94 V0 | | | |
| • • | ŭ | | | |
| Flammability corresponding to | Plastic material: UL 94 V0 1 to 10 A (ENEC, CQC) | | | |
| Flammability corresponding to Approvals by rated current | Plastic material: UL 94 V0 1 to 10 A (ENEC, CQC) 1 to 15 A (UL, CSA) | | | |

Approvals & Compliances





(CQC except HI-types)

The FN 9244 E IEC inlet filter combines an IEC inlet and mains filter with superior filter attenuation in a small form factor. The FN 9244 E high performance power entry module offers additional EMI suppression on the earth line. Choosing the FN 9244 E 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, output connections, mounting possibilities and filters for medical applications are designed to offer you the desired solution. For types without additional earth line choke please consult the FN 9244 data sheet.

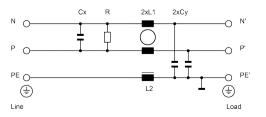
Features and Benefits

- Superior conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Rear/front or snap-in mounting
- Without earth line choke see FN 9244 data sheet
- FN 9244 B versions comply with the requirements of 1MOP acc. to IEC/EN 60601-1 for creepage and clearance, leakage current and high potential testing
- Wide mounting flanges available
- Custom-specific versions are available on request

Typical Applications

- Electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical devices (MDD)
- In-vitro diagnostic medical devices (IVDD)
- Rack mounting equipment

Typical electrical schematic



Filter Selection Table

| Filter | Rated current | Leakage current* | ent* Inductance | | Capacitance | | Resistance | Output connections | Weight | |
|-------------------|---------------|-------------------|-----------------|------|-------------|------|------------|--------------------|--------|--|
| | @ 50°C (25°C) | @ 250 VAC/50 Hz | L1 | L2 | Сx | Су | R | | ' | |
| | | (@ 120 VAC/60 Hz) | | | | | | | | |
| | [A] | [mA] | [mH] | [mH] | [μF] | [nF] | [kΩ] | | [g] | |
| FN9244Ex-1-06 | 1 (1.2) | 0.31 (0.18) | 59.53 | 0.4 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-3-06 | 3 (3.5) | 0.31 (0.18) | 13.45 | 0.4 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-6-06 | 6 (7.2) | 0.31 (0.18) | 4.1 | 0.4 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-8-06 | 8 (10.6) | 0.31 (0.18) | 2.3 | 0.4 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-10-06 | 10 (11.6) | 0.31 (0.18) | 1.02 | 0.4 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-12-06 | 12 (12) | 0.31 (0.18) | 0.58 | 0.1 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-15-06 | 15 (15) | 0.31 (0.18) | 0.4 | 0.1 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-12-06HI | 12 (12) | 0.31 (0.18) | 0.58 | 0.1 | 0.1 | 2.2 | | -06 | 46 | |
| FN9244Ex-15-06HI | 15 (15) | 0.31 (0.18) | 0.4 | 0.1 | 0.1 | 2.2 | | -06 | 46 | |
| | | | | | | | | | | |
| FN9244ExR-1-06 | 1 (1.2) | 0.31 (0.18) | 59.53 | 0.4 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-3-06 | 3 (3.5) | 0.31 (0.18) | 13.45 | 0.4 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-6-06 | 6 (7.2) | 0.31 (0.18) | 4.1 | 0.4 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-8-06 | 8 (10.6) | 0.31 (0.18) | 2.3 | 0.4 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-10-06 | 10 (11.6) | 0.31 (0.18) | 1.02 | 0.4 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-12-06 | 12 (12) | 0.31 (0.18) | 0.58 | 0.1 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-15-06 | 15 (15) | 0.31 (0.18) | 0.4 | 0.1 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-12-06HI | 12 (12) | 0.31 (0.18) | 0.58 | 0.1 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| FN9244ExR-15-06HI | 15 (15) | 0.31 (0.18) | 0.4 | 0.1 | 0.1 | 2.2 | 1000 | -06 | 46 | |
| | | | | | | | | | | |
| FN9244ExB-1-06 | 1 (1.2) | 0.00 | 59.53 | 0.4 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-3-06 | 3 (3.5) | 0.00 | 13.45 | 0.4 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-6-06 | 6 (7.2) | 0.00 | 4.1 | 0.4 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-8-06 | 8 (10.6) | 0.00 | 2.3 | 0.4 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-10-06 | 10 (11.6) | 0.00 | 1.02 | 0.4 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-12-06 | 12 (12) | 0.00 | 0.58 | 0.1 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-15-06 | 15 (15) | 0.00 | 0.4 | 0.1 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-12-06HI | 12 (12) | 0.00 | 0.58 | 0.1 | 0.1 | | 1000 | -06 | 46 | |
| FN9244ExB-15-06HI | 15 (15) | 0.00 | 0.4 | 0.1 | 0.1 | | 1000 | -06 | 46 | |

^{*} 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.

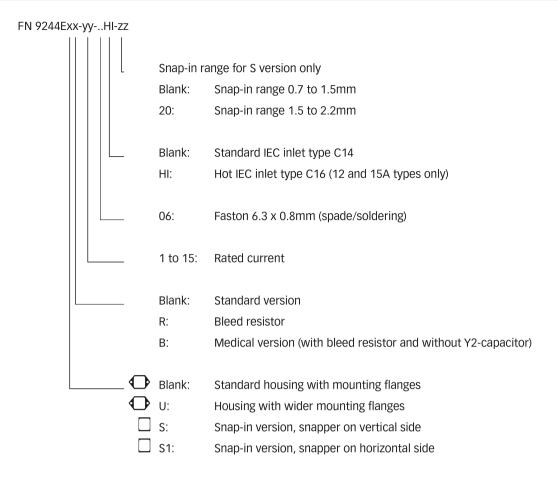
Distributor Inventory

Check stock levels at global distributors at https://products.schaffner.com/stock (Also available via the QR code)



| Stock level per types 1 - 15 A | Link |
|---|------------|
| Standard housing types | Ť |
| Housing with wider mounting flanges (U) | \ ⊈ |
| Snap-in housing types (S&S1) | \₩ |
| Medical versions (B) | \ _ |
| Bleed resistor types (R) | \ ⊕ |

Product selector

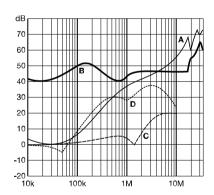


For example: FN 9244 E-15-06, FN 9244 ES1B-10-06-20, FN 9244 ER-12-06HI, FN 9244 EUB-8-06

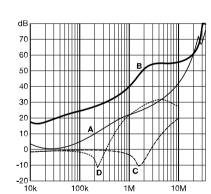
Typical Filter Attenuation

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

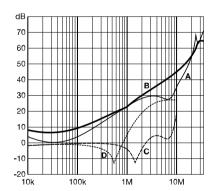




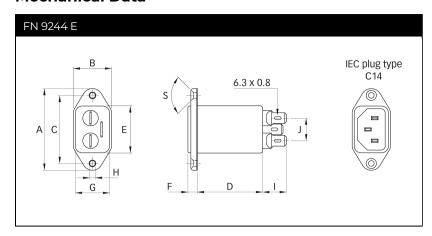
6 to 10 A types

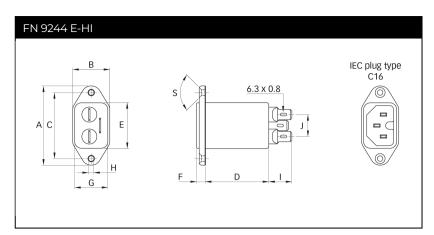


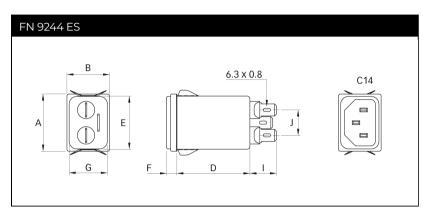
12 and 15 A types

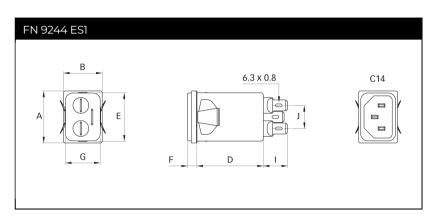


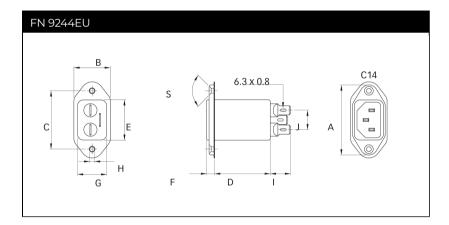
Mechanical Data





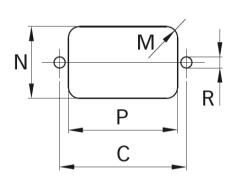


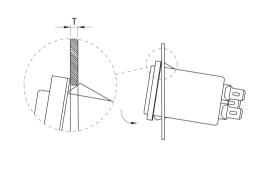




Panel cut out

Installation





5 IEC Inlet Filters | Schaffner Group | DATA | SHEET | 29. Jan 2025

Dimensions

| | FN 9244 E | FN 9244 EU | FN 9244 ES | FN 9244 ES1 | FN 9244 E-HI | Tol. |
|-----|-----------|------------|------------|-------------|--------------|---------|
| Α | 48 | 48 | 29.9 | 29.9 | 48 | |
| В | 22.4 | 25 | 22.4 | 22.4 | 22.4 | |
| С | 40 | 40 | | | 40 | ±0.2 |
| D | 47.1 | 47.1 | 47.1 | 47.1 | 47.1 | |
| E | 27.8 | 27.7 | 27.8 | 27.8 | 27.8 | +0.6/-0 |
| F | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | |
| G | 20.1 | 20.1 | 20.1 | 20.1 | 20.1 | +0.6/-0 |
| Н | Ø3.3 | Ø3.3 | | | Ø3.3 | |
| 1 | 14 | 14 | 14 | 14 | 14 | |
| J | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | |
| М | R ≤3 | R ≤3 | R ≤1.5 | R ≤1.5 | R ≤3 | |
| N | 21.5 | 21.5 | 20.8 | 21.9 | 21.5 | |
| P | 28.5 | 28.5 | 29.4 | 28.5 | 28.5 | |
| R* | M3 | M3 | | | M3 | |
| S | 90° | 90° | | | 90° | |
| T** | | | 0.7 - 1.5 | 0.7 - 1.5 | | |
| T** | | | 1.5 - 2.2 | 1.5 - 2.2 | | |

^{**}Recommended torque for M3 (90° countersunk flat head) is 0.5 Nm $\,$

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

Please visit <u>www.schaffner.com</u> to find more details on filter connectors.

 $[\]ensuremath{^{**}}$ For selecting the panel thickness, please refer to the filter selector table.

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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

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

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

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

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