

High Performance IEC Inlet Filter



- | Rated currents up to 20 A
- | Optional medical versions (B type)
- | Rear mounting
- | Excellent attenuation in the lower frequency range



Approvals



The FN 9246 IEC inlet filter combines an IEC inlet and mains filter with excellent filter attenuation in a small form factor. Choosing the FN 9246 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 current ratings and low leakage versions for medical applications are designed to offer you the desired solution.

Technical specifications

| | |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum continuous operating voltage | 250 VAC, 50/60 Hz |
| Operating frequency | dc to 400 Hz |
| Rated currents | 1 to 20 A @ 50 °C |
| Approvals by rated current | 1 to 10 A (Semko) 16 A (Semko) for 16 and 20 A types 1 to 20 A (UL, CSA) |
| High potential test voltage | P → PE 2000 VAC for 2 sec (standard types) P → PE 2500 VAC for 2 sec (B types) P → N 1100 VAC for 2 sec (1 to 10 A types) P → N 1100 VDC for 2 sec (16 and 20 A types) |
| Protection category | IP40 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/230V (Mil-HB-217F) | 1,600,000 hours |

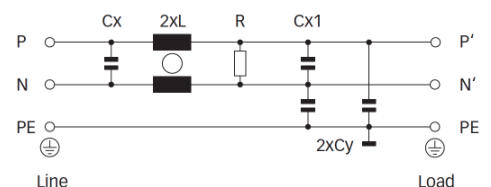
Features and benefits

- | Excellent conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- | Rear mounting
- | Optional low leakage current versions for medical applications
- | Rated currents up to 20 A
- | 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
- | Building automation
- | Medical equipment
- | Lighting application

Typical electrical schematic



Filter selection table

| Filter | Rated current @ 40 °C (25 °C) | Leakage current* @ 230 VAC/50 Hz | Inductance L | Capacitance | | Resistance R | Output connections  | Weight [g] |
|----------------------|----------------------------------|-------------------------------------|-----------------|-------------|------------|-----------------|-----------------------------------------------------------------------------------------------------------|---------------|
| | [A] | [µA] | [mH] | Cx [µF] | Cy [nF] | [kΩ] | | |
| FN9246-1-06 | 1 (1.2) | 373 | 50 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-3-06 | 3 (3.5) | 373 | 14 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-6-06 | 6 (7.2) | 373 | 7 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-10-06 | 10 (12) | 373 | 3 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-12-06 | 12 (14) | 373 | 1.85 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-15-06 | 15 (18) | 373 | 0.89 | 1.22 | 2.2 | 470 | -06 | 140 |
| FN9246-16-06 | 16 (18.5) | 797 | 2.5 | 1.22 | 4.7 | 470 | -06 | 275 |
| FN9246-20-06 | 20 (23) | 797 | 1.5 | 1.22 | 4.7 | 470 | -06 | 275 |
| | | | | | | | | |
| FN9246B-1-06 | 1 (1.2) | 2 | 50 | 1.22 | | 470 | -06 | 140 |
| FN9246B-3-06 | 3 (3.5) | 2 | 14 | 1.22 | | 470 | -06 | 140 |
| FN9246B-6-06 | 6 (7.2) | 2 | 7 | 1.22 | | 470 | -06 | 140 |
| FN9246B-10-06 | 10 (11.6) | 2 | 3 | 1.22 | | 470 | -06 | 140 |
| FN9246B-12-06 | 12 (14) | 2 | 1.85 | 1.22 | | 470 | -06 | 140 |
| FN9246B-15-06 | 15 (18) | 2 | 0.89 | 1.22 | | 470 | -06 | 140 |
| FN9246B-16-06 | 16 (18.5) | 2 | 2.5 | 1.22 | | 470 | -06 | 275 |
| FN9246B-20-06 | 20 (23) | 2 | 1.5 | 1.22 | | 470 | -06 | 275 |

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

Typical filter attenuation

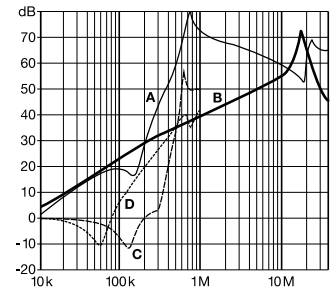
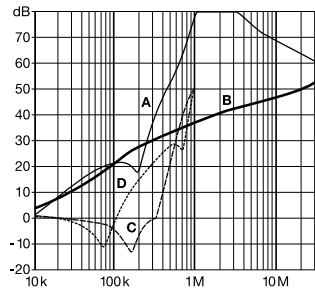
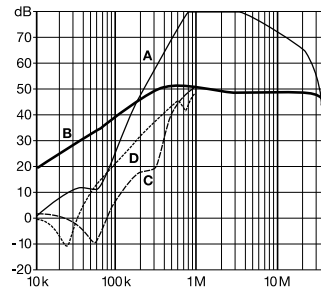
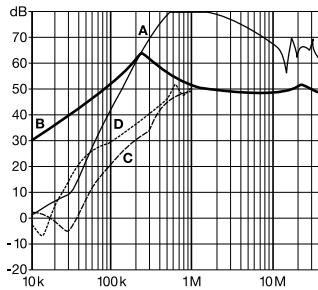
Per CISPR 17; A = 50 Ω/50 Ω sym; B = 50 Ω/50 Ω asym; C = 0.1 Ω/100 Ω sym; D = 100 Ω/0.1 Ω sym

1 A types

3 to 10 A types

12 and 15 A types

16 and 20 A types



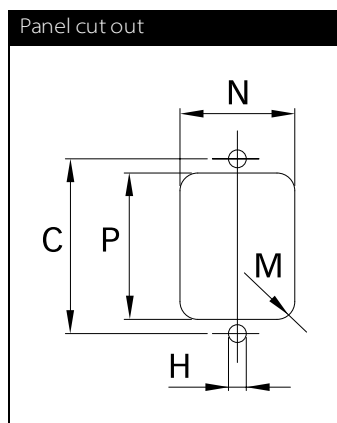
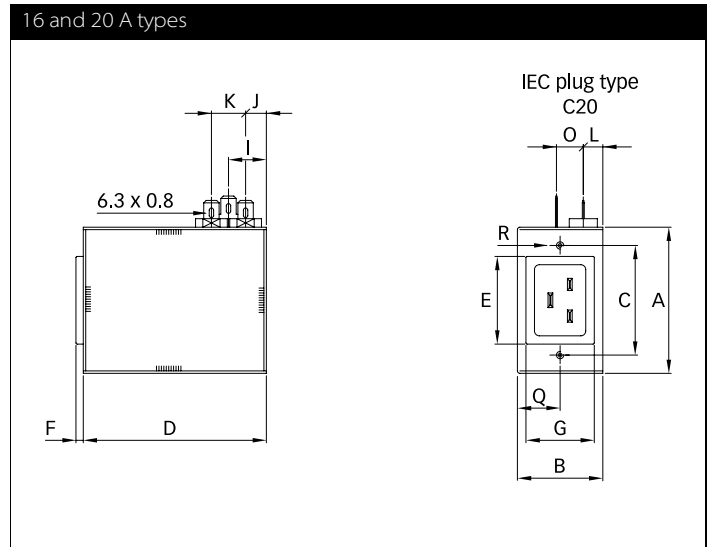
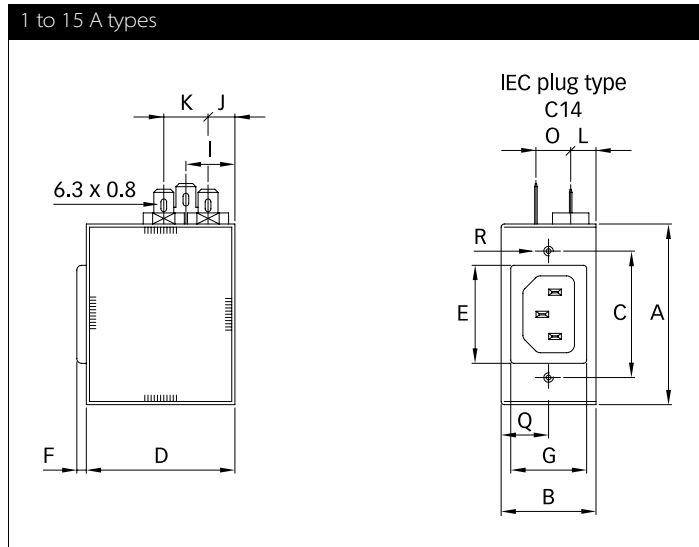
Product selector

FN 9246x-yy-..

- 06: Faston 6.3 x 0.8mm (spade/soldering)
- 1 to 20: Rated current
Standard IEC inlet type C14 (1 to 15A types), C20 (16 and 20A types)
- Blank: Standard version
- B: Medical version (with bleed resistor and without Y2-capacitor)

For example: FN 9246-6-06, FN 9246B-10-06

Mechanical data



| | 1 A | 3 A | 6 A | 10 A | 12 A | 15 A | 16 A | 20 A |
|---|---------|---------|---------|--------------|---------|---------|---------|---------|
| A | 57.15 | 57.15 | 57.15 | 57.15 | 57.15 | 57.15 | 60 | 60 |
| B | 30 | 30 | 30 | 30 | 30 | 30 | 35 | 35 |
| C | 40 | 40 | 40 | 40 | 40 | 40 | 45 | 45 |
| D | 47 | 47 | 47 | 47 | 47 | 47 | 75 | 75 |
| E | 31 | 31 | 31 | 31 | 31 | 31 | 36 | 36 |
| F | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| G | 24 | 24 | 24 | 24 | 24 | 24 | 28 | 28 |
| H | Ø 3.5 | Ø 3.5 | Ø 3.5 | Ø 3.5 | Ø 3.5 | Ø 3.5 | Ø 3.5 | Ø 3.5 |
| I | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| J | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 |
| K | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| L | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| M | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 | R ≤ 1.5 |
| N | 25 | 25 | 25 | 25 | 25 | 25 | 29 | 29 |
| O | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| P | 32 | 32 | 32 | 32 | 32 | 32 | 37 | 37 |
| Q | 15 | 15 | 15 | 15 | 15 | 15 | 17.5 | 17.5 |
| R | | | | M3 x 10 max. | | | | |

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



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