

# 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

|  |   |
|--|---|
| <b>Maximum continuous operating voltage</b>      | 250 VAC, 50/60 Hz   |
| <b>Operating frequency</b>                       | dc to 400 Hz  |
| <b>Rated currents</b>                            | 1 to 20 A @ 50 °C   |
| <b>Approvals by rated current</b>                | 1 to 10 A (Semko)<br>16 A (Semko) for 16 and 20 A types<br>1 to 20 A (UL, CSA)  |
| <b>High potential test voltage</b>               | P → PE 2000 VAC for 2 sec (standard types)<br>P → PE 2500 VAC for 2 sec (B types)<br>P → N 1100 VAC for 2 sec (1 to 10 A types)<br>P → N 1100 VDC for 2 sec (16 and 20 A types) |
| <b>Protection category</b>                       | IP40 according to IEC 60529   |
| <b>Temperature range (operation and storage)</b> | -25 °C to +85 °C (25/85/21)   |
| <b>Design corresponding to</b>                   | UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939  |
| <b>Flammability corresponding to</b>             | UL 94 V-2 or better   |
| <b>MTBF @ 40°C/230V (Mil-HB-217F)</b>            | 1,600,000 hours   |

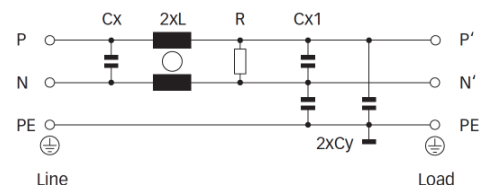
## Features and benefits

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

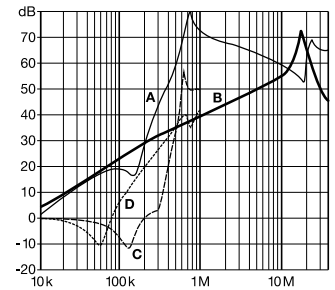
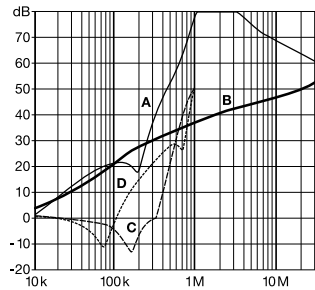
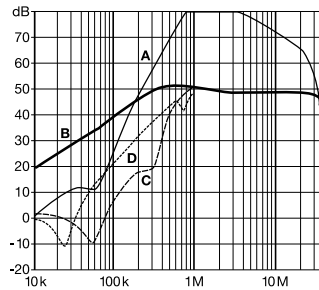
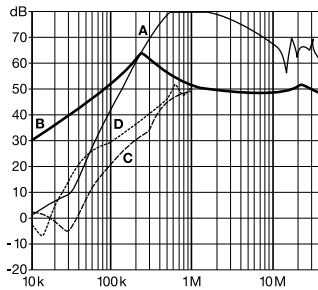
Per CISPR 17; A = 50 Ω/50 Ω sym; B = 50 Ω/50 Ω asym; C = 0.1 Ω/100 Ω sym; D = 100 Ω/0.1 Ω sym

1 A types

3 to 10 A types

12 and 15 A types

16 and 20 A types



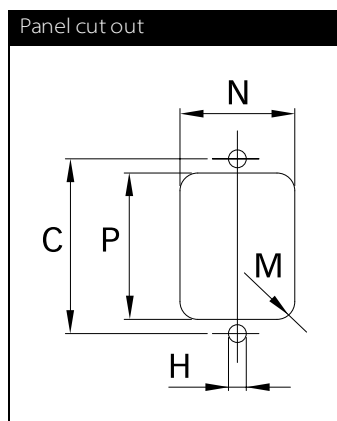
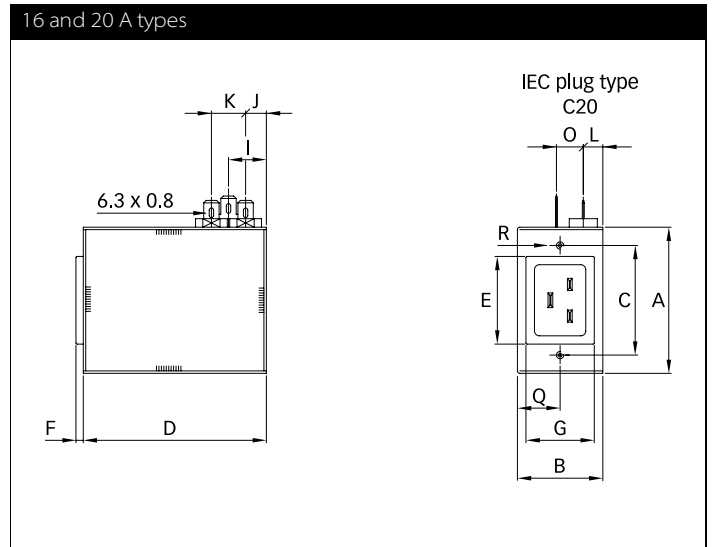
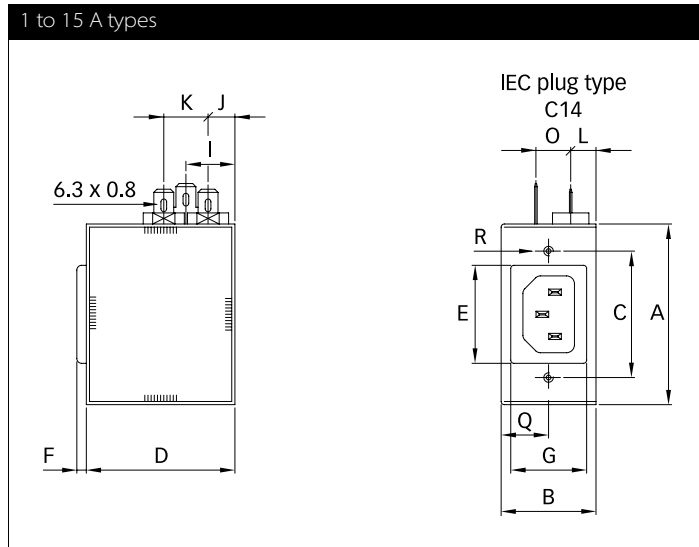
**Product selector**

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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