

## Ultra-compact Low Leakage current EMC/EMI Filter



- Ultra-compact four-wire filter for applications lacking space
- Exceptional low operating leakage current
- Equally suitable for star and delta power networks

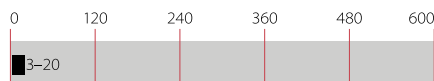


### Performance indicators

Attenuation performance



Rated current [A]



### Approvals



### Features and benefits

- The FN 355 family of three-phase and neutral line filters provides a cost-effective interference suppression solution for a wide variety of applications
- Available in four versions, with current ratings from 3 to 20 A, the filters employ a single-stage four-wire LC circuit with saturating resistant chokes, and have a very low operational leakage current
- FN 355 filters are contained within an extremely compact metal housing, making them ideal for use in situations where space is at a premium

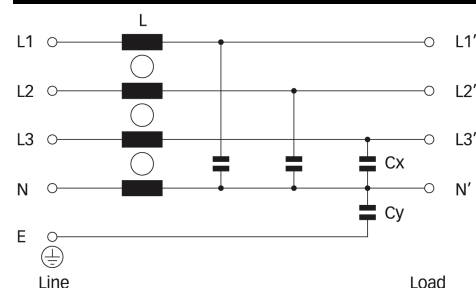
### Technical specifications

|                                                  |                                                                                   |
|--------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Maximum continuous operating voltage</b>      | 3x 440/250 VAC                                                                    |
| <b>Operating frequency</b>                       | DC to 400 Hz                                                                      |
| <b>Rated currents</b>                            | 3 to 20 A @ 40°C                                                                  |
| <b>High potential test voltage</b>               | P/N → E 2000 VAC for 2 sec<br>P → P 1350 VDC for 2 sec<br>P → N 800 VAC for 2 sec |
| <b>Overload capability</b>                       | 4x rated current at switch on,<br>1.5x rated current for 1 minute, once per hour  |
| <b>Temperature range (operation and storage)</b> | -25°C to +100°C (25/100/21)                                                       |
| <b>Flammability corresponding to</b>             | UL 94 V-2 or better                                                               |
| <b>Design corresponding to</b>                   | UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939                                        |
| <b>MTBF @ 40°C/230 V (Mil-HB-217F)</b>           | 850,000 hours                                                                     |

### Typical applications

- Office equipment
- Medical equipment
- General purpose four-wire filtering
- Applications with tight space conditions

### Typical electrical schematic



Filter selection table

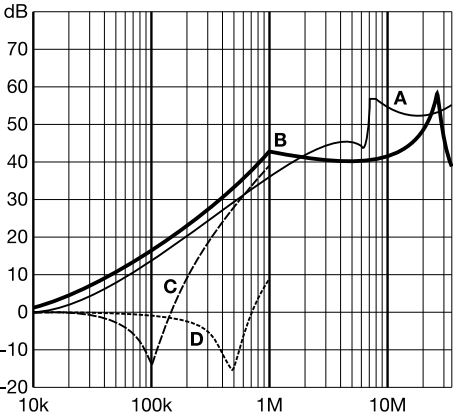
| Filter       | Rated current<br>@ 40°C (25°C) | Leakage current*<br>@ 440 VAC/50 Hz | Power loss<br>@ 25 °C/ 50Hz | Input/Output connections                                                            |                                                                                     |                                                                                     | weight |
|--------------|--------------------------------|-------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|
|              | [A]                            | [mA]                                | [W]                         |  |  |  | [kg]   |
| FN 355-3-05  | 3 (3.4)                        | 0.0                                 | 1.4                         |                                                                                     | -05                                                                                 |                                                                                     | 0.15   |
| FN 355-6-05  | 6 (6.9)                        | 0.0                                 | 1.5                         |                                                                                     | -05                                                                                 |                                                                                     | 0.21   |
| FN 355-10-05 | 10 (11.5)                      | 0.0                                 | 1.8                         |                                                                                     | -05                                                                                 |                                                                                     | 0.25   |
| FN 355-20-06 | 20 (23)                        | 0.1                                 | 3.4                         |                                                                                     | -06                                                                                 |                                                                                     | 0.29   |
| FN 355-20-03 | 20 (23)                        | 0.1                                 | 3.4                         | -03                                                                                 |                                                                                     |                                                                                     | 0.29   |
| FN 355-30-44 | 30 (34)                        | 0.2                                 | 4.1                         |                                                                                     |                                                                                     | -44                                                                                 | 0.44   |

\* Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

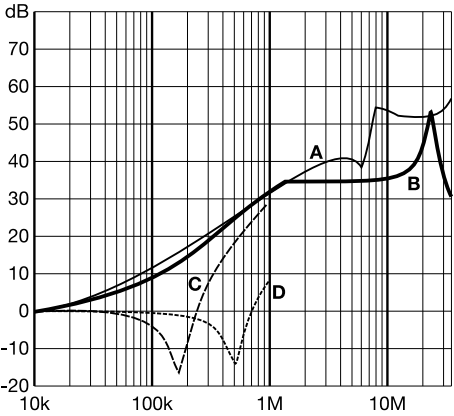
Typical filter attenuation

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

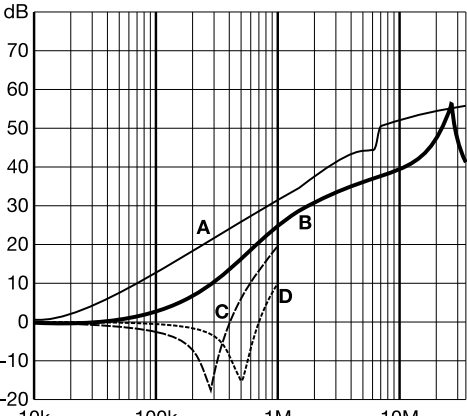
3 A types



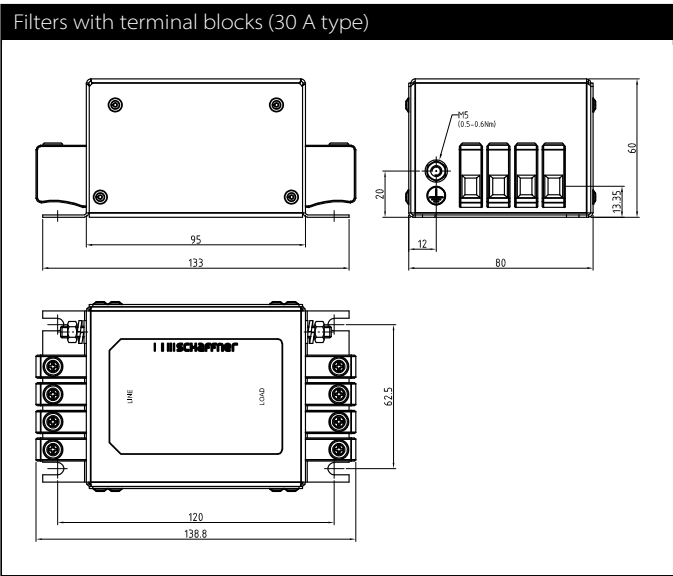
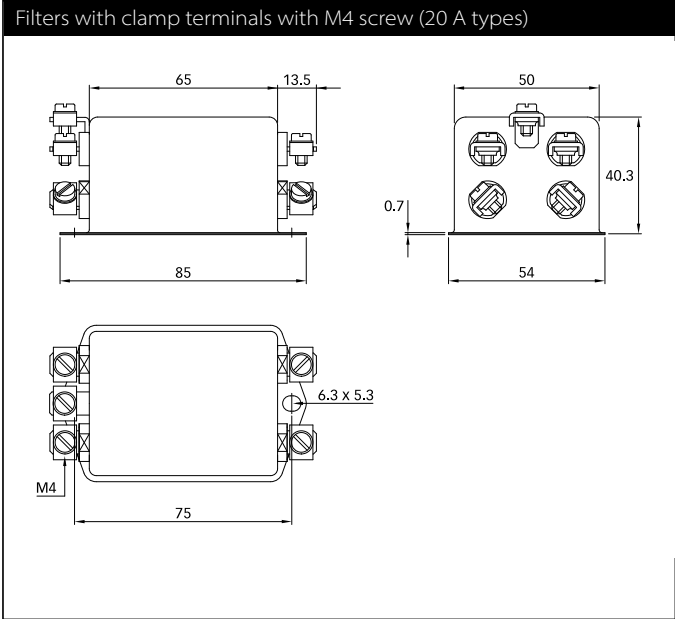
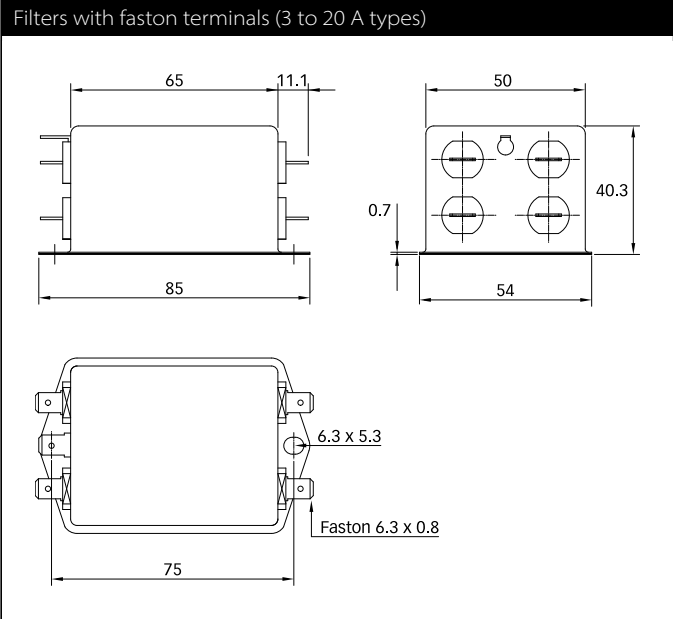
6 A types



10 and 30A types



Mechanical data



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

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on connectors.

Filter input/output connector cross sections

|                    |                                      |
|--------------------|--------------------------------------|
|                    | <div><div>-44</div><div></div></div> |
| Solid wire         | 0.5-10 mm <sup>2</sup>               |
| Flex wire          | 0.5-6 mm <sup>2</sup>                |
| Flex wire AWG      | AWG 20-8                             |
| Recommended torque | 1.0-1.2 Nm                           |

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.



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