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Multi-stage EMI Filter



Rated currents from 6 to 30 A

Surge pulse protection up to 2 kA

Solder or screw connection



Performance indicators

Attenuation performance



Rated current [A]



Approvals



Features and benefits

- FN 352 Z series is developed to meet high filter attenuation requirements by using multi-stage filter design
- Additional high surge pulse voltage protection up to 2 kA is integrated to protect sensitive equipment
- Choosing FN 352 Z product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances
- Standard filters are a practical solution helping you to pass EMI system approval in a short time
- Exceptional conducted attenuation performance, based on multi-stage design and chokes with high saturation resistance and excellent thermal behavior
- Various connection options
- Custom-specific versions on request

Technical specifications

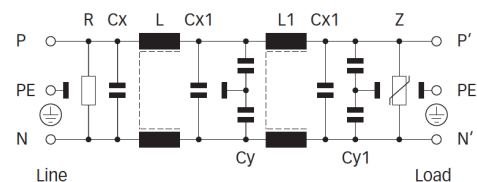
| | |
|--|--|
| Maximum continuous operating voltage | 250 VAC, 50/60 Hz |
| Operating frequency | DC to 400 Hz |
| Rated currents | 6 to 30 A @ 40°C max. |
| High potential test voltage | P → PE 2000 VAC for 2 sec P → N 350 VDC for 2 sec |
| Energy absorption | 40J |
| Temperature range (operation and storage) | -25°C to +85°C (25/85/21) |
| Flammability corresponding to | UL 94 V-2 or better |
| Design corresponding to | UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 |
| MTBF @ 40°C/230 V (Mil-HB-217F) | 230,000 hours |
| Surge pulse protection | 2 kV IEC 61000-4-5 |

Typical applications

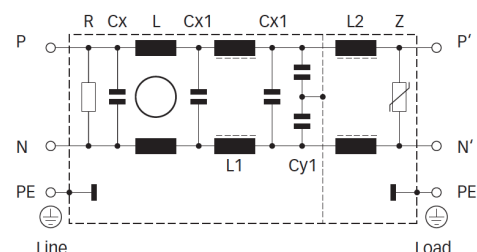
- Facility management
- Industrial
- Telecommunication
- Data processing
- Electrical and electronic equipment

Typical electrical schematic

6A types



10 to 30A types



Filter selection table

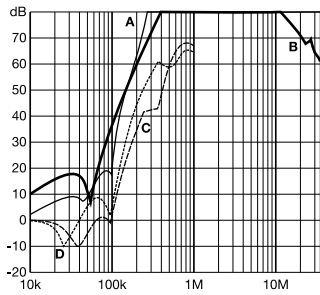
| Filter | Rated current @ 40°C (25°C) [A] | Leakage current* @ 230 VAC/50 Hz [µA] | Inductance | | | Capacitance | | | | Resistance R [MΩ] | Energy absorption [J] | Input/Output connections | Weight [g] |
|-----------------------|---------------------------------------|---|------------|------------|------------|-------------|-------------|------------|-------------|-------------------------|-----------------------------|-----------------------------|---------------|
| | | | L [mH] | L1 [mH] | L2 [mH] | Cx [nF] | Cx1 [nF] | Cy [nF] | Cy1 [nF] | | | | |
| FN 352 Z-6-06 | 6 (7.2) | 420 | 3 | 3 | | 470 | 220 | 3.3 | 1.5 | 0.47 | 40 | -06 | 575 |
| FN 352 Z-10-29 | 10 (12) | 1300 | 5 | 0.06 | 0.003 | 220 | 220 | 15 | 15 | 0.47 | 40 | -29 | 1320 |
| FN 352 Z-20-29 | 20 | 1300 | 3.5 | 0.06 | 0.0035 | 220 | 220 | 15 | 15 | 0.47 | 40 | -29 | 2950 |
| FN 353 Z-30-33 | 24 (30) | 1300 | 2.3 | 0.025 | 0.035 | 470 | 220 | 15 | 15 | 0.23 | 40 | -33 | 3100 |

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

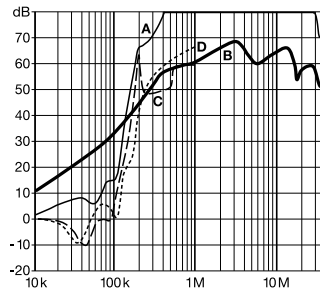
Typical filter attenuation

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

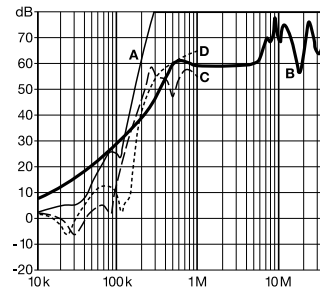
6 A types



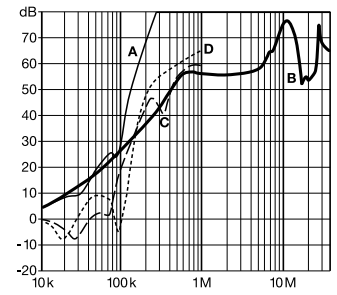
10 A types



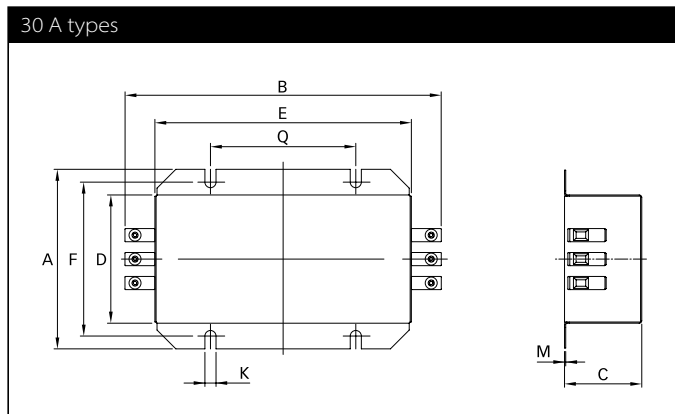
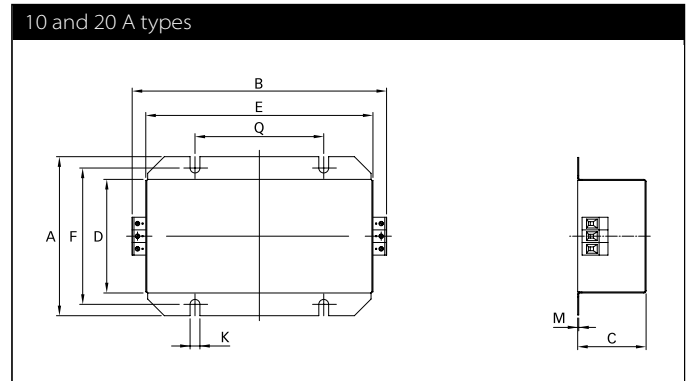
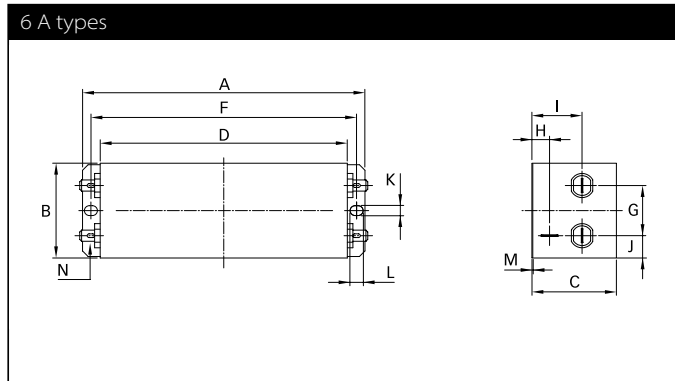
20 A types



30 A types



Mechanical data



Dimensions

| | 6 A | 10 A | 20 A | 30 A | Tolerances |
|----------|-----------|-------|-------|-------|------------|
| A | 152 | 126 | 150 | 150 | ±0.5 |
| B | 51 | 172.3 | 221.8 | 250 | ±0.5 |
| C | 45 | 55.25 | 65 | 65 | ±0.5 |
| D | 133 | 100.5 | 119.5 | 119.5 | ±0.5 |
| E | | 150.5 | 200 | 200 | ±0.5 |
| F | 143 | 112 | 135 | 135 | ±0.5 |
| G | 27 | | | | ±0.5 |
| H | 9.5 | | | | ±0.5 |
| I | 27 | | | | ±0.5 |
| J | 12 | | | | ±0.5 |
| K | 5.3 | 6.4 | 6.4 | 6.4 | |
| L | 7 | | | | |
| M | 0.5 | | | | |
| N | 6.3 x 0.8 | | | | |
| Q | | 85 | 115 | 115 | ±0.1 |

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

Filter input/output connector cross sections

| | -06 | -29 | -33 |
|---------------------------|-----|-------------------|--------------------|
| Solid wire | n/a | 6 mm ² | 16 mm ² |
| Flex wire | n/a | 4 mm ² | 10 mm ² |
| AWG type wire | n/a | AWG 10 | AWG 6 |
| Recommended torque | n/a | 0.6-0.8 Nm | 1.5-1.8 Nm |

Please visit www.schaffner.com to find more details on filter connectors.



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