

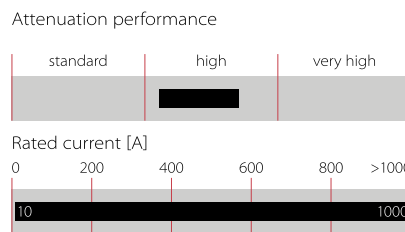
Compact EMC/RFI Filter for Industrial Motor Drive Applications



Very compact and light weight design requiring minimum space
 Easy, time-saving installation and contacting
 Protective covers as optional accessory available
 Attenuation performance according to EN 61800-3/A11



Performance indicators



Approvals & Compliances



Features and benefits

An extremely compact and light weight filter design requiring minimum mounting space in installations and cabinets

Simple and time-saving installation with good accessibility for automatic and hand tools

Solid, touch-safe terminal blocks, for all filters from 10 to 100 A, offering sufficient contacting cross section according to the EN 60204-1 installation standard

Optionally available transparent protective covers for all filters with busbars from 150 to 1000 A, to protect the installer, operator or inspector from accidental touching of live conductors. They can easily be retrofitted even if the filter is already installed and connected

These EMC filters provide the attenuation performance needed to fulfill EN 61800-3/A11

Guaranteed filter performance under fullload operating conditions

15 different filter models allow the specific choice and deployment for most industrial applications

Technical specifications

Maximum continuous operating voltage

Operating frequency

Rated currents

High potential test voltage

Protection category

Overload capability

Temperature range (operation and storage)

Flammability corresponding to

Design corresponding to

MTBF @ 50°C/400 V (Mil-HB-217F)

3x 520/300 VAC (480 VAC +10% possible)

DC to 60 Hz

10 to 1000 A @ 50°C

P → E 2750 VDC for 2 sec

P → P 2250 VDC for 2 sec

IP 20 (10 to 100 A)

IP 00 (150 to 1000 A)

4x rated current at switch on,

1.5x rated current for 1 minute, once per hour

-25°C to +100°C (25/100/21)

UL 94 V-2 or better

UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939

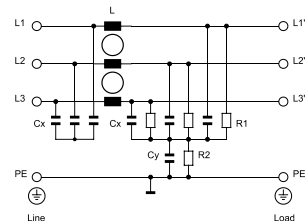
>320,000 hours

Typical applications

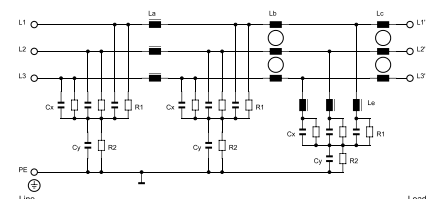
Variable speed electrical power drive systems/motor drives for mainly industrial purpose

Various industrial applications comprising frequency inverters, motor drives and servo drives



Typical electrical schematic (up to 100 A)



Typical electrical schematic (>100 A)



Filter selection table

| Filter | Rated current @ 50°C (40°C) | Typical drive power rating* | Leakage current @ 520 VAC/50 Hz | Power loss @ 25°C/50 Hz | Input/Output connections | Weight | Protective covers*** |
|-------------------|--------------------------------|--------------------------------|------------------------------------|----------------------------|---|--------|-------------------------|
| | [A] | [kW] | [mA]** | [W] |   | [kg] | Order code |
| FN 3270 H-10-44 | 10 (11) | 5.5 | 3.1 | 2.4 | -44 | 0.4 | |
| FN 3270 H-20-44 | 20 (22) | 11 | 3.1 | 4.1 | -44 | 0.5 | |
| FN 3270 H-35-33 | 35 (38) | 22 | 3.4 | 6.8 | -33 | 0.7 | |
| FN 3270 H-50-34 | 50 (55) | 30 | 3.4 | 12.8 | -34 | 1.2 | |
| FN 3270 H-65-34 | 65 (71) | 37 | 3.4 | 13.5 | -34 | 1.3 | |
| FN 3270 H-80-35 | 80 (88) | 45 | 3.4 | 13.5 | -35 | 2.2 | |
| FN 3270 H-100-35 | 100 (110) | 55 | 3.4 | 17.1 | -35 | 2.6 | |
| FN 3270 H-150-99 | 150 (164) | 75 | 6.9 | 7.5 | -99 | 6.1 | 801916 |
| FN 3270 H-200-99 | 200 (219) | 110 | 6.9 | 13.2 | -99 | 6.1 | 801916 |
| FN 3270 H-250-99 | 250 (274) | 132 | 6.9 | 20.6 | -99 | 6.1 | 801916 |
| FN 3270 H-320-99 | 320 (350) | 160 | 6.9 | 12.2 | -99 | 7.2 | 801916 |
| FN 3270 H-400-99 | 400 (438) | 220 | 6.9 | 19.2 | -99 | 7.2 | 801916 |
| FN 3270 H-600-99 | 600 (657) | 315 | 6.9 | 35.6 | -99 | 7.7 | 801916 |
| FN 3270 H-800-99 | 800 (876) | 400 | 6.9 | 51.8 | -99 | 15.8 | 806275 |
| FN 3270 H-1000-99 | 1000 (1095) | 560 | 6.9 | 81.0 | -99 | 15.8 | 806275 |

*** Calculated at rated current, 480 VAC and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.

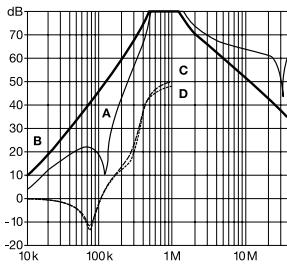
** Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

*** Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above.

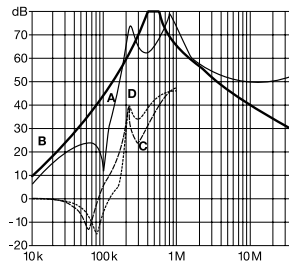
Typical filter attenuation

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

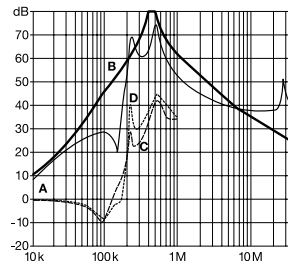
10 and 20 A types



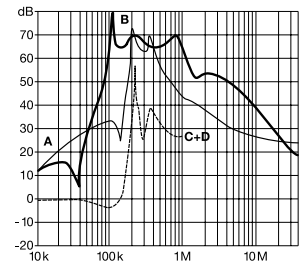
35 to 65 A types



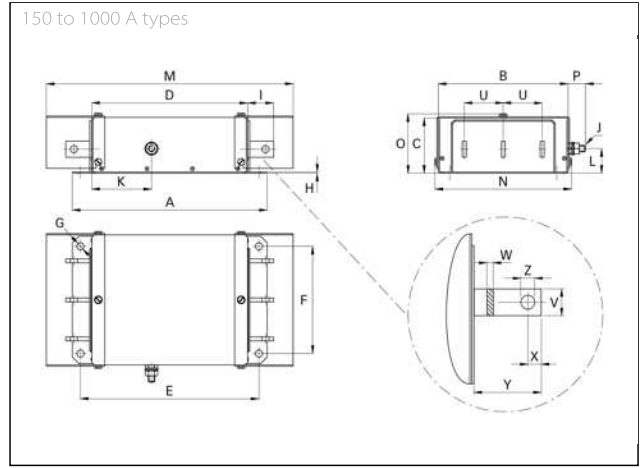
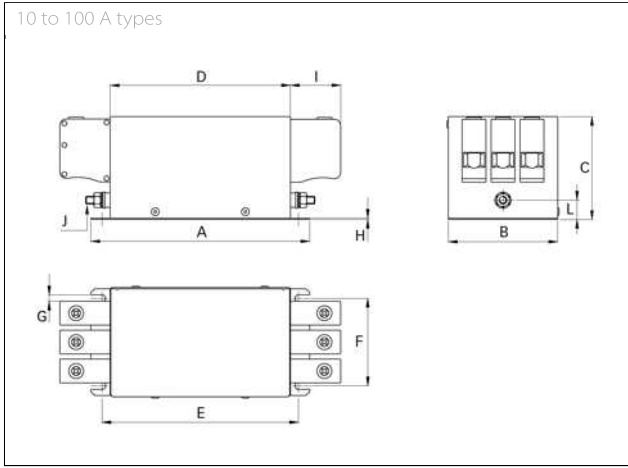
80 and 100 A types



150 to 1000 A types



Mechanical data



Dimensions

| | 10 A | 20 A | 35 A | 50 A | 65 A | 80 A | 100 A | 150 A | 200 A | 250 A | 320 A | 400 A | 600 A | 800 A | 1000 A |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| A | 150 | 150 | 160 | 170 | 170 | 200 | 230 | 300 | 300 | 300 | 300 | 300 | 300 | 370 | 370 |
| B | 58 | 58 | 70 | 85 | 85 | 95 | 95 | 200 | 200 | 200 | 200 | 200 | 200 | 190 | 190 |
| C | 58 | 58 | 68 | 80 | 80 | 90 | 90 | 86 | 86 | 86 | 86 | 86 | 86 | 125 | 125 |
| D | 120 | 120 | 130 | 140 | 140 | 170 | 200 | 240 | 240 | 240 | 240 | 240 | 240 | 310 | 310 |
| E | 132.5 | 132.5 | 142.5 | 152.5 | 152.5 | 182.5 | 212.5 | 275 | 275 | 275 | 275 | 275 | 275 | 345 | 345 |
| F | 42 | 42 | 50 | 65 | 65 | 75 | 75 | 165 | 165 | 165 | 165 | 165 | 165 | 155 | 155 |
| G | 4.5 | 4.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | Ø11 | Ø11 | Ø11 | Ø11 | Ø11 | Ø11 | Ø11 | Ø11 |
| H | 1 | 1 | 1 | 1 | 1 | 1.5 | 1.5 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| I | 22 | 22 | 25 | 39 | 39 | 45 | 45 | 40 | 40 | 40 | 40 | 40 | 40 | 50 | 50 |
| J | M4 | M4 | M5 | M6 | M6 | M8 | M8 | M10 | M10 | M10 | M10 | M10 | M10 | M12 | M12 |
| K | | | | | | | | 92 | 92 | 92 | 92 | 92 | 92 | 138 | 138 |
| L | 20.5 | 20.5 | 20 | 15 | 15 | 16 | 16 | 37 | 37 | 37 | 37 | 37 | 37 | 67 | 67 |
| M | | | | | | | | 380 | 380 | 380 | 380 | 380 | 380 | 610 | 610 |
| N | | | | | | | | 211 | 211 | 211 | 211 | 211 | 211 | 201 | 201 |
| O | | | | | | | | 93 | 93 | 93 | 93 | 93 | 93 | 132 | 132 |
| P | | | | | | | | 26.5 | 26.5 | 26.5 | 26.5 | 26.5 | 26.5 | 29 | 29 |
| U | | | | | | | | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| V | | | | | | | | 20 | 20 | 20 | 25 | 25 | 25 | 40 | 40 |
| W | | | | | | | | 3 | 3 | 3 | 6 | 6 | 8 | 8 | 8 |
| X | | | | | | | | 10 | 10 | 10 | 12.5 | 12.5 | 12.5 | 20 | 20 |
| Y | | | | | | | | 37 | 37 | 37 | 37 | 37 | 37 | 47 | 47 |
| Z | | | | | | | | Ø9 | Ø9 | Ø9 | Ø11 | Ø11 | Ø11 | Ø13.5 | Ø13.5 |

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

Filter input/output connector cross sections

| | -33 | -34 | -35 | -44 |
|---------------------------|--------------------|--------------------|--------------------|--------------------|
| Solid wire | 16 mm ² | 35 mm ² | 50 mm ² | 10 mm ² |
| Flex wire | 10 mm ² | 25 mm ² | 50 mm ² | 6 mm ² |
| AWG type wire | AWG 6 | AWG 2 | AWG 1/0 | AWG 8 |
| Recommended torque | 1.5-1.8 Nm | 4.0-4.5 Nm | 7-8 Nm | 1.0-1.2 Nm |

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



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