

Compact EMI/RFI Filter for Motor drives Application

Feature and Benefits

- The extremely compact and slim filter design allows a trouble-free installation even where the available mounting space is minimal
- With new additional filter types providing safety terminal blocks, the most preferred connection style can be chosen fast and easy. This helps to stay in line with the electrical connection concept of a given application
- BL 358 filters ensure compliance with Class C1 limits according to EN 61800-3 up to 50 m cable length and beyond. Further they can contribute significantly to meet conducted emission limits according to Class C2
- Filter operation on the mains input side of consumers increases their reliability and conducted immunity significant
- Chokes with exceptional saturation resistance and excellent thermal behavior are a vital part of BL 358 design. Thus, all filters retain the expected filter performance even in very noisy applications and under full load conditions



Technical specifications

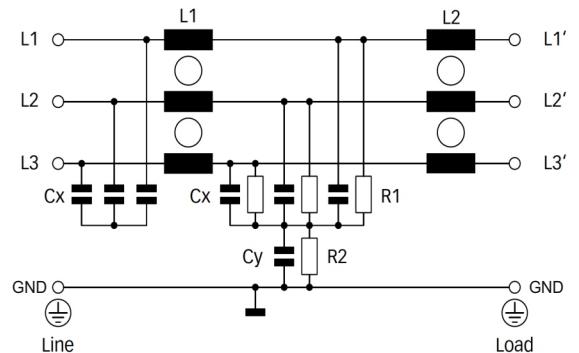
| | |
|---|---|
| Maximum continuous operating voltage | 3x480/277 VAC, 50/60Hz |
| Operating Frequency | 50/60Hz |
| Rated Currents | 7 to 180A @50°C |
| High Potential Test voltage | L-GND 2650 VDC for 2 sec (BL358) L-GND 2750 VDC for 2 sec (BL358H) L - L 2250 VDC for 2 sec |
| Temperature range (operation and storage) | -25°C to +100°C (25/100/21) |
| Certified to | UL 1283, EC/EN60939 (Applies to AC and DC Applications) |
| Flammability Corresponding to | UL 94V-2 better |
| Protection Category | IP 20 |
| Overload Capability | 1.5x Rated Current for 60 sec, once/hour |

- New solid safety connector blocks available for the whole range
- Exceptional attenuation performance from 150 kHz to 30 MHz
- Excellent saturation resistance up to 50 m cable length
- Most compact and slim filter design in fit with class C1 & C2 limit

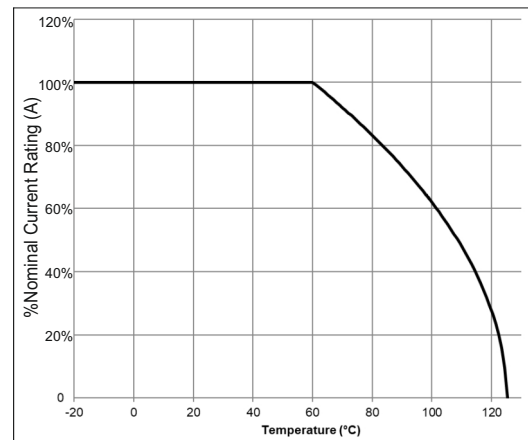
Typical Application

- Three-phase variable speed motor drives, servo drives, inverters and converters
- Applications comprising energy conversion devices like machines or process automation equipment
- HVAC equipment, elevators, power supplies, UPS and further three-phase applications


ELECTRICAL SCHEMATIC



Temperature Derating Curve for EMC Filters Rated at 50°C Ambient and 100°C Maximum



FILTER SELECTION TABLE

| Filters** | Rated current @50°C (40°C) | Leakage current @480VAC/50Hz | Typical drive Power Rating | Power Loss @25°C/50Hz | Connetion type Input/Output | Weight |
|--------------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------|---|--------|
| | A | mA | kW | W |  | Kg |
| BL358-7-T | 7((7.7) | 4.3 | 4 | 3.8 | T | 0.5 |
| BL358-16-T | 16(17.5) | 4.3 | 7.5 | 6.1 | T | 0.8 |
| BL358-30-T | 30(32.9) | 4.3 | 15 | 11.8 | T | 1.2 |
| BL358-42-T | 42(46.0) | 4.3 | 22 | 15.8 | T | 1.4 |
| BL358-55-T | 55(60.2) | 4.3 | 30 | 26 | T | 2.2 |
| BL358-75-T | 75(82.2) | 4.3 | 37 | 32 | T | 2.7 |
| BL358-100-T | 100(109.5) | 4.3 | 55 | 34.5 | T | 4.3 |
| BL358-130-T | 130(142.4) | 4.3 | 75 | 43 | T | 4.5 |
| BL358-180-T | 180(197.1) | 4.3 | 90 | 58.3 | T | 6.0 |
| High Voltage Version (520VAC) | | | | | | |
| BL358H-7-T | 7((7.7) | 4.7 | 4 | 3.8 | T | 0.5 |
| BL358H-16-T | 16(17.5) | 4.7 | 7.5 | 6.1 | T | 0.8 |
| BL358H-30-T | 30(32.9) | 4.7 | 18.5 | 11.8 | T | 1.2 |
| BL358H-42-T | 42(46.0) | 4.7 | 22 | 15.8 | T | 1.4 |
| BL358H-55-T | 55(60.2) | 4.7 | 37 | 26 | T | 2.2 |
| BL358H-75-T | 75(82.2) | 4.7 | 45 | 32 | T | 2.7 |
| BL358H-100-T | 100(109.5) | 4.7 | 55 | 34.5 | T | 4.3 |
| BL358H-130-T | 130(142.4) | 4.7 | 75 | 43 | T | 4.5 |
| BL358H-180-T | 180(197.1) | 4.7 | 110 | 58.3 | T | 6.0 |

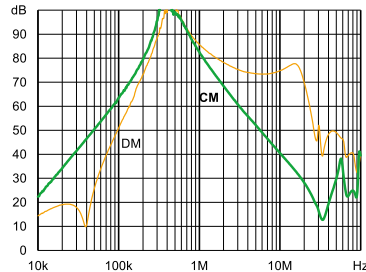
* Calculated at rated current, 440 VAC (BL358)/480 VAC (BL358H) and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.

** Standardized calculated leakage current acc. IEC60939 under normal operating conditions (BL358 at 480 VAC and BL358H at 520 VAC).

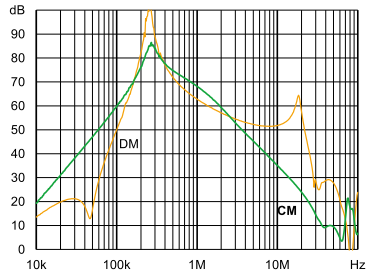
TYPICAL INSERTION LOSS, dB (50/50 Ohm)

Insertion Loss: Common mode - —
Differential mode - —

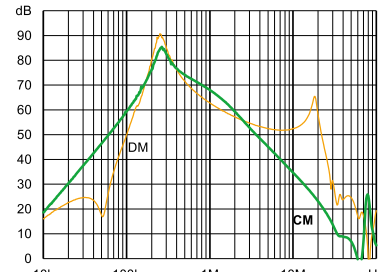
7 A type



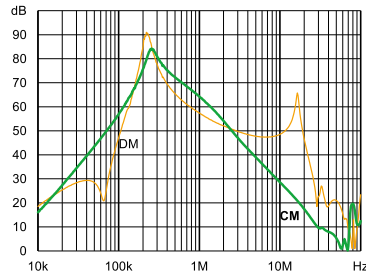
16 A type



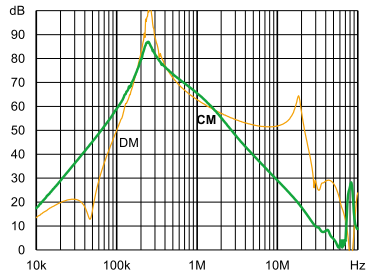
30 A type



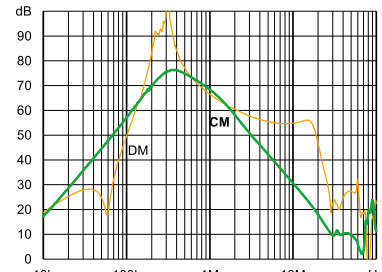
42 A type



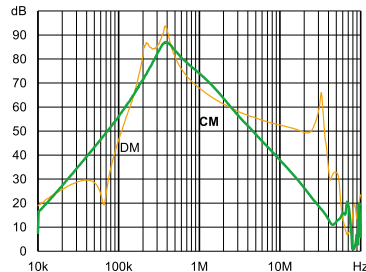
55 A type



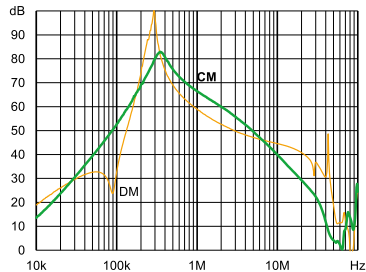
75 A type



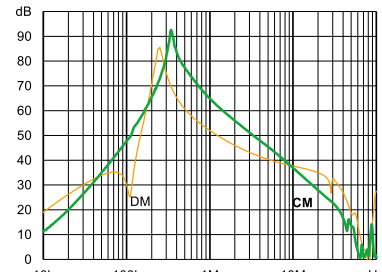
100 A type



130 A type

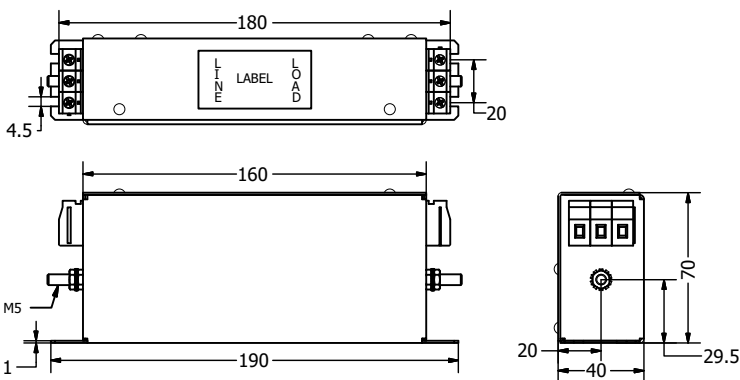


180 A type

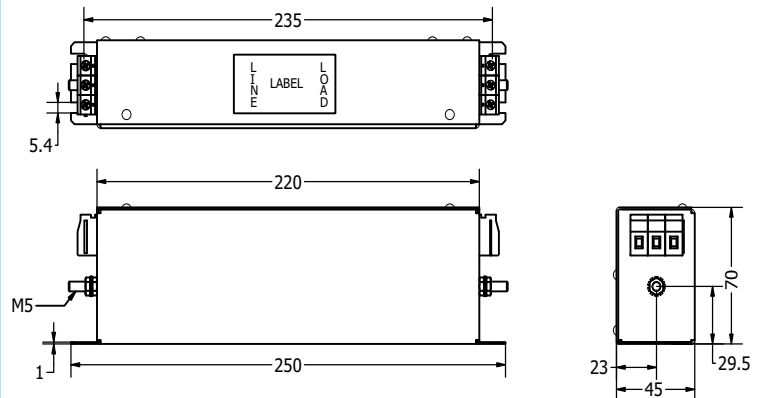


MECHANICAL DETAILS

7 Amp Terminal block (10mm²)

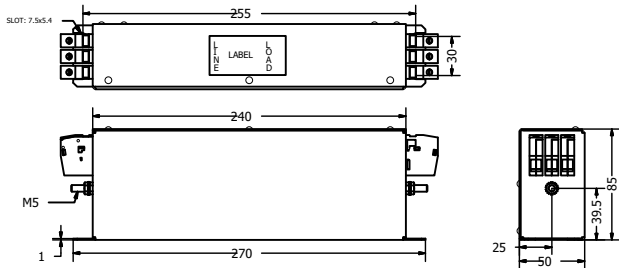


16 Amp Terminal block (10mm²)

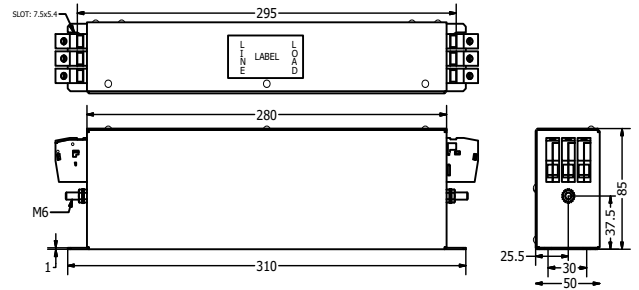


MECHANICAL DETAILS

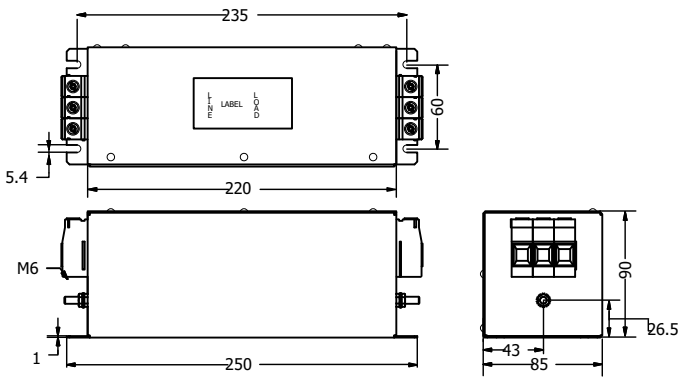
30 Amp Terminal block (10mm²)



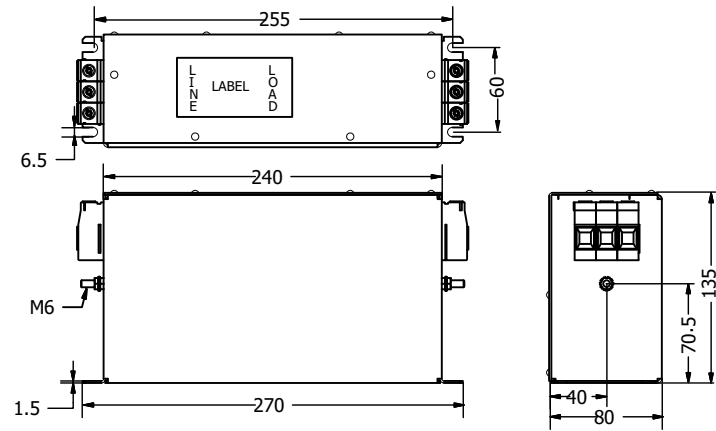
42 Amp Terminal block (10mm²)



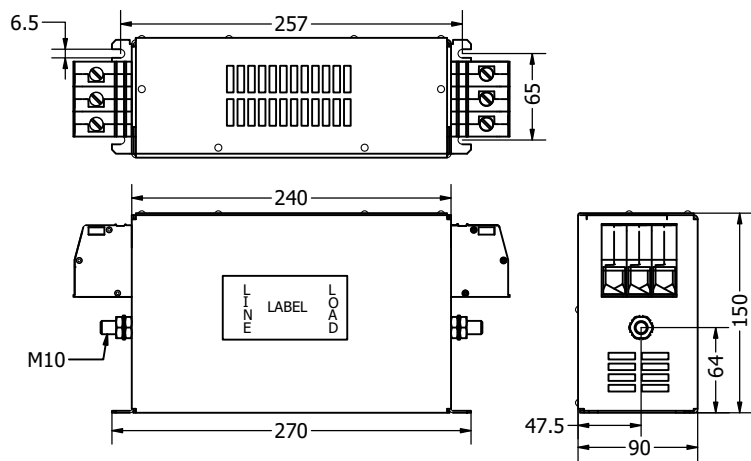
55 Amp Terminal block (25mm²)



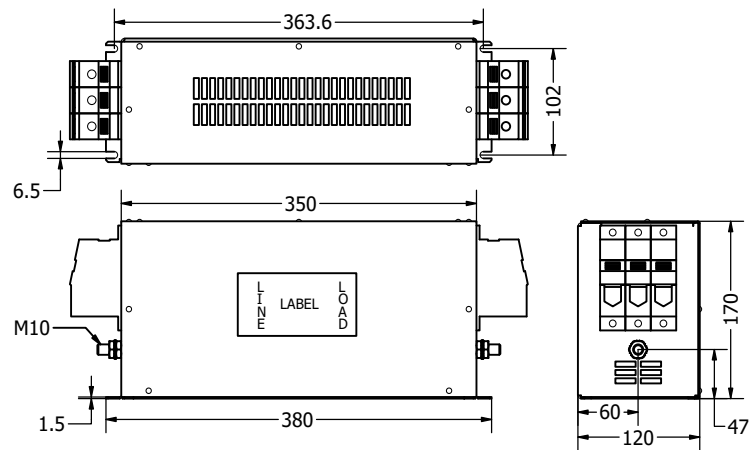
75 Amp Terminal block (25mm²)



100 & 130Amp Terminal block (50mm²)



180Amp Terminal block (95mm²)



**All Dimension are in mm