

2-stage filter for 3-phase systems with low leakage current



See below:

### Approvals and Compliances

#### Description

- Terminals for three phases and ground

#### Applications

- Suitable for applications with RCDs
- Protection against interference voltage from the mains
- Especially designed for industrial applications such as: Frequency Converters, Stepper Motor Drives, UPS-Systems, Inverters

#### Weblinks

[pdf data sheet](#), [html datasheet](#), [General Product Information](#), [Approvals](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Microsite](#)

#### Technical Data

|                         |                                             |
|-------------------------|---------------------------------------------|
| Rated Current           | 7 - 180 A                                   |
| Rated voltage           | 520 VAC, 50/60 Hz                           |
| Approval for            | 7 - 180 A @ 50 °C / 520 VAC; 50/60 Hz       |
| Overload Current        | 1.5 x I <sub>r</sub> for 1 minute, per hour |
| Dielectric Strength     | > 2.25 kVDC between L-L                     |
|                         | > 2.7 kVDC between L-PE                     |
|                         | Test voltage 2 sec                          |
|                         | between > 2.7 kVDC L-PE                     |
|                         | Test voltage 2 sec/50 Hz                    |
| Number of Filter Stages | 2-stage                                     |
| Weight                  | 0.75 - 9.4 kg                               |
| Material: Housing       | Metal                                       |
| Sealing Compound        | UL 94V-0                                    |

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Mounting              | Screw-on mounting on chassis                                      |
| Terminal              | Screw clamps                                                      |
| Operating Temperature | -25 °C to 100 °C                                                  |
| Climatic Category     | 25/100/21 acc. to IEC 60068-1                                     |
| Degree of Protection  | IP20 acc. to IEC 60529                                            |
| Protection Class      | Suitable for appliances with protection class I acc. to IEC 61140 |
| MTBF                  | > 200'000 h acc. to MIL-HB-217 F                                  |

### Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [Details about Approvals](#)

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

### Approvals

The approval mark is used by the testing authorities to certify compliance with the safety requirements placed on electronic products.

Approval Reference Type: FMBC LL

| Approval Logo                                                                       | Certificates                  | Certification Body | Description                  |
|-------------------------------------------------------------------------------------|-------------------------------|--------------------|------------------------------|
|  | <a href="#">VDE Approvals</a> | VDE                | Certificate Number: 40040983 |
|  | <a href="#">UL Approvals</a>  | UL                 | UR File Number: E72928       |

### Product standards

Product standards that are referenced

| Organization                                                                        | Design                | Standard  | Description                                                  |
|-------------------------------------------------------------------------------------|-----------------------|-----------|--------------------------------------------------------------|
|  | Designed according to | IEC 60939 | Passive filters for suppressing electromagnetic interference |
|  | Designed according to | UL 1283   | Electromagnetic interference filters                         |

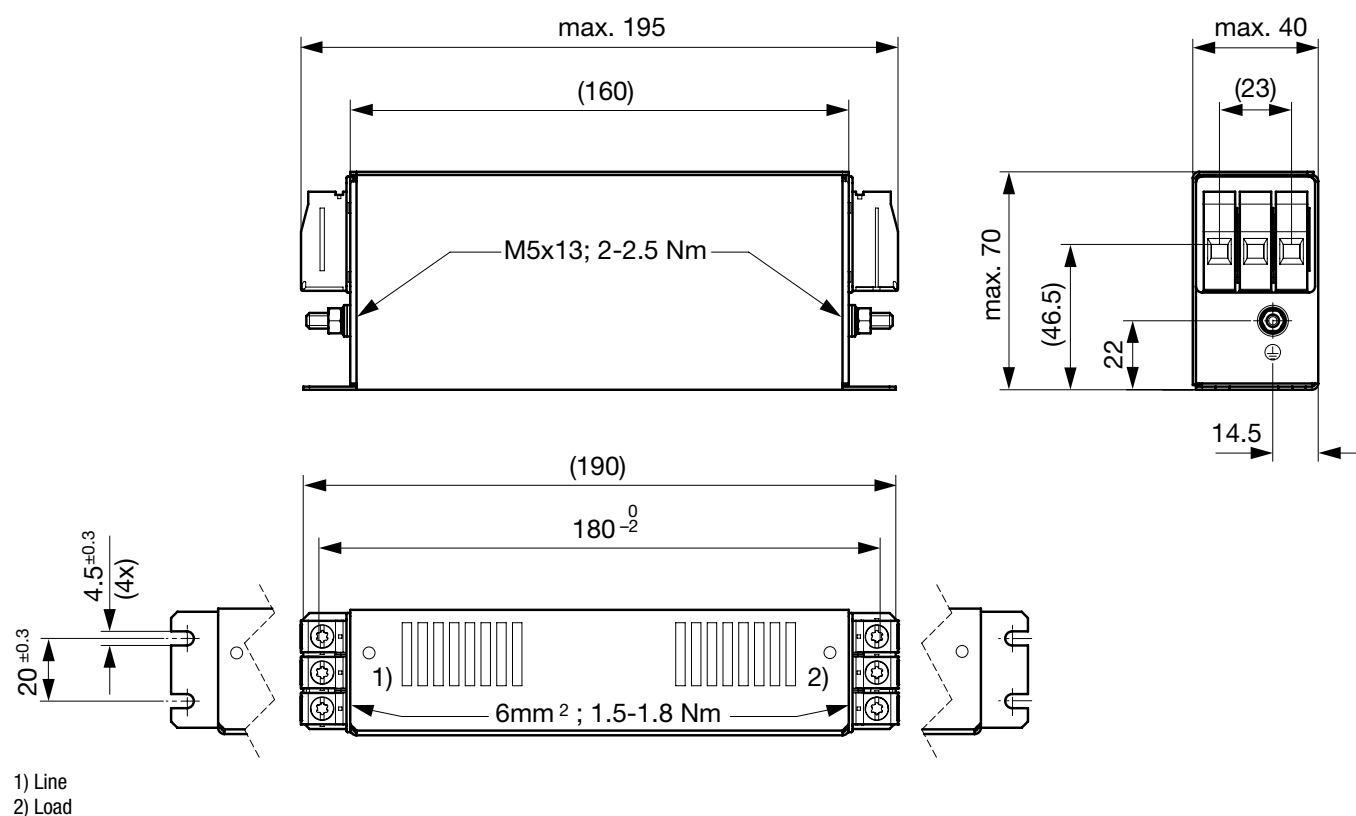
Application standards where the product can be used

## Compliances

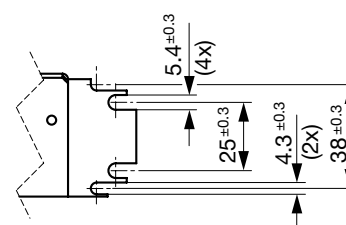
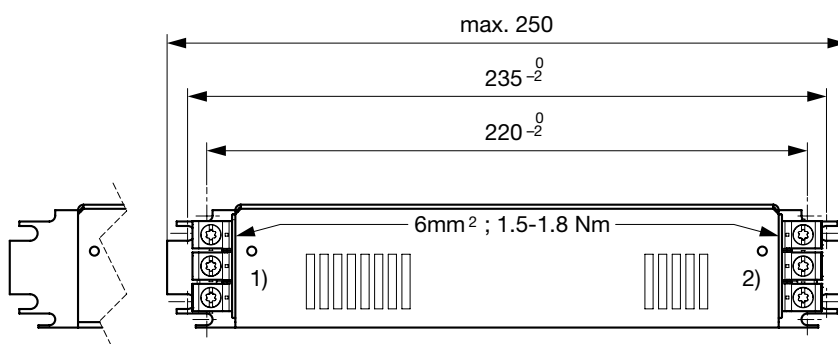
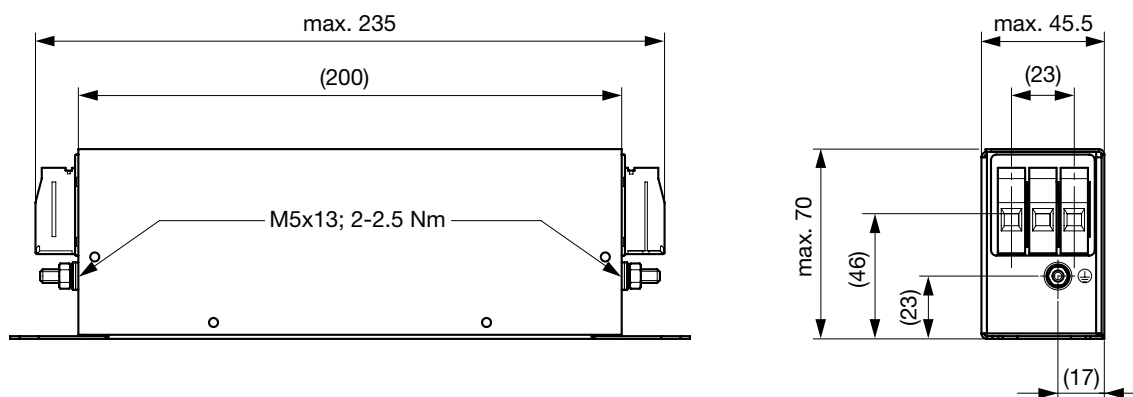
The product complies with following Guide Lines

**Dimension [mm]**

Case 1U

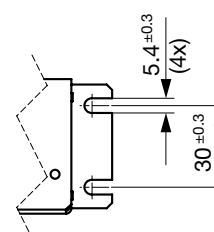
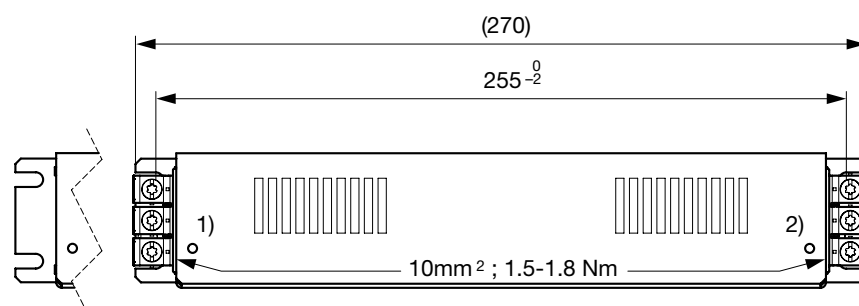
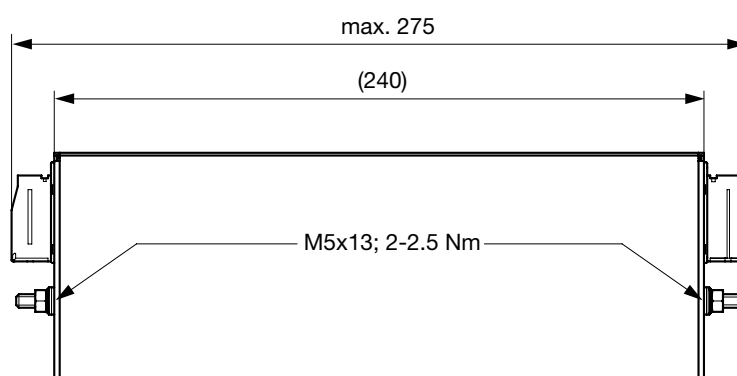


Case 1C



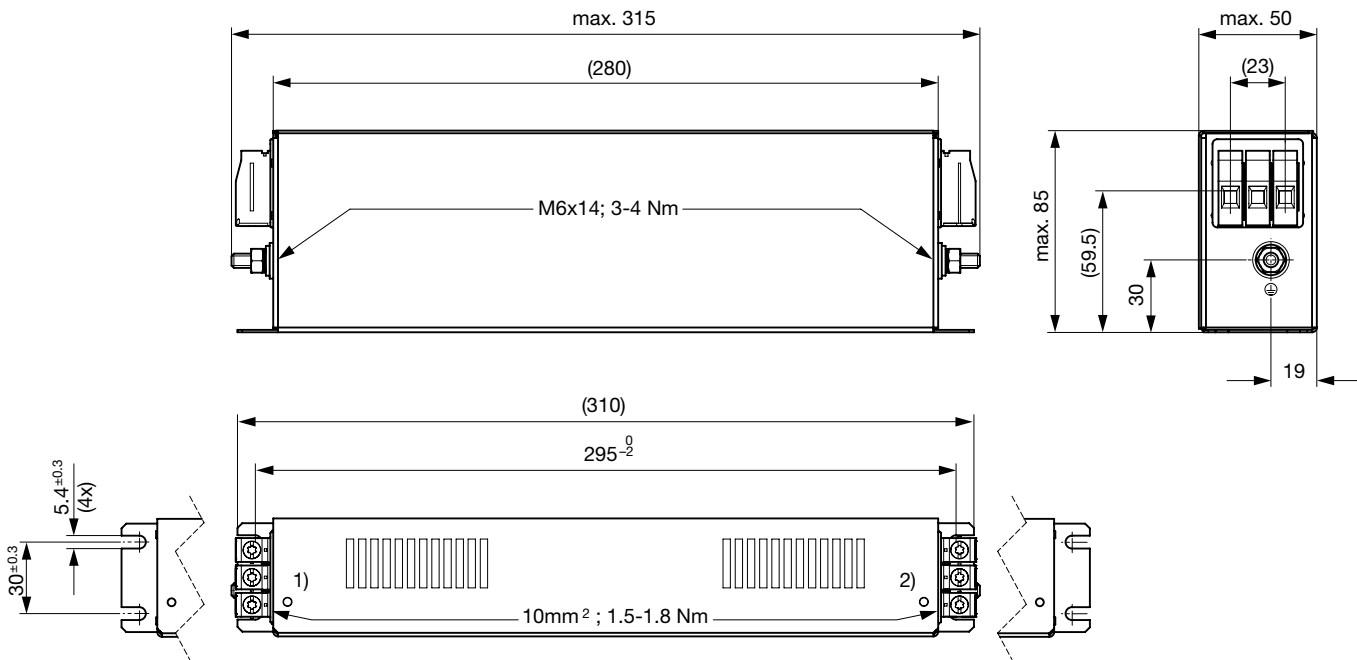
1) Line  
 2) Load

Case 1Q



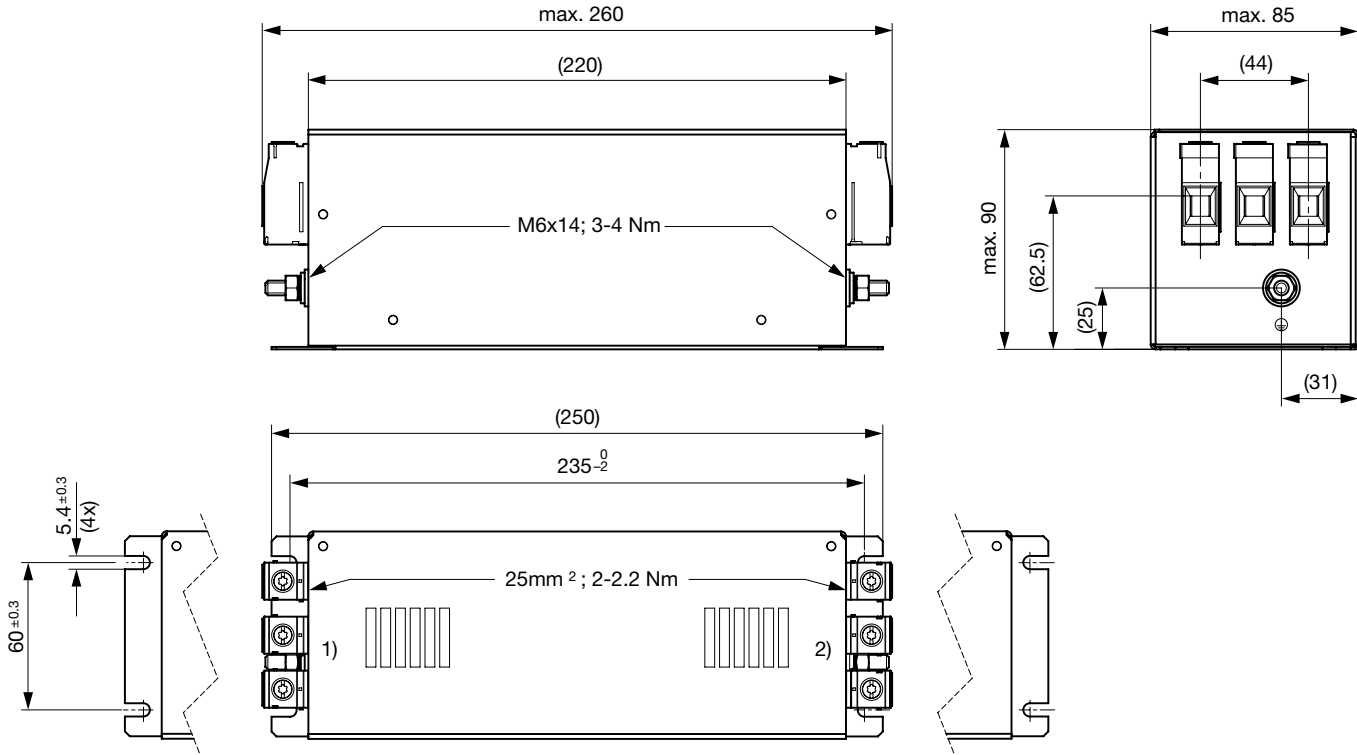
1) Line  
 2) Load

Case 1R



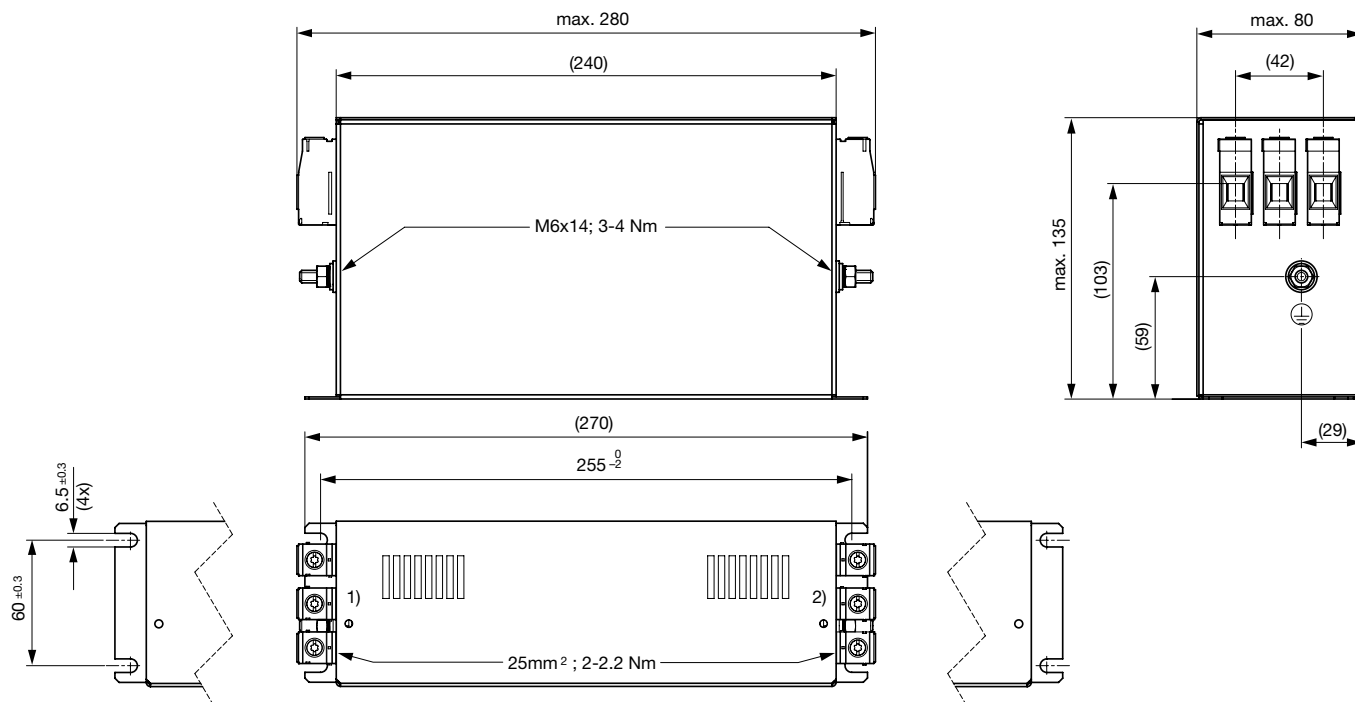
- 1) Line
- 2) Load

Case 1S



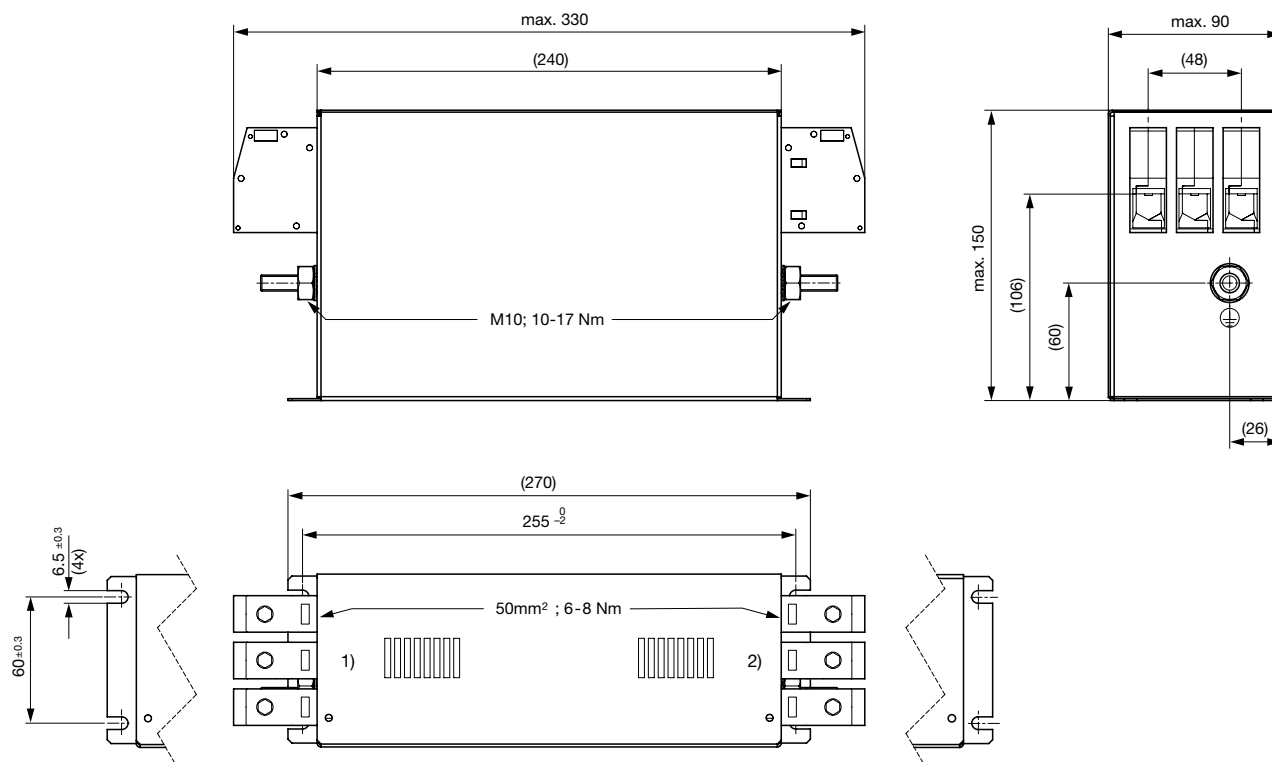
- 1) Line
- 2) Load

Case 1F



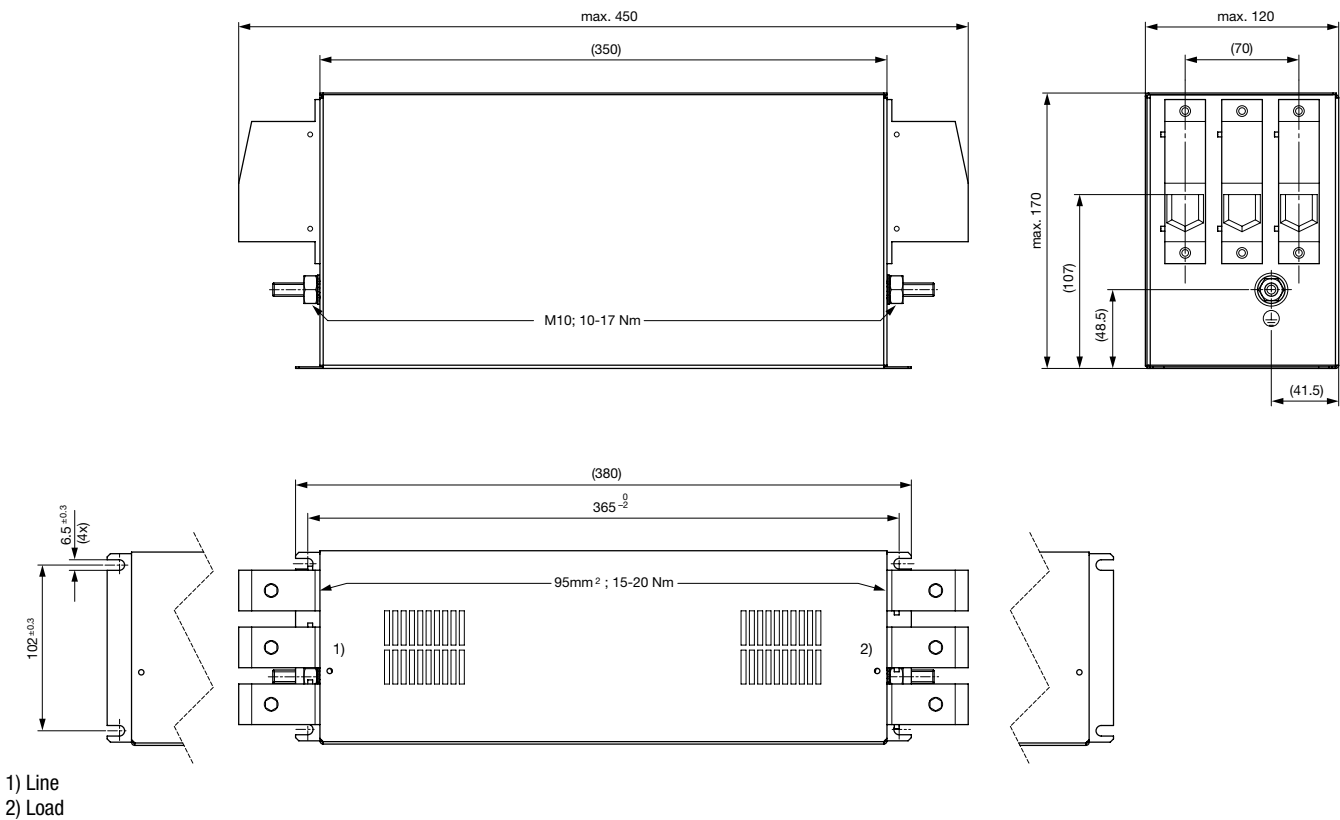
- 1) Line
- 2) Load

Case 1G

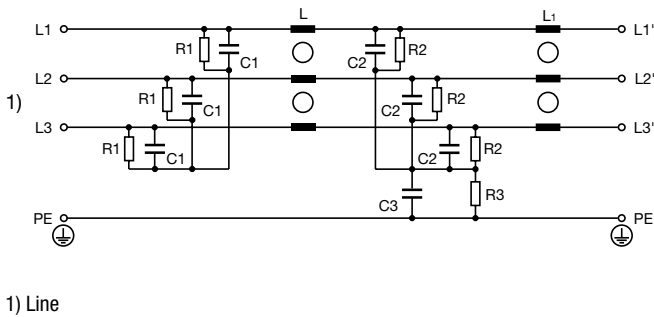


- 1) Line
- 2) Load

Case 1V

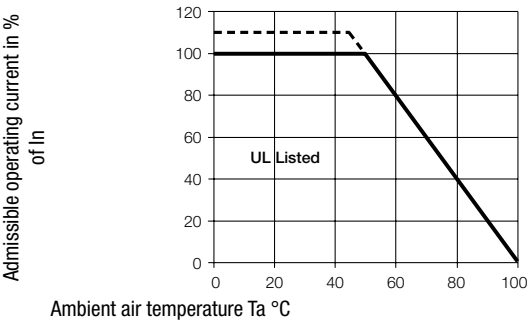


Diagrams

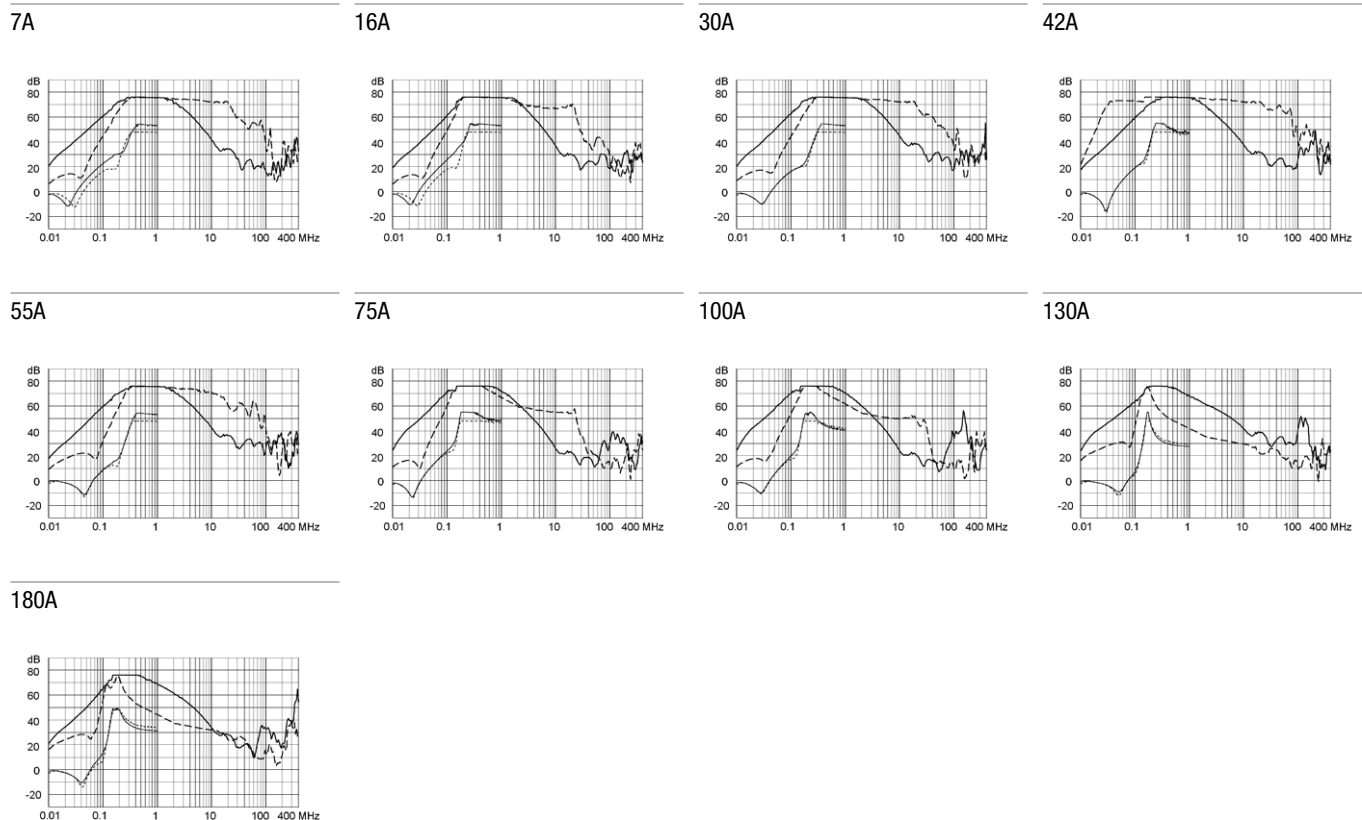


Derating Curves

Permissible Working Current as a Function of Ambient Temperature



**Attenuation Loss** . . . 0.1/100Ω differential mode ..... 100/0.1Ω differential mode - - - 50Ω differential mode \_\_\_\_ 50Ω common mode  
Industrial version



## All Variants

| Rated Current @ Ta<br>50°C (40°C) [A] | Rated Voltage [VAC] | Powerloss @ 25°C,<br>50Hz [W] | Leakage<br>Current @<br>400VAC, 50Hz | Weight [kg] | Screw clamps<br>[mm2] 2) | Housing | Packaging<br>unit | Order Number   |
|---------------------------------------|---------------------|-------------------------------|--------------------------------------|-------------|--------------------------|---------|-------------------|----------------|
| 7 (7.7)                               | 520                 | 1.5                           | 4.3                                  | 0.75 kg     | 6                        | 1U      | 3                 | FMBC-R91U-0712 |
| 16 (17.5)                             | 520                 | 5.4                           | 4.3                                  | 1.2 kg      | 6                        | 1C      | 3                 | FMBC-R91C-1612 |
| 30 (32.9)                             | 520                 | 6.6                           | 4.3                                  | 1.8 kg      | 10                       | 1Q      | 4                 | FMBC-R91Q-3012 |
| 42 (46)                               | 520                 | 10.7                          | 4.3                                  | 1.8 kg      | 10                       | 1R      | 3                 | FMBC-R91R-4212 |
| 55 (60.2)                             | 520                 | 13.3                          | 4.3                                  | 2.4 kg      | 25                       | 1S      | 2                 | FMBC-R91S-5512 |
| 75 (82.2)                             | 520                 | 19.6                          | 17.5                                 | 4.1 kg      | 25                       | 1F      | 1                 | FMBC-R91F-7512 |
| 100 (109.5)                           | 520                 | 26.3                          | 17.5                                 | 5.4 kg      | 50                       | 1G      | 1                 | FMBC-R91G-J012 |
| 130 (142.4)                           | 520                 | 10                            | 19.3                                 | 4.6 kg      | 50                       | 1G      | 1                 | FMBC-R91G-J312 |
| 180 (197.1)                           | 520                 | 31                            | 19.3                                 | 9.4 kg      | 95                       | 1V      | 1                 | FMBC-R91V-J812 |

Most Popular.

Availability for all products can be searched real-time: <https://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER>

1) Leakage current according IEC 60939-1

2) Maximum conductor cross section (wire gauge) to be used; a comparative table for AWG and mm<sup>2</sup> values can be found in the general product information <https://www.schurter.com/en/FAQ#10>