

2-stage filter for 3-phase systems



See below:

Approvals and Compliances

Description

- Terminals for three phases and ground

Applications

- Voltage rating 480 and 520 VAC for world wide acceptance
- Protection against interference voltage from the mains
- Especially designed for industrial applications such as: Frequency Converters, Stepper Motor Drives, UPS-Systems, Inverters
- Suitable for use in equipment according to IEC/UL 60950

Weblinks

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

Technical Data

| | |
|-------------------------|---|
| Rated Current | 7 - 180A |
| Rated voltage | 480/520 VAC, 50/60 Hz |
| Approval for | 7 - 180A @ 50 (75) °C / 480/520 VAC; 50/60Hz |
| Overload Current | 1.5 x Ir for 1 minute, per hour |
| Dielectric Strength | 480/520 VAC: > 2.25 kVDC between L-L > 2.75 kVDC between L-PE Test voltage 2 sec |
| Number of Filter Stages | 2-stage |
| Weight | 0.8 - 8 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 | IP 20 acc. to IEC 60529 |
| Protection Class | Suitable for appliances with protection class I acc. to IEC 61140 |
| MTBF | > 200'000h 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](#)

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 NEO

| Approval Logo | Certificates | Certification Body | Description |
|---|---------------|--------------------|------------------------------|
|  | VDE Approvals | VDE | Certificate Number: 40029853 |
|  | UL Approvals | UL | UL 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

Application standards where the product can be used

| Organization | Design | Standard | Description |
|--|--------------------------------|--------------|---|
|  | Designed for applications acc. | IEC/UL 60950 | IEC 60950-1 includes the basic requirements for the safety of information technology equipment. |

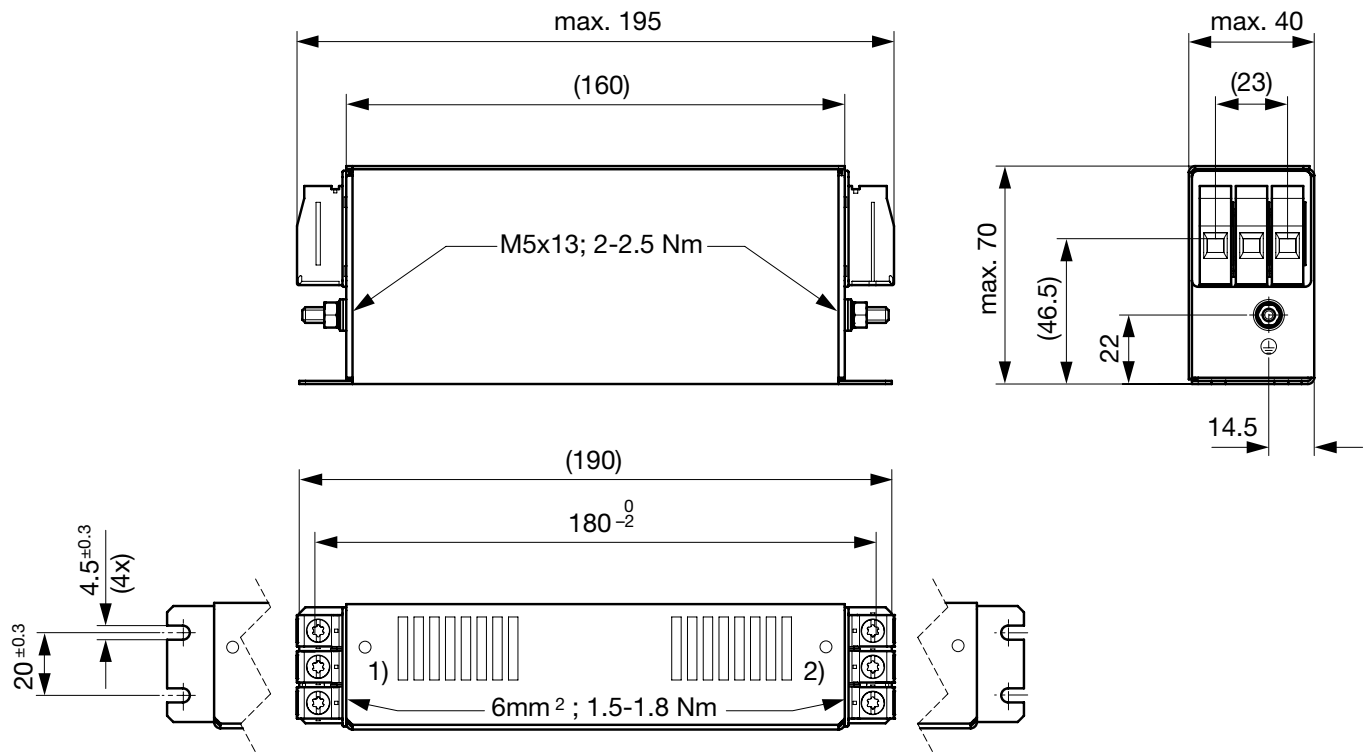
Compliances

The product complies with following Guide Lines

| Identification | Details | Initiator | Description |
|--|------------------------------|-------------|---|
|  | CE declaration of conformity | SCHURTER AG | The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008. |
|  | RoHS | SCHURTER AG | EU Directive RoHS 2011/65/EU |
|  | China RoHS | SCHURTER AG | The law SJ / T 11363-2006 (China RoHS) has been in force since 1 March 2007. It is similar to the EU directive RoHS. |
|  | REACH | SCHURTER AG | On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force. |

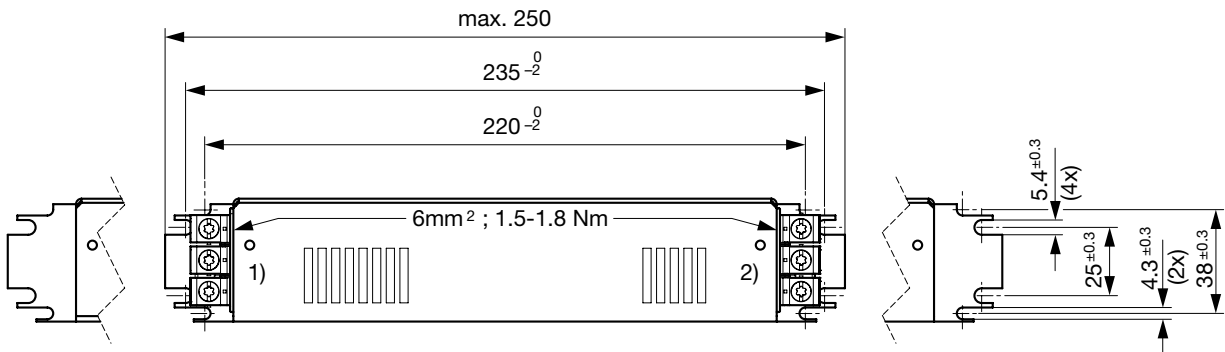
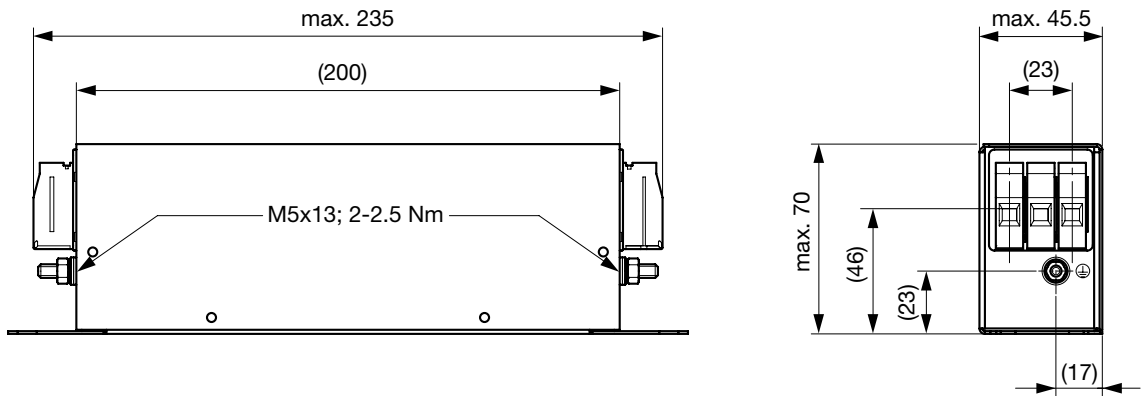
Dimension [mm]

Case 1U

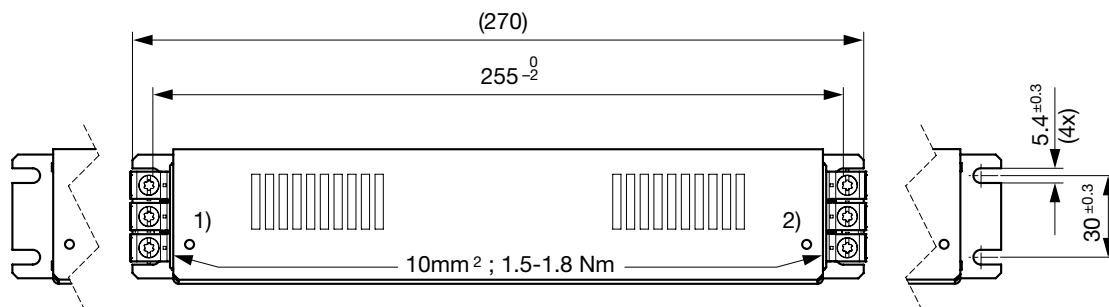
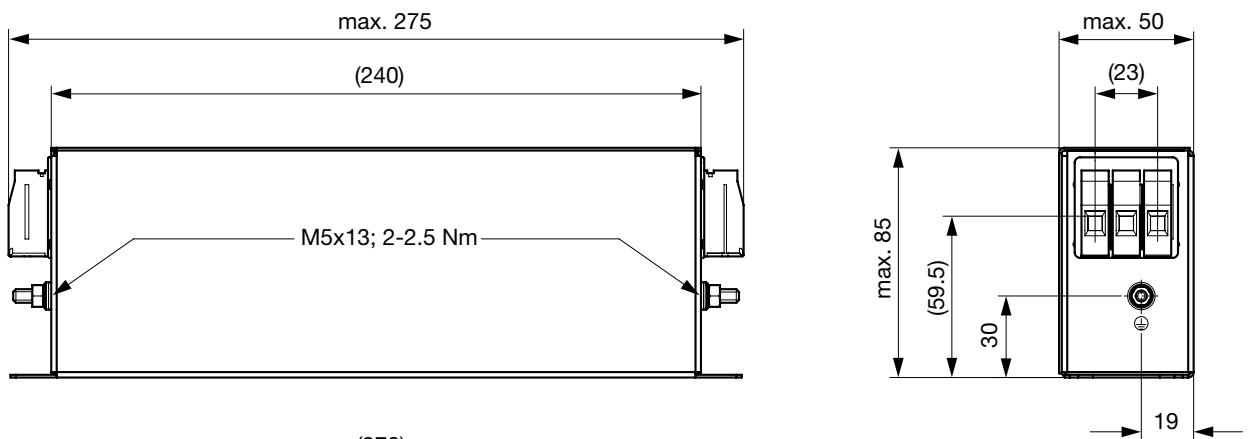


- 1) Line
- 2) Load

Case 1C

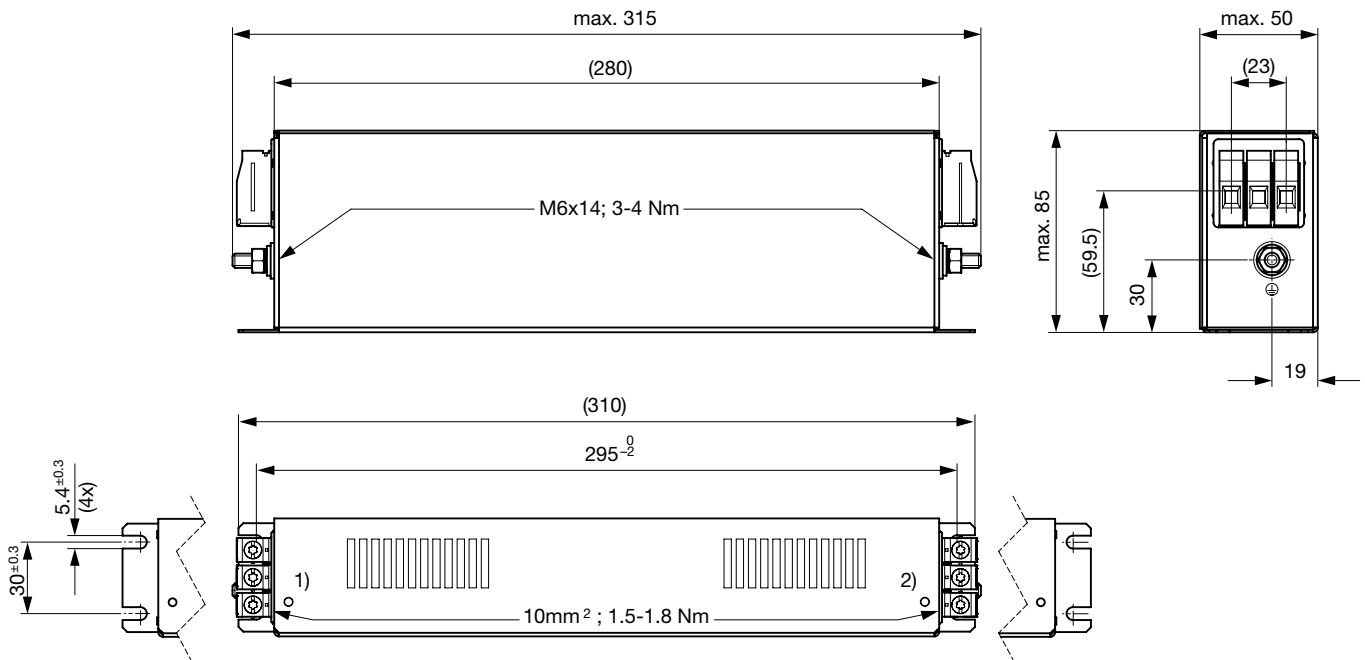


- 1) Line
 - 2) Load
- Case 1Q



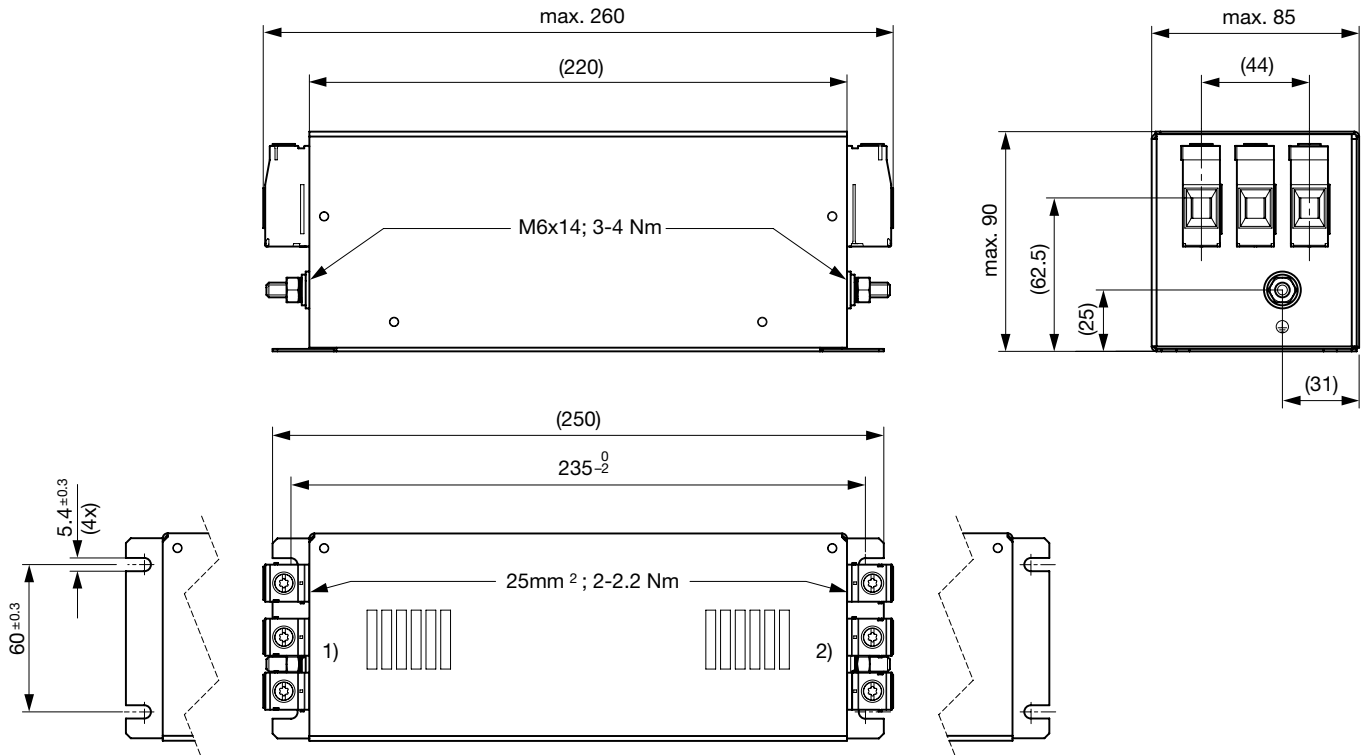
- 1) Line
- 2) Load

Case 1R



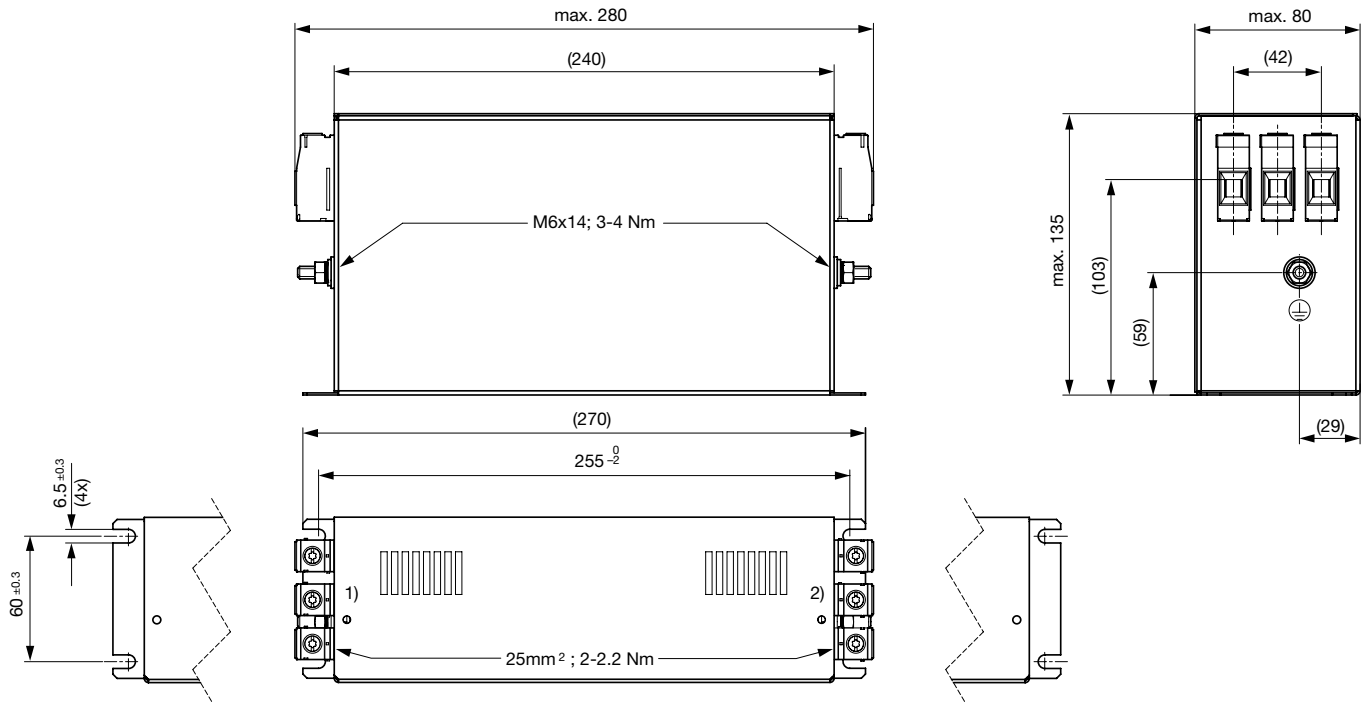
- 1) Line
- 2) Load

Case 1S



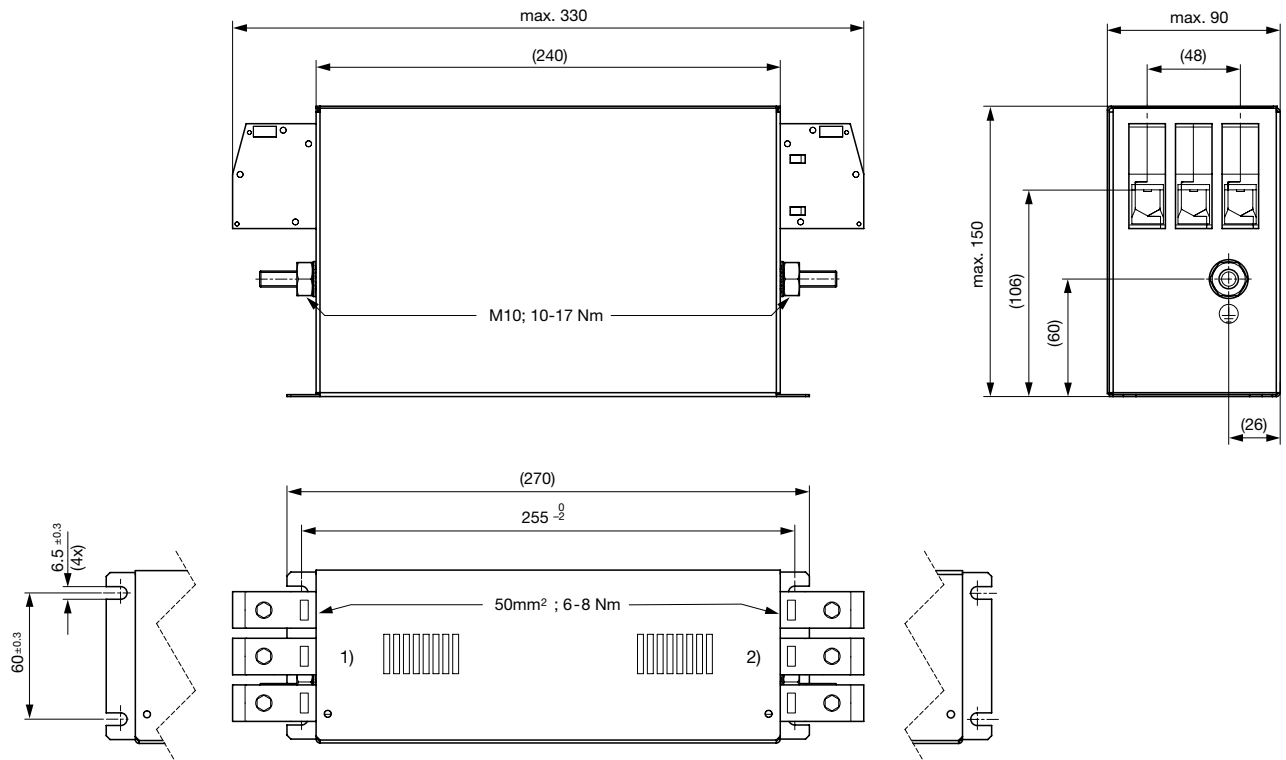
- 1) Line
- 2) Load

Case 1F



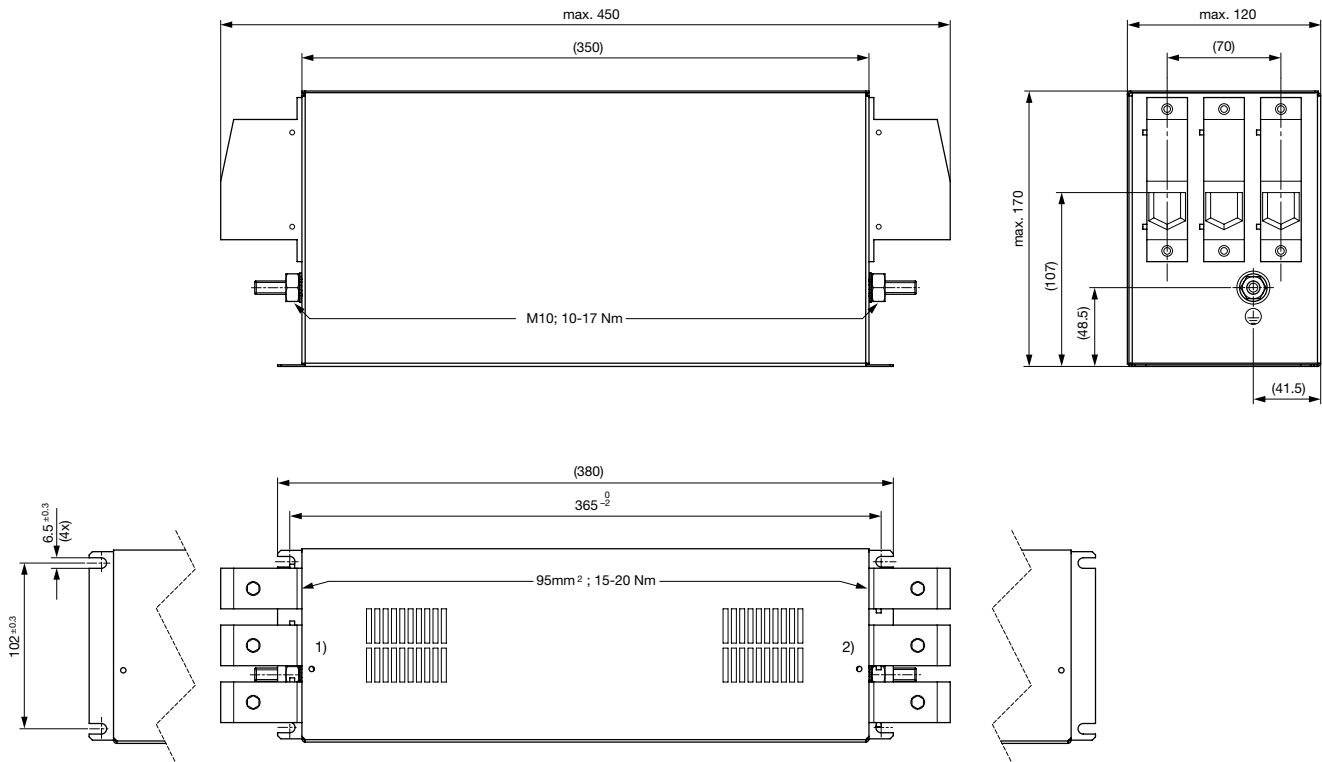
- 1) Line
- 2) Load

Case 1G



- 1) Line
- 2) Load

Case 1V

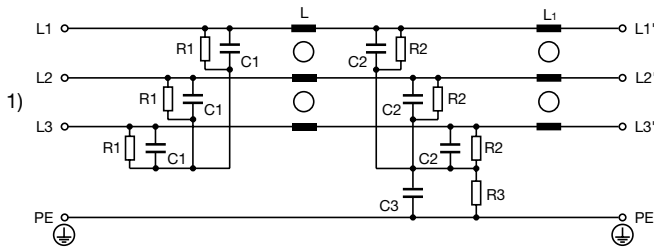


- 1) Line
- 2) Load

Technical data to the filter components

| Rated Current @ Ta 50°C (75°C) [A] | L [mH] | L2 [μH] | C1 [μF] | C2 [μF] | C3 [μF] | R1 [MΩ] | R2 [MΩ] | R3 [MΩ] |
|---------------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|
| 7 (4.7) | 2.7 | 5 | 3.3 | 3.3 | 3.3 | - | 1 | 1 |
| 16 (12) | 1.9 | 10 | 6.6 | 3.3 | 3.3 | 1 | 1 | 1 |
| 30 (21) | 1.9 | 10 | 6.8 | 3.3 | 3.3 | 1 | 1 | 1 |
| 42 (31) | 1.3 | 10 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 55 (49) | 1.8 | 13 | 10 | 3.3 | 3.3 | 1 | 1 | 1 |
| 75 (47) | 1.2 | 13 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 100 (64) | 1.2 | 13 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 130 (92) | 0.7 | 26 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 180 (135) | 0.4 | 31 | 10 | 3.3 | 3.3 | 1 | 1 | 1 |
| 7 (4.7) | 2.7 | 5 | 3.3 | 3.3 | 3.3 | - | 1 | 1 |
| 16 (12) | 1.9 | 10 | 6.6 | 3.3 | 3.3 | 1 | 1 | 1 |
| 30 (21) | 1.9 | 10 | 6.8 | 3.3 | 3.3 | 1 | 1 | 1 |
| 42 (31) | 1.3 | 10 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 55 (49) | 1.8 | 13 | 10 | 3.3 | 3.3 | 1 | 1 | 1 |
| 75 (47) | 1.2 | 13 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 100 (64) | 1.2 | 13 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 130 (92) | 0.7 | 26 | 9.9 | 3.3 | 3.3 | 1 | 1 | 1 |
| 180 (135) | 0.4 | 31 | 10 | 3.3 | 3.3 | 1 | 1 | 1 |

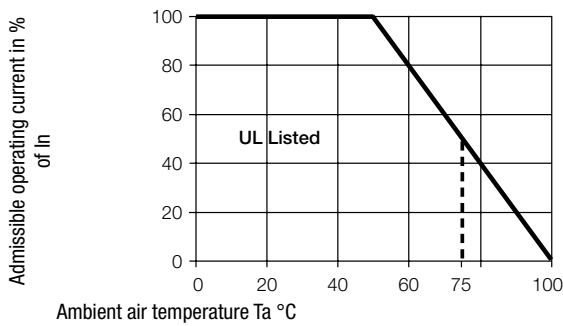
Diagrams



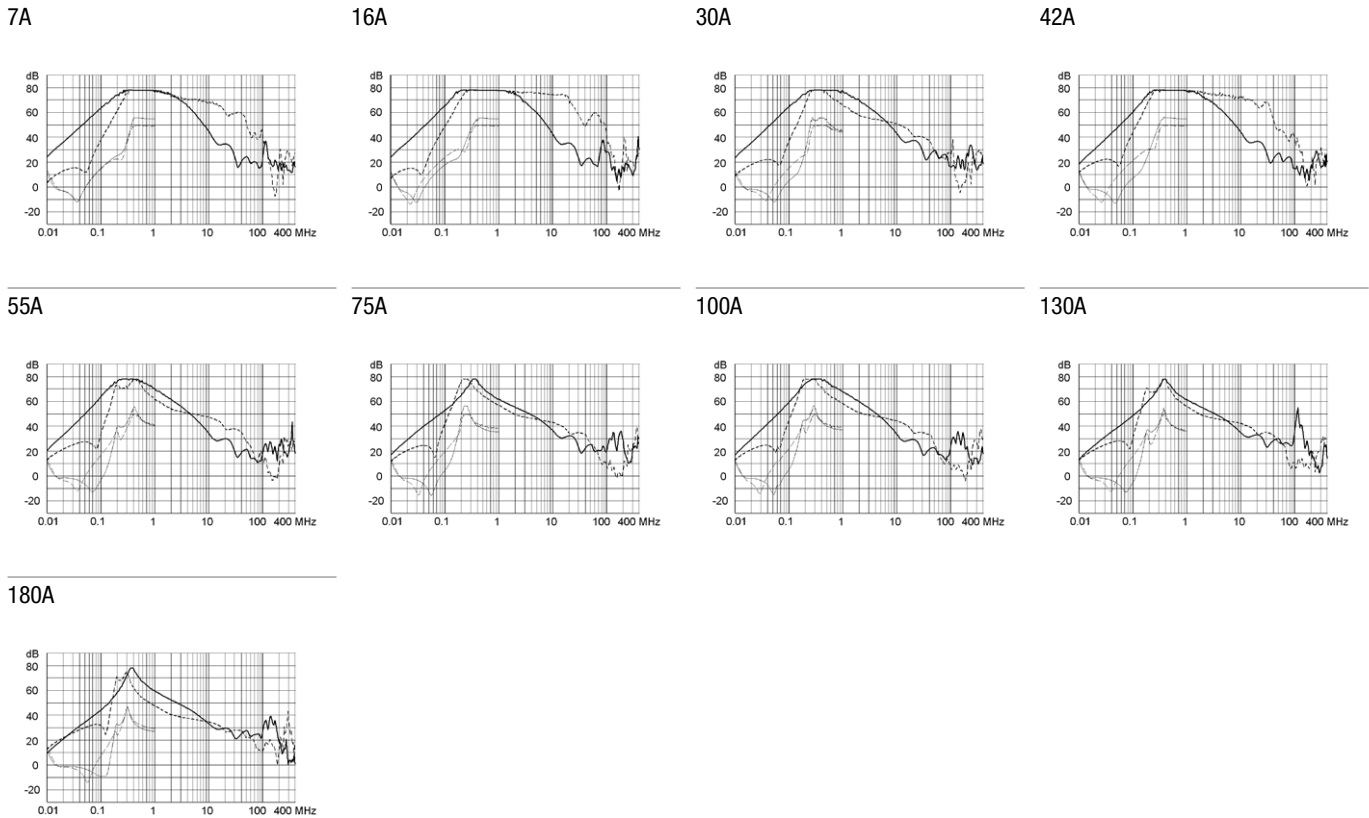
1) Line

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 50°C (75°C) [A] | Rated Voltage [VAC] | Tripped Power Dissipation [W] | Leakage Current [mA] @ 440V, 60Hz 1) | Contact Resistance [mΩ] | Weight [kg] | Screw clamps [mm ²] 2) | Housings | Packaging unit | Order Number |
|------------------------------------|---------------------|-------------------------------|--------------------------------------|-------------------------|-------------|------------------------------------|----------|----------------|----------------|
| 7 (4.7) | 480 | 1.4 | 10.2 | 9.2 | 0.8kg | 6 | 1U | 3 | FMBC-A91U-0710 |
| 16 (12) | 480 | 4.9 | 10.2 | 6.3 | 1.1 kg | 6 | 1C | 3 | FMBC-A91C-1610 |
| 30 (21) | 480 | 6.8 | 10.2 | 2.5 | 1.5kg | 10 | 1Q | 4 | FMBC-A91Q-3010 |
| 42 (31) | 480 | 13.8 | 10.2 | 2.6 | 1.9kg | 10 | 1R | 3 | FMBC-A91R-4210 |
| 55 (49) | 480 | 12.7 | 10.2 | 1.4 | 2.5kg | 25 | 1S | 2 | FMBC-A91S-5510 |
| 75 (47) | 480 | 16.9 | 10.2 | 1 | 3.8kg | 25 | 1F | 1 | FMBC-A91F-7510 |
| 100 (64) | 480 | 24 | 10.2 | 0.8 | 5 kg | 50 | 1G | 1 | FMBC-A91G-J010 |
| 130 (92) | 480 | 30.5 | 10.2 | 0.6 | 4.8kg | 50 | 1G | 1 | FMBC-A91G-J310 |
| 180 (135) | 480 | 19.5 | 10.2 | 0.2 | 8 kg | 95 | 1V | 1 | FMBC-A91V-J810 |
| 7 (4.7) | 520 | 1.4 | 10.2 | 9.2 | 0.8kg | 6 | 1U | 3 | FMBC-A91U-0712 |
| 16 (12) | 520 | 4.9 | 10.2 | 6.3 | 1.1 kg | 6 | 1C | 3 | FMBC-A91C-1612 |
| 30 (21) | 520 | 6.8 | 10.2 | 2.5 | 1.5kg | 10 | 1Q | 4 | FMBC-A91Q-3012 |
| 42 (31) | 520 | 13.8 | 10.2 | 2.6 | 1.9kg | 10 | 1R | 3 | FMBC-A91R-4212 |
| 55 (49) | 520 | 12.7 | 10.2 | 1.4 | 2.5kg | 25 | 1S | 2 | FMBC-A91S-5512 |
| 75 (47) | 520 | 16.9 | 10.2 | 1 | 3.8kg | 25 | 1F | 1 | FMBC-A91F-7512 |
| 100 (64) | 520 | 24 | 10.2 | 0.8 | 5 kg | 50 | 1G | 1 | FMBC-A91G-J012 |
| 130 (92) | 520 | 30.5 | 10.2 | 0.6 | 4.8kg | 50 | 1G | 1 | FMBC-A91G-J312 |
| 180 (135) | 520 | 19.5 | 10.2 | 0.2 | 8 kg | 95 | 1V | 1 | FMBC-A91V-J812 |

Most Popular.

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

1) Nominal leakage current acc. to IEC60950 - 5.2.5. under normal operating conditions. Note: worst case leakage current acc. to IEC60950 - Annex G4 (situation with two interrupted lines) can be much higher.

2) Maximum conductor cross section (wire gauge) to be used; a comparative table for AWG and mm² values can be found in the general product information www.schurter.com/emc_info