

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



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

#### Technical Data

Rated Current	7 - 180A
Rated voltage	520VAC, 50/60 Hz
Approval for	7 - 180A @ 50 °C / 520VAC; 50/60Hz
Overload Current	1.5 x Ir for 1 minute, per hour
Dielectric Strength	> 2.25 kVDC between L-L
	> 2.7 kVDC between L-PE
	Test voltage 2 sec
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	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 LL

Approval Logo	Certificates	Certification Body	Description
	<a href="#">VDE Approvals</a>	VDE	Certificate Number: 40040983
	<a href="#">UL Approvals</a>	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.

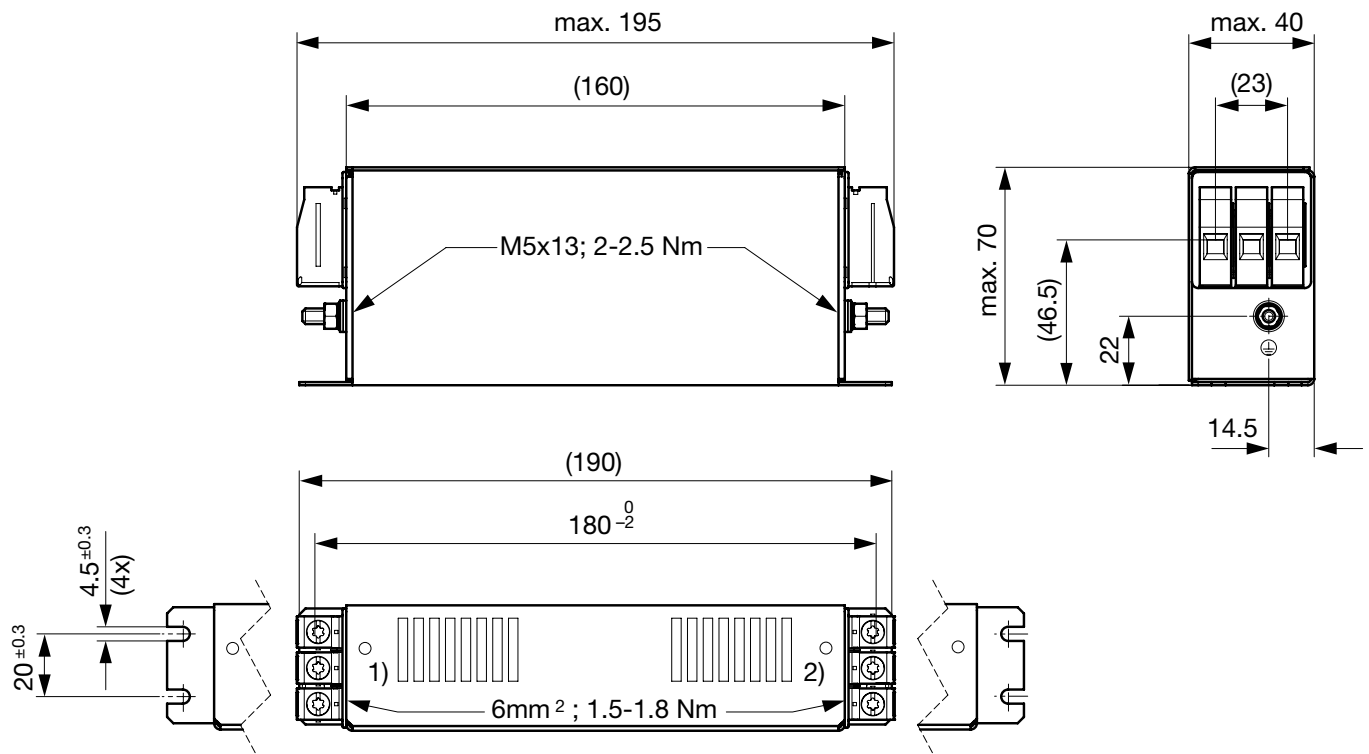
**Compliances**

The product complies with following Guide Lines

Identification	Details	Initiator	Description
	<a href="#">CE declaration of conformity</a>	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.

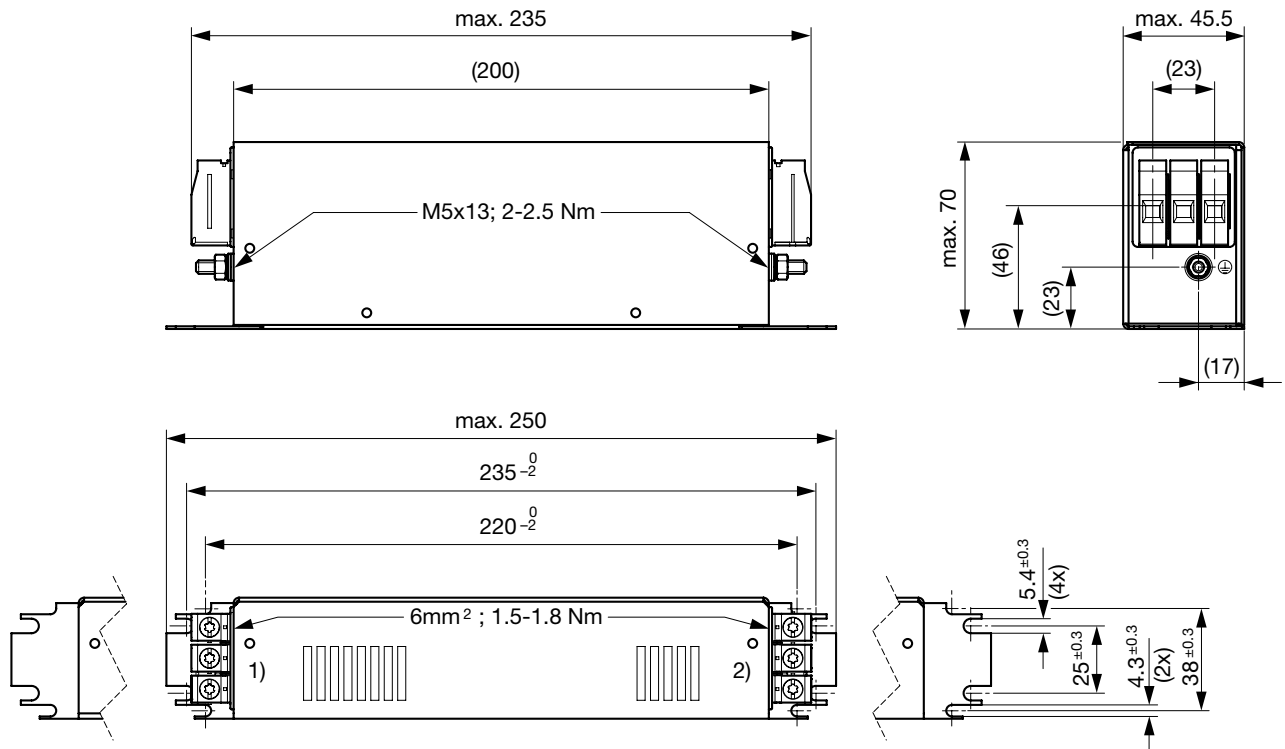
**Dimension [mm]**

Case 1U

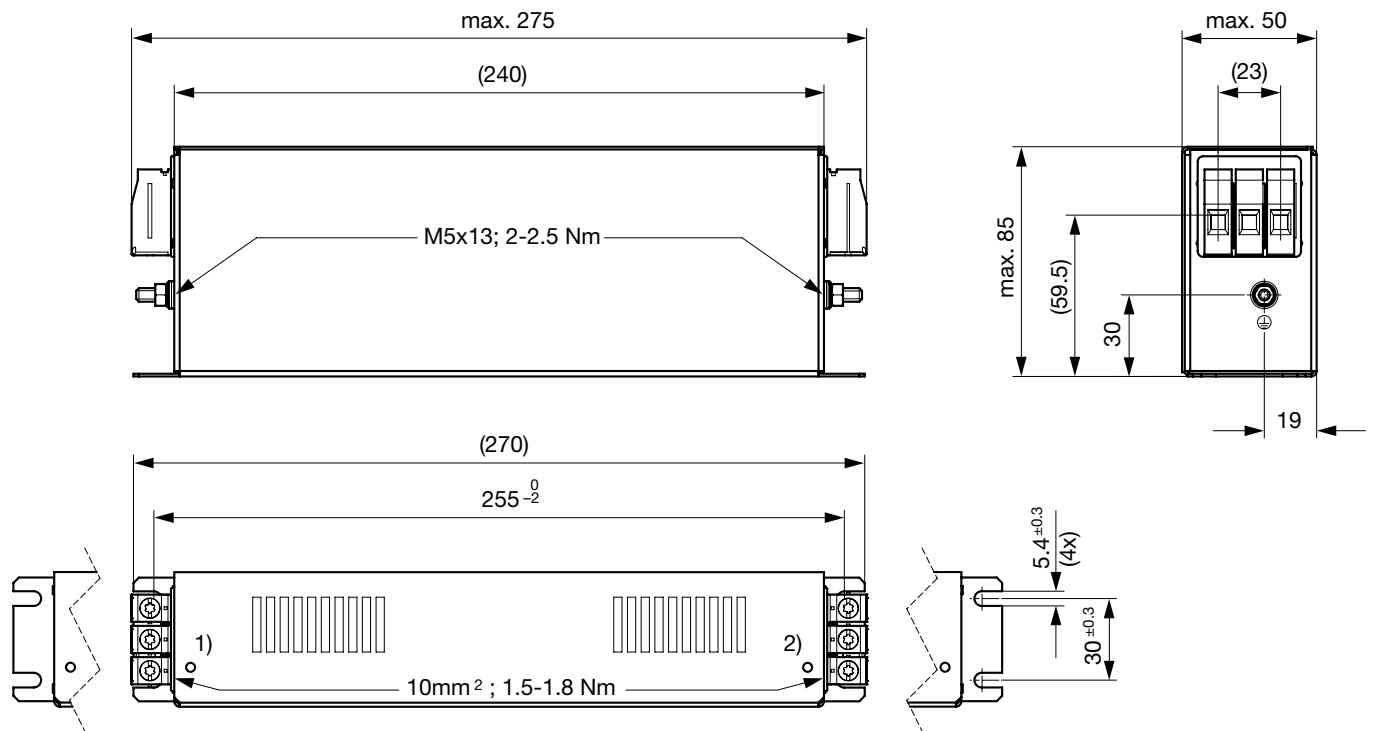


1) Line  
 2) Load

Case 1C

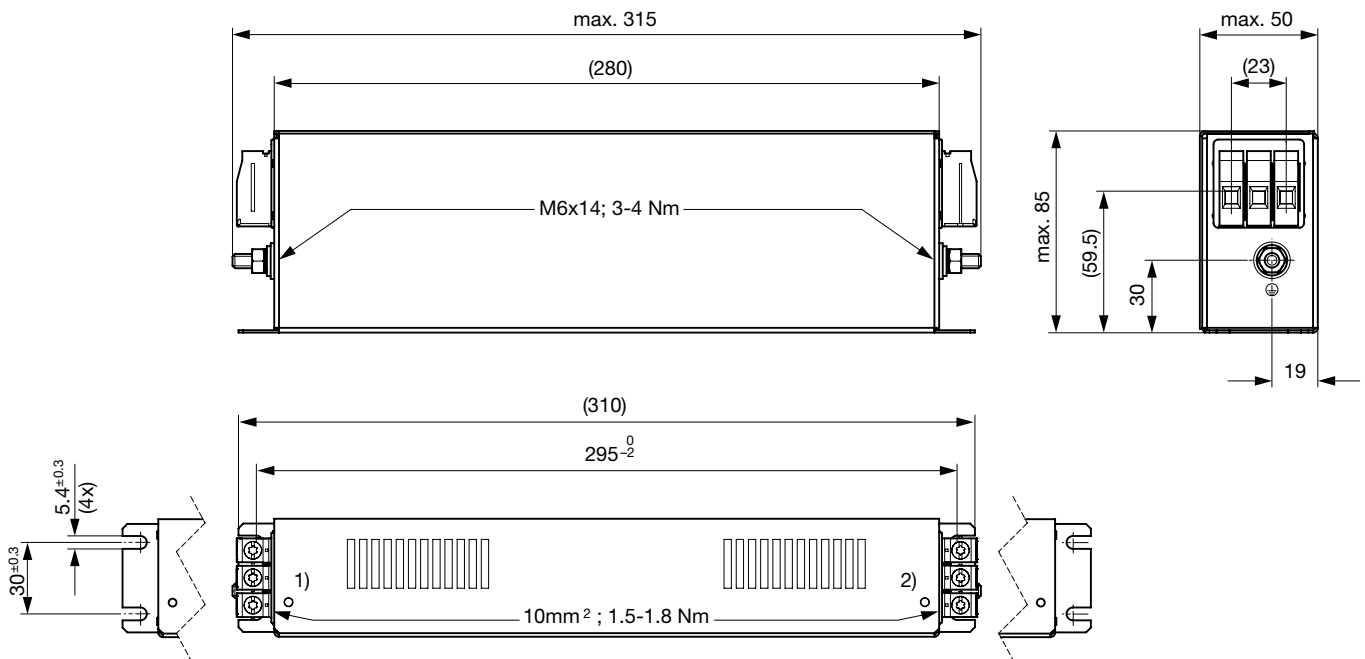


1) Line  
 2) Load  
 Case 1Q



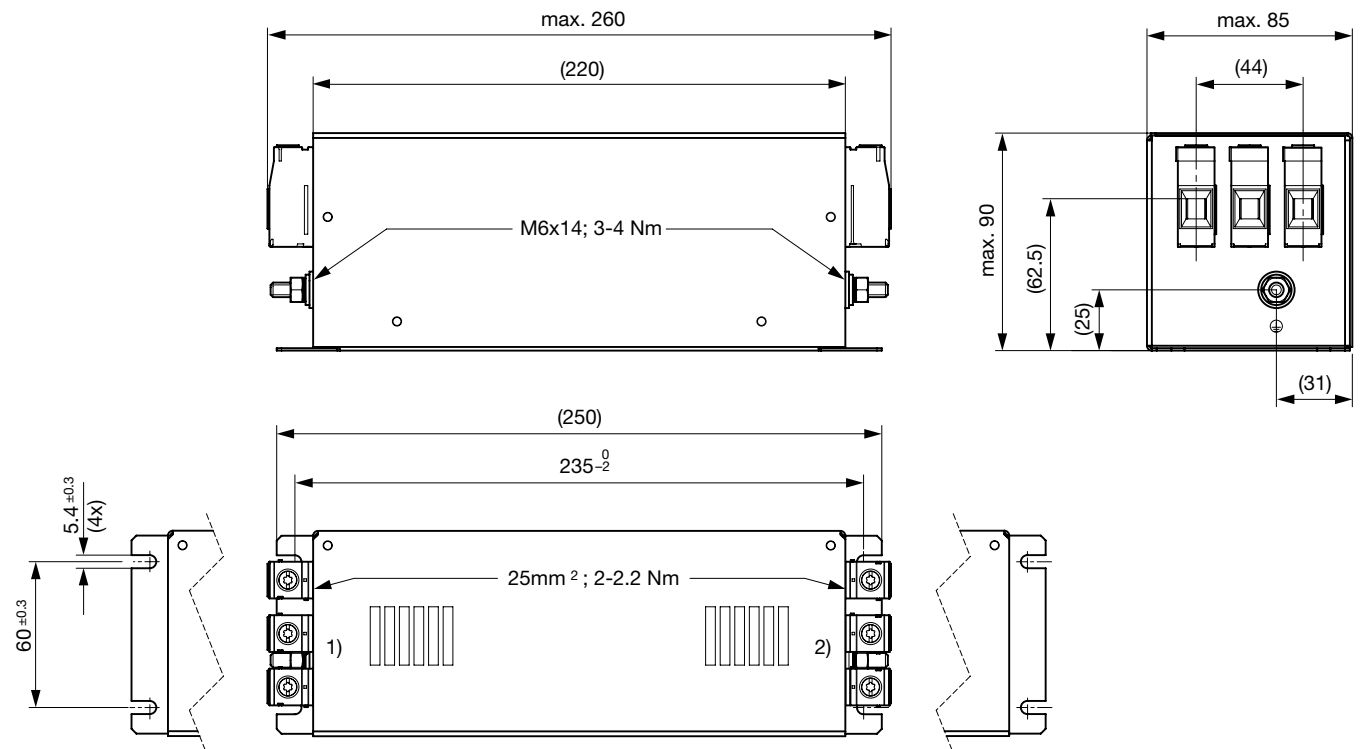
1) Line  
 2) Load

Case 1R



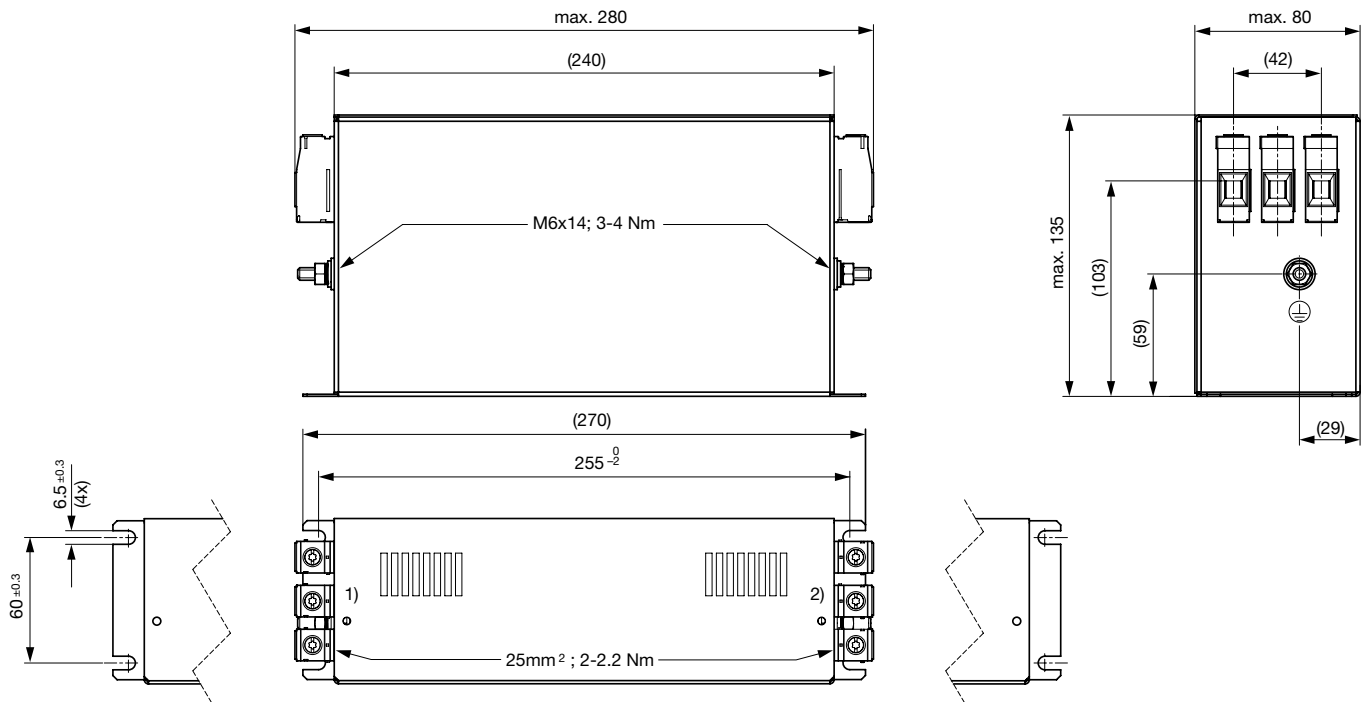
- 1) Line
- 2) Load

Case 1S

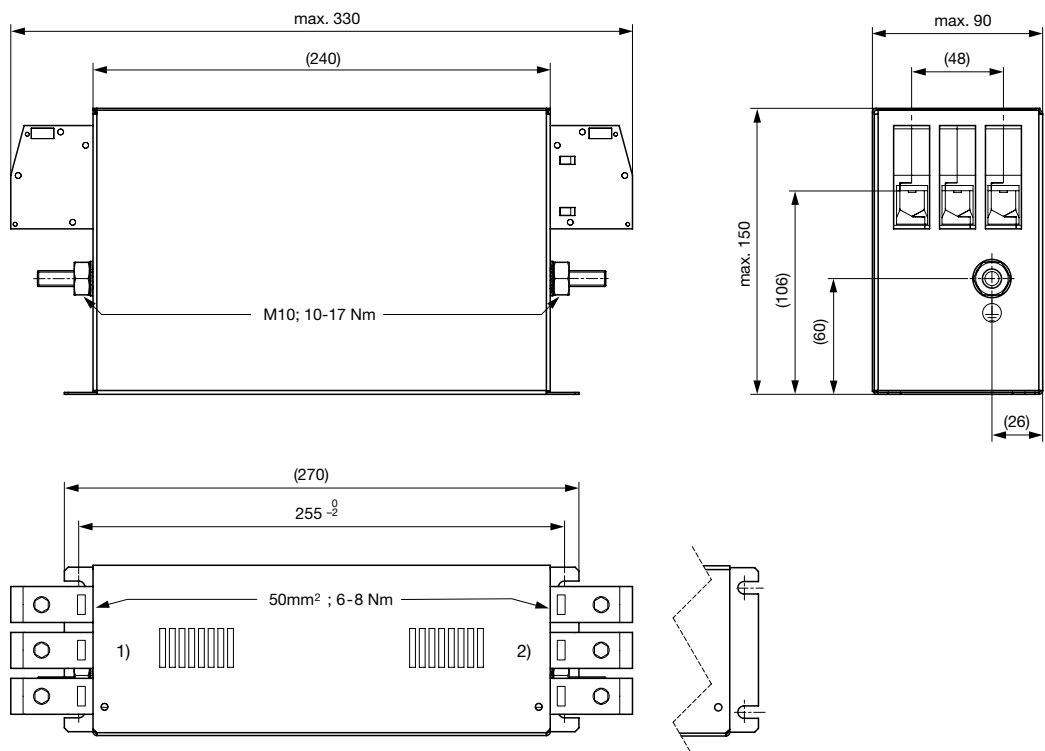


- 1) Line
- 2) Load

Case 1F

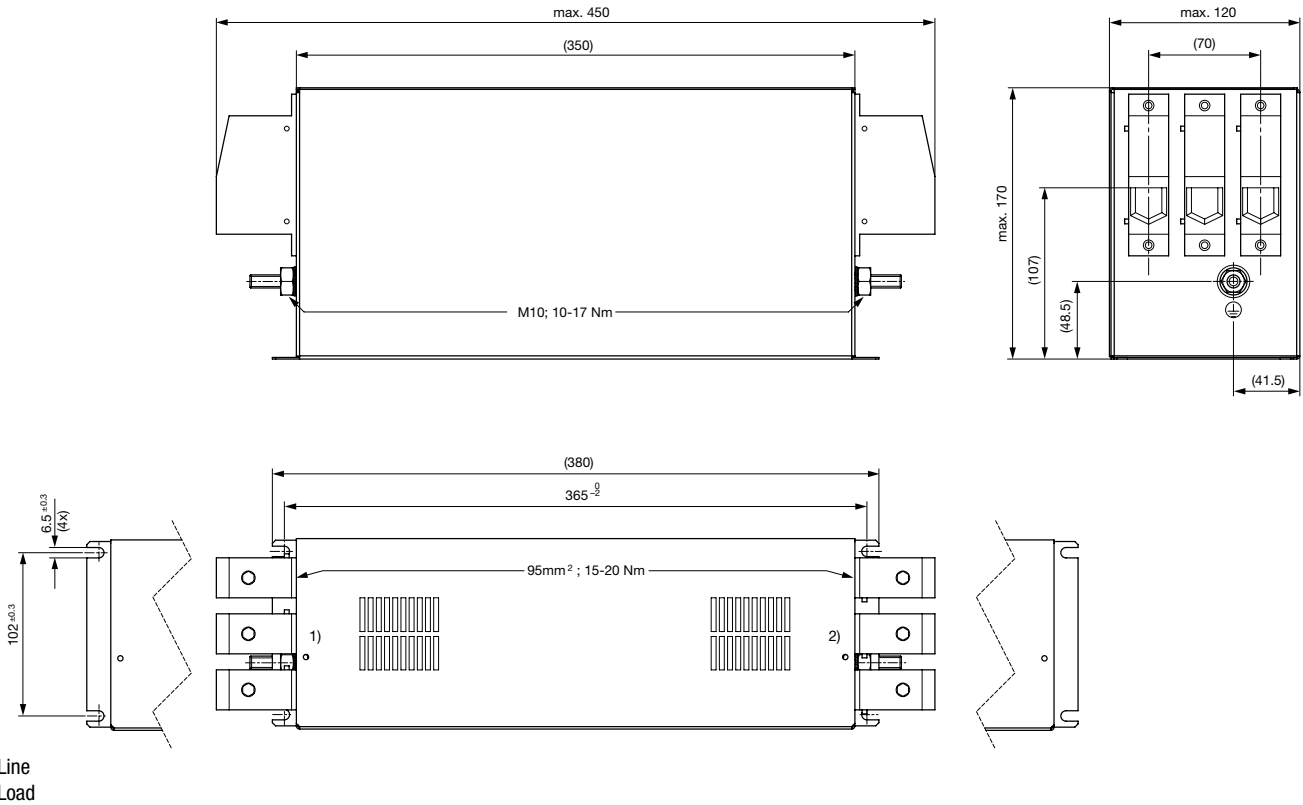


- 1) Line
  - 2) Load
- Case 1G



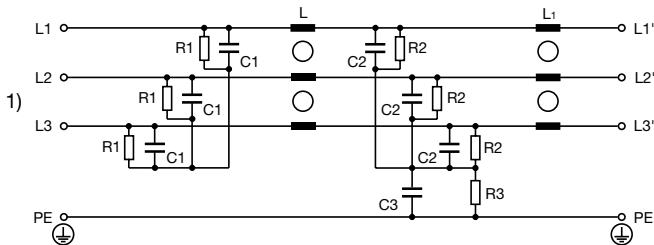
- 1) Line
- 2) Load

Case 1V



- 1) Line
- 2) Load

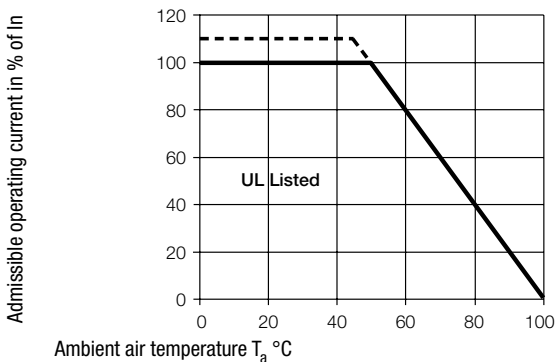
Diagrams



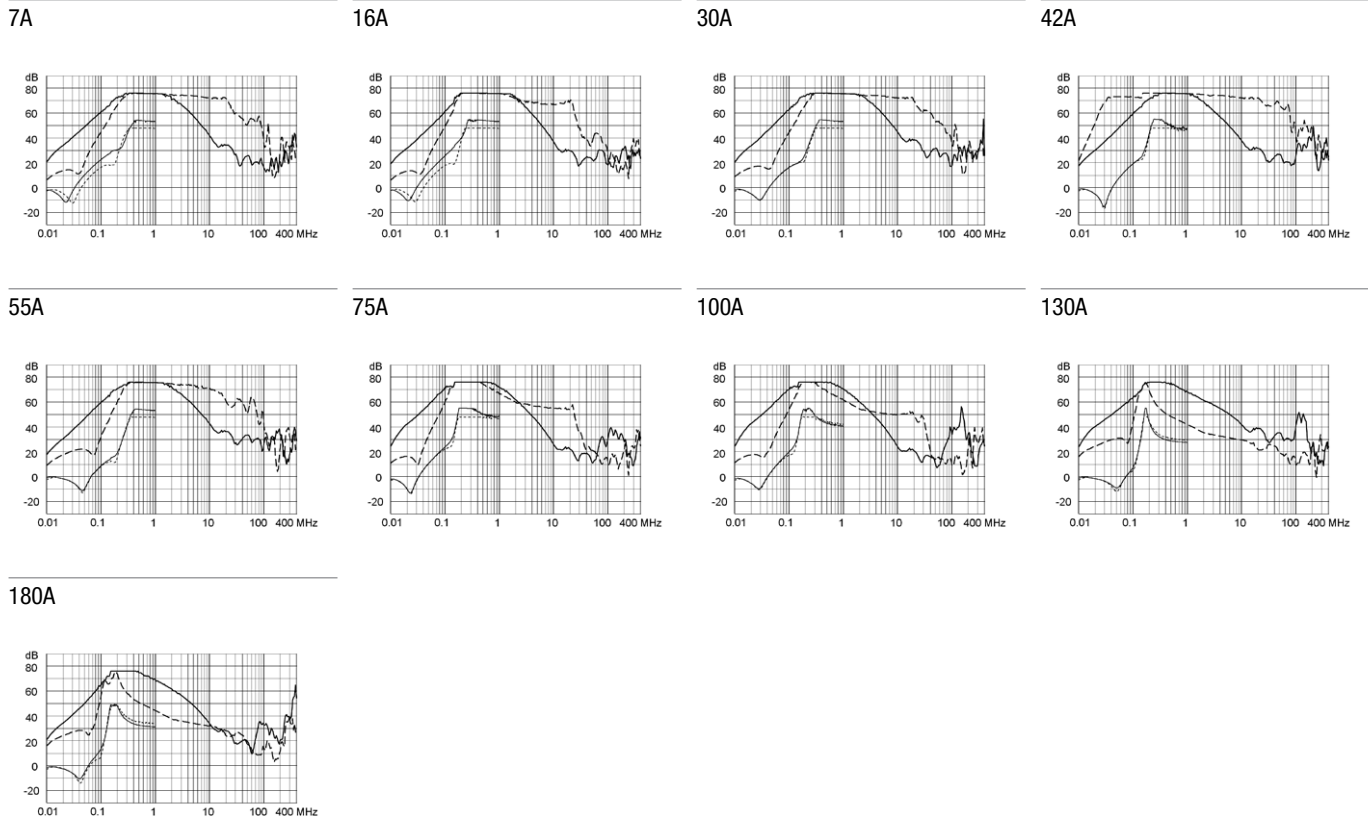
- 1) Line

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 (40°C) [A]	Rated Voltage [VAC]	Power <sub>loss</sub> @ 25°C, 50Hz [W]	Leakage Current @ 400VAC, 50Hz	Weight [kg]	Screw clamps [mm <sup>2</sup> ] <sup>2</sup>	Housings	Packaging 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) 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 mm<sup>2</sup> values can be found in the general product information [www.schurter.com/emc\\_info](http://www.schurter.com/emc_info)