

1-stage filter for 3-phase systems with neutral conductor



See below:

**Approvals and Compliances**

**Description**

- Terminals for three phases, neutral conductor and ground

**Applications**

- Voltage rating 480 VAC for world wide acceptance
- Protection against interference voltage from the mains
- For standard and industrial applications
- 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	6 - 550A
Rated voltage	277/480 VAC, 50/60 Hz
Approval for	6 - 550A @ 40 (75) °C / 277/480 VAC
Overload Current	1.5 x Ir
Leakage Current	industrial < 15 mA (440V / 50Hz)
Dielectric Strength	277/480 VAC: 2.25 kVDC between L-L 1.7 kVDC between L-N 3 kVDC between L-PE 2.7 kVDC between N-PE Test voltage (2 sec)
Number of Filter Stages	1-stage
Weight	0.95 - 24.5 kg
Material: Housing	Metal
Sealing Compound	UL 94V-0

Mounting	Screw-on mounting on chassis, from top
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: FMAD

Approval Logo	Certificates	Certification Body	Description
	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.

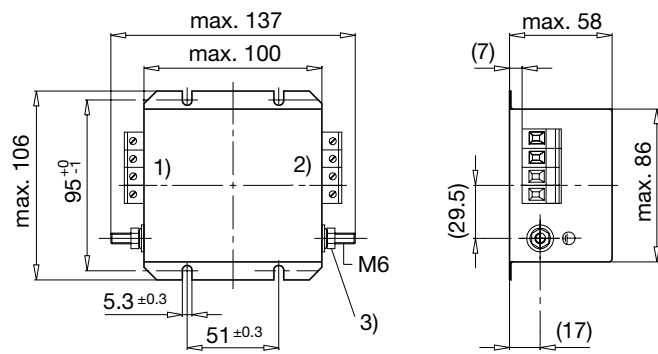
**Compliances**

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.

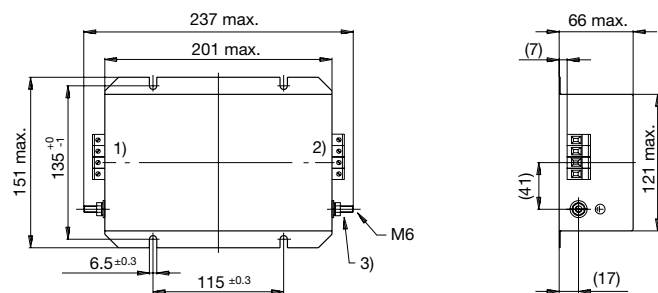
**Dimension [mm]**

Case 24-4

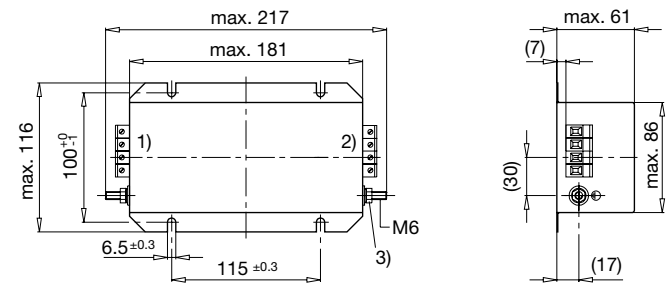


- 1) Line
- 2) Load
- 3) Nut torque 3...4 Nm

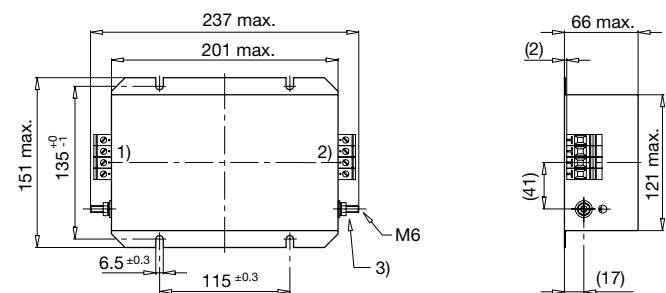
Case 32-4



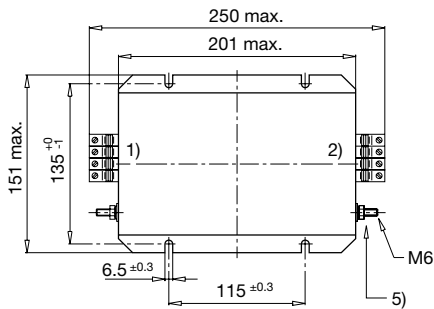
Case 31-4



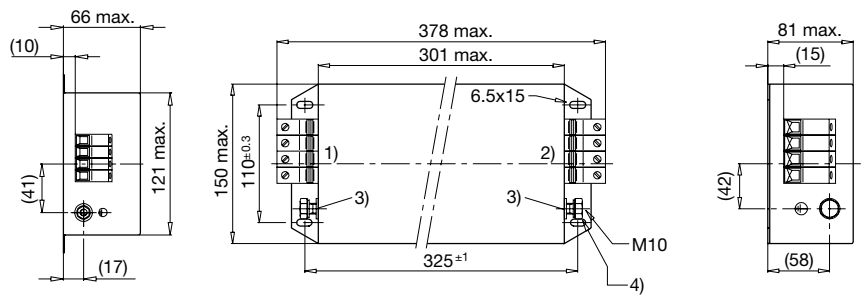
Case 32-8



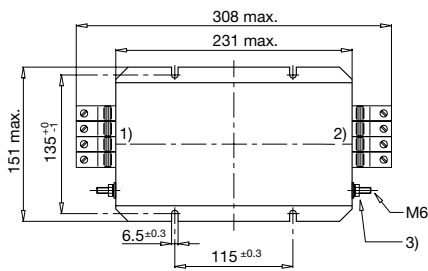
Case 34-4



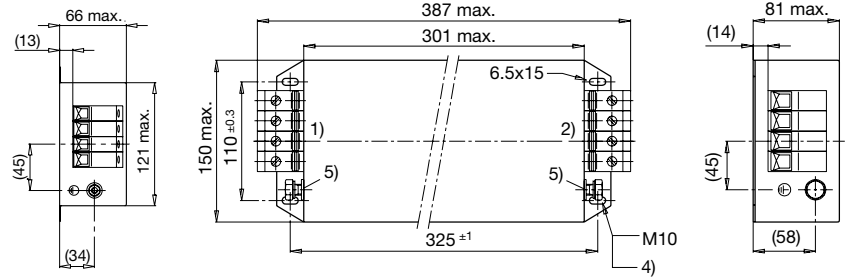
Case 37-4



Case 53-4



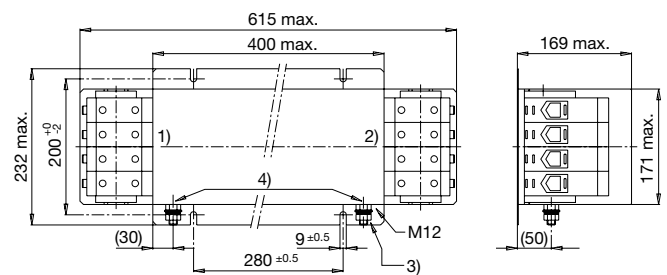
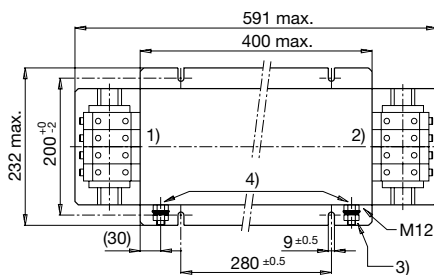
Case 54-4



- 1) Line
- 2) Load
- 3) Tightening torque 3...4 Nm
- 4) Tightening torque 10...17 Nm
- 5) Do not unscrew lock-nut

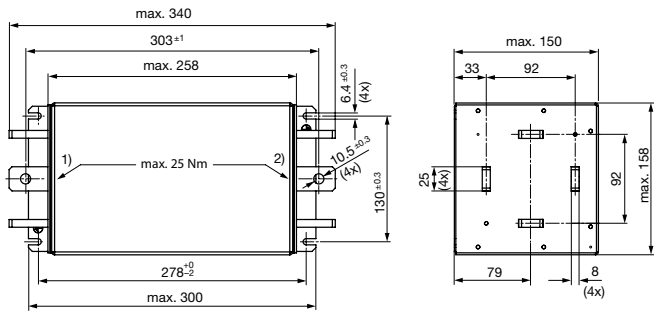
Case 55-4

Case 56-4



- 1) Line
- 2) Load
- 3) Nut torque 14...30 Nm
- 4) Do not unscrew lock-nut

Case KQ

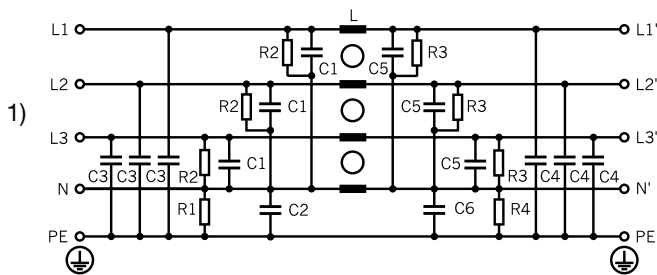


- 1) Line
- 2) Load
- 3) Torsional stress at flat copper max. 25 Nm

Technical data to the filter components

Bemessungsstrom @ Tu 40°C (75°C) [A]	L [mH]	C1 [µF]	C2 [µF]	C3 [nF]	C4 [nF]	C5 [µF]	C6 [µF]	R1 [MΩ]	R2 [MΩ]	R3 [MΩ]	R4 [MΩ]
6 (4.8)	9	1.0	-	100	10	2.2	-	-	-	1	2.2
8 (5)	8	1.0	-	100	10	2.2	-	-	-	1	2.2
16 (9.5)	5	1.0	-	100	10	2.2	-	-	-	1	2.2
25 (13)	2.6	4.4	1	10	47	4.4	1	-	1	1	2.2
36 (19)	1.8	4.4	1	10	47	4.4	1	2.2	1	1	-
50 (32)	0.8	4.4	1	10	100	4.4	1	2.2	1	1	-
64 (34)	0.6	4.4	1	10	100	4.4	1	2.2	1	1	-
80 (43)	0.9	6.6	1	47	100	6.6	1	2.2	1	1	-
110 (66)	0.5	6.6	1	47	100	6.6	1	2.2	1	1	-
180 (95)	0.25	6.6	1	47	100	6.6	1	2.2	1	1	2.2
250 (120)	0.2	11	1	100	100	11	1	2.2	0.5	0.5	2.2
550 (320)	0.2	10	1	100	100	10	1	2.2	0.5	0.5	2.2

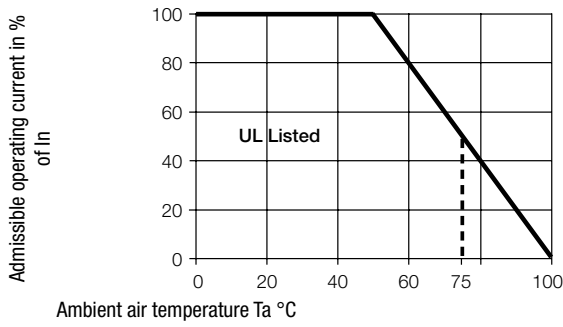
Diagrams



- 1) Line

**Derating Curves**

Permissible Working Current as a Function of Ambient Temperature

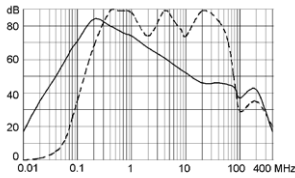


**Attenuation Loss**

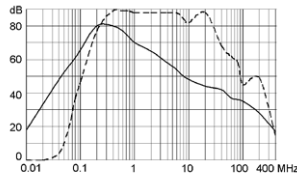
----- 50Ω differential mode \_\_\_\_\_ 50Ω common mode

Industrial version

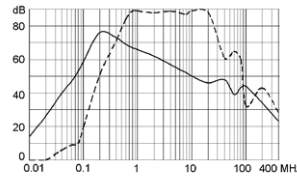
6A (FMAD-0924-0610)



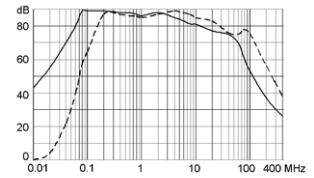
8A (FMAD-0931-0810)



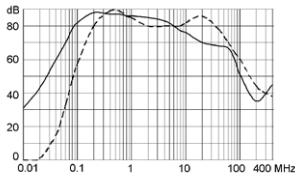
16A (FMAD-0931-1610)  
16A (FMAD-0932-1610)



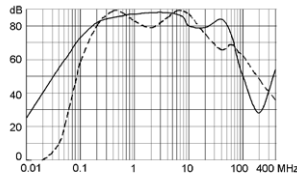
25A (FMAD-0932-2510)



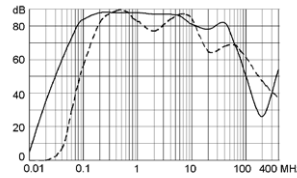
36A (FMAD-0934-3610)



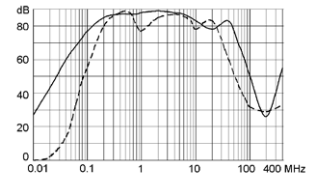
50A (FMAD-0934-5010)



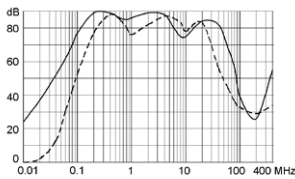
64A (FMAD-0953-6410)



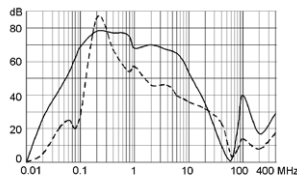
80A (FMAD-0937-8010)



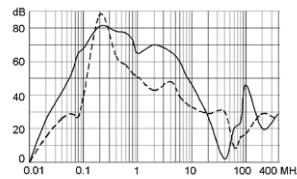
110A (FMAD-0954-H110)



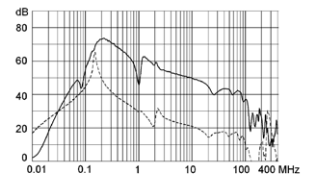
180A (FMAD-0955-H210)



250A FMAD-0956-H310



550A FMAD-09KQ-H650



**All Variants**

Bemessungsstrom @ $T_u$ 40°C (75°C) [A]	Leakage Current [mA] @ 440V, 60Hz 1)	Tripped Power Dissipation [W]	Contact Resistance [mΩ]	Weight [kg]	Clamps [mm <sup>2</sup> ]	Housings	Order Number
6 (4.8)	1.3	3.9	27	0.95 kg	4	24-4	FMAD-0924-0610
8 (5)	1.3	9	35	1.9 kg	4	31-4	FMAD-0931-0810
16 (9.5)	1.3	15.4	15	2.1 kg	4	31-4	FMAD-0931-1610
16 (9.5)	1.3	15.4	15	3.1 kg	4	32-4	FMAD-0932-1610
25 (13)	8.4	11.5	4.6	3.35 kg	6	32-8	FMAD-0932-2510
36 (19)	8.4	21	4	3.4 kg	10	34-4	FMAD-0934-3610
50 (32)	9.0	20	2	3.4 kg	10	34-4	FMAD-0934-5010
64 (34)	9.0	27	1.6	4.3 kg	25	53-4	FMAD-0953-6410
80 (43)	9.7	39	1.5	7.35 kg	25	37-4	FMAD-0937-8010
110 (66)	9.7	58	1.2	7.25 kg	50	54-4	FMAD-0954-H110
180 (95)	9.7	51	0.39	22 kg	95	55-4	FMAD-0955-H210
250 (120)	10.4	62.5	0.25	24.5 kg	240	56-4	FMAD-0956-H310

Bemessungsstrom @ Tu 40°C (75°C) [A]	Leakage Current [mA] @ 440V, 60Hz 1)	Tripped Power Dissi- pation [W]	Contact Resi- stance [mΩ]	Weight [kg]	Clamps [mm2]	Housings	Order Number
550 (320)	10.4	36	0.03	10.6kg	10)	KQ	FMAD-09KQ-H650

Most Popular.

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

10) Connection straps for M10

6A version: packing unit 2 pcs.

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.

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**Packaging unit**      1 Pcs

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