

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



**Description**

- Terminals for three phases, neutral conductor and ground

**Standards**

- IEC 60939  
- UL 1283, Edition 5, CSA 22.2 No. 8-M1986, @ Ta 75 °C

**Approvals**

- VDE Certificate Number: pending  
- UL File Number: E72928

**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](#), [Approvals](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [REACH](#), [Distributor-Stock-Check](#), [Detailed request for product](#)

**Technical Data**

Rated Current	6 - 550A
Rated voltage	277/480VAC, 50/60 Hz
Approval for	6 - 550A @ 40 (75) °C / 277/480VAC
Overload Current	1.5 x Ir
Leakage Current	industrial < 5 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

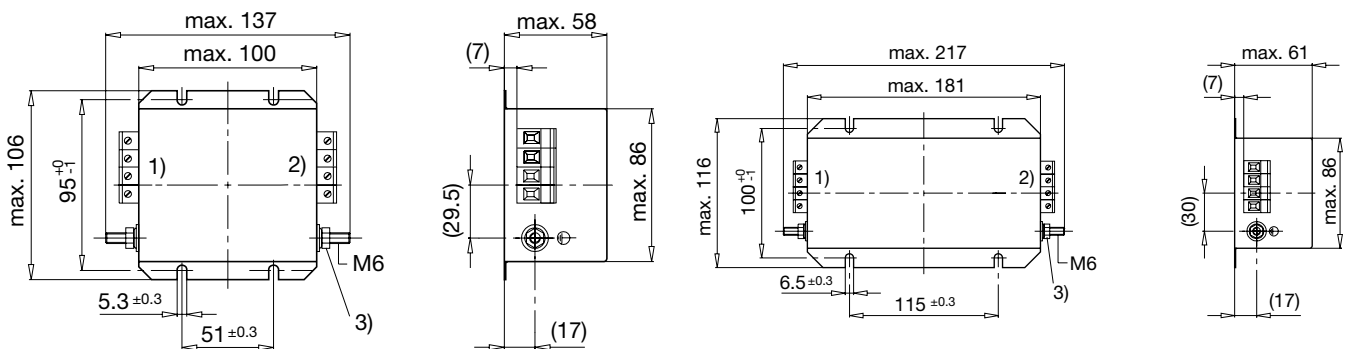
Mounting	Screw-on mounting on chassis, from top
Terminal	Screw clamps
Operating Temperature	-25 °C to 100 °C
Climatic Category	25/100/21 acc. to IEC 60068-1
Degree of Protection	IP 20 acc. to IEC 60529
Protection Class	Suitable for appliances with protection class I acc. to IEC 61140
MTBF	> 200'000h acc. to MIL-HB-217 F

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

**Dimension**

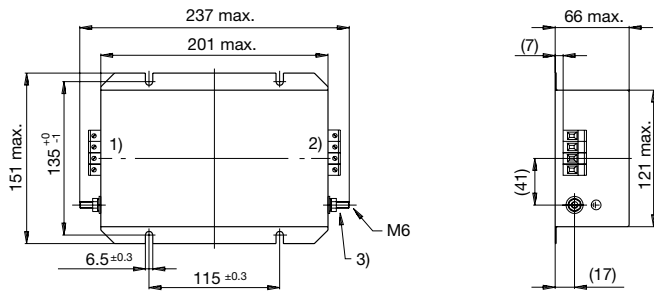
Case 24-4

Case 31-4

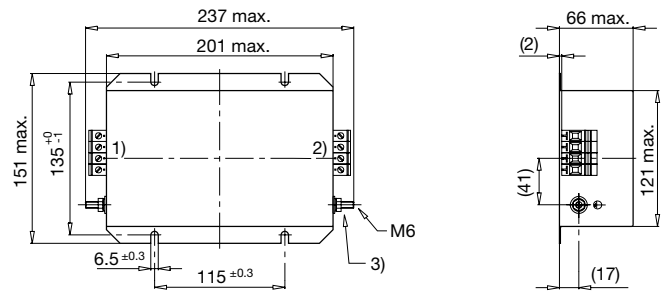


- 1) Line
- 2) Load
- 3) Nut torque 3...4 Nm

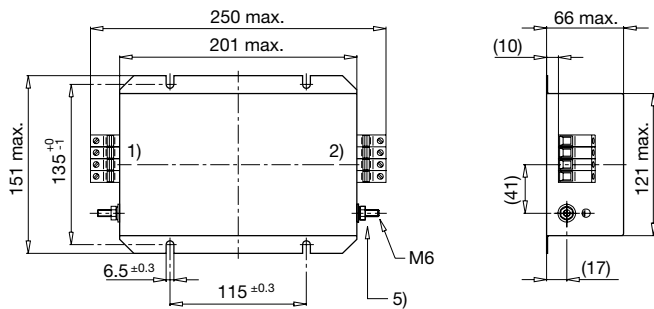
Case 32-4



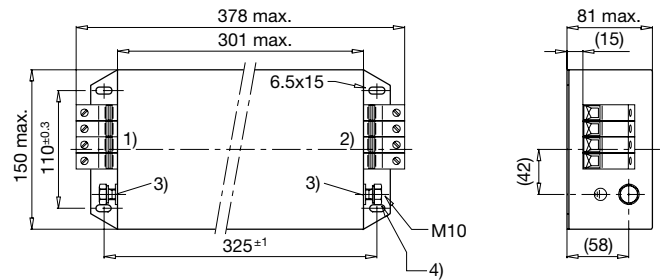
Case 32-8



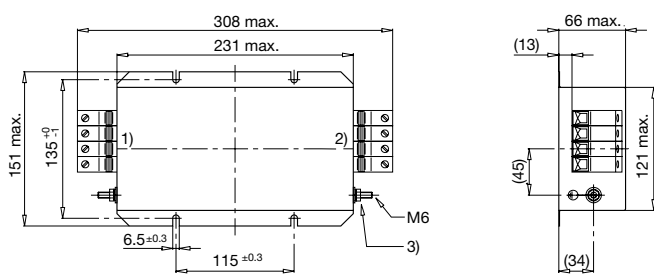
Case 34-4



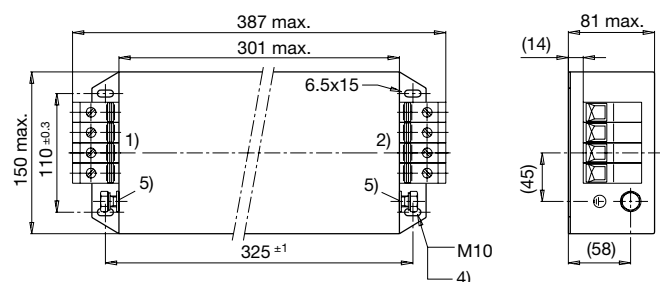
Case 37-4



Case 53-4

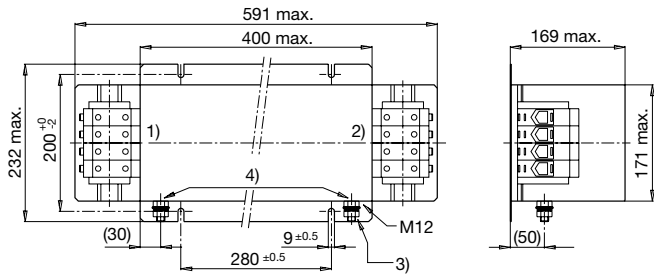


Case 54-4

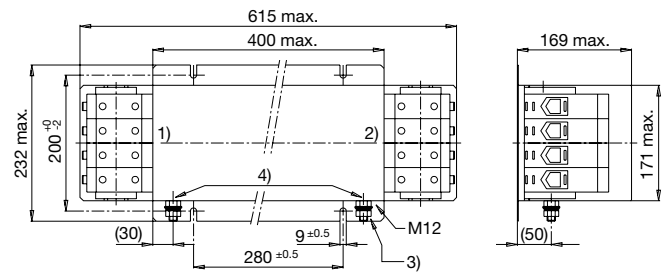


- 1) Line
- 2) Load
- 3) Tightening torque 3...4 Nm
- 4) Tightening torque 10...17 Nm
- 5) Do not unscrew lock-nut

Case 55-4

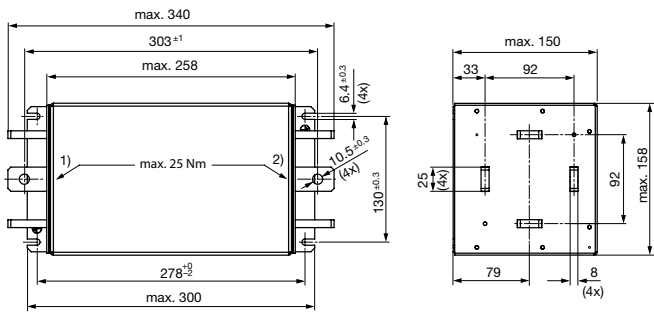


Case 56-4



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

Case KQ

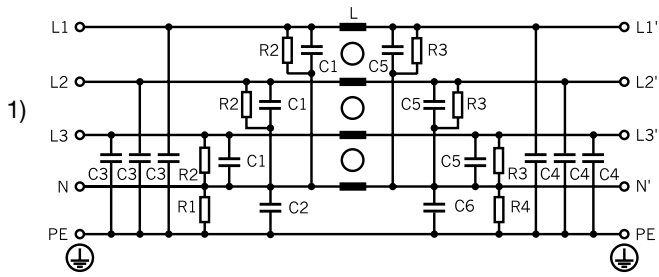


- 1) Line
- 2) Load
- 3) Torsional stress at flat copper max. 25 Nm

Technical data to the filter components

Rated Current @ Ta 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

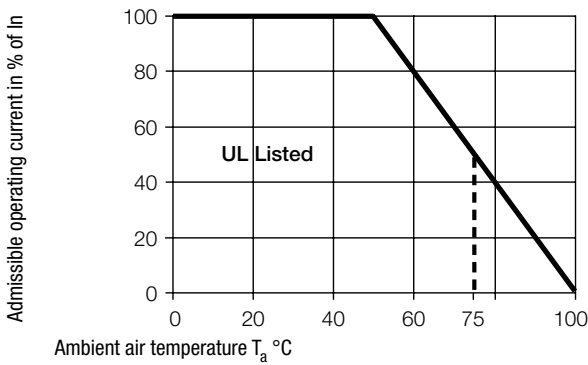
Diagrams



1) Line

Derating Curves

Permissible Working Current as a Function of Ambient Temperature

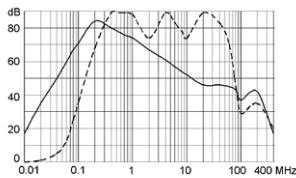


Attenuation Loss

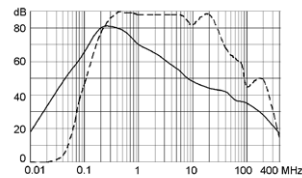
--- 50Ω differential mode    \_\_\_\_ 50Ω common mode

Industrial version

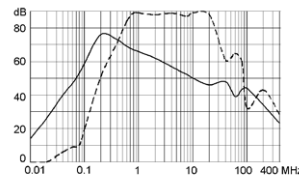
6A (FMAD-0924-0610)



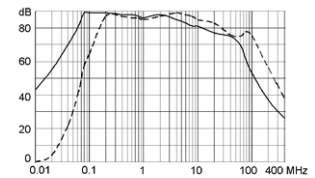
8A (FMAD-0931-0810)



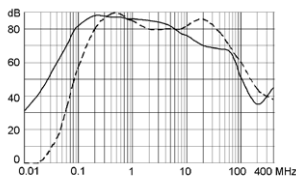
16A (FMAD-0931-1610)  
16A (FMAD-0932-1610)



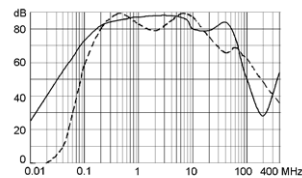
25A (FMAD-0932-2510)



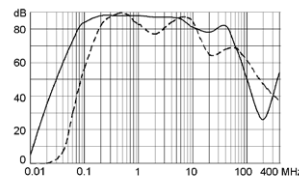
36A (FMAD-0934-3610)



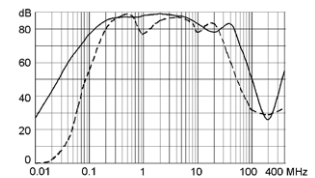
50A (FMAD-0934-5010)



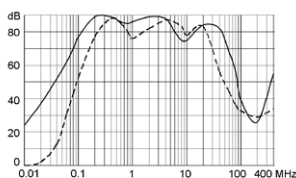
64A (FMAD-0953-6410)



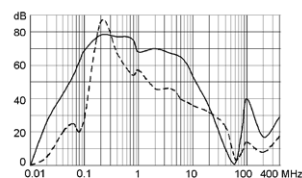
80A (FMAD-0937-8010)



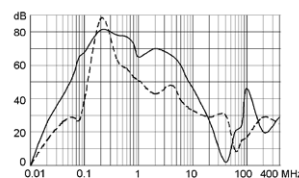
110A (FMAD-0954-H110)



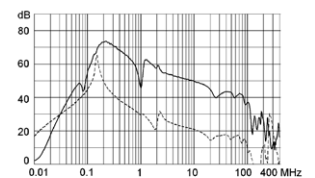
180A (FMAD-0955-H210)



250A FMAD-0956-H310



550A FMAD-09KQ-H650



All Variants

Rated Current @ Ta 40°C (75°C) [A]	Leakage Current [mA] @ 440V, 60Hz <sup>1)</sup>	Tripped Power Dissi- pation [W]	Contact Resi- stance [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
550 (320)	10.4	36	0.03	10.6 kg	10)	KQ	FMAD-09KQ-H650

■ Most Popular.

Availability for all products can be searched real-time: <http://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.

**Packaging unit** 1 Pcs