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

References

We recommend for new applications the type FMAD NEO

Weblinks

pdf data sheet, html datasheet, General Product Information, Distributor-Stock-Check, Detailed request for product, Microsite

Technical Data

Rated Current	6 - 550 A
Rated voltage	277/480 VAC, 50/60 Hz
Approval for	6 - 550 A @ 40 (75) °C / 277/480 VAC
Overload Current	1.5 x Ir for 1 minute, per hour
Leakage Current	industrial < 15 mA (440 V / 50 Hz)
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	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: FMAD

Approval Logo	Certificates	Certification Body	Description
c UL us	UL Approvals	UL	UL File Number: E72928

Product standards

Product standards that are referenced

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

Application standards

Application standards where the product can be used

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

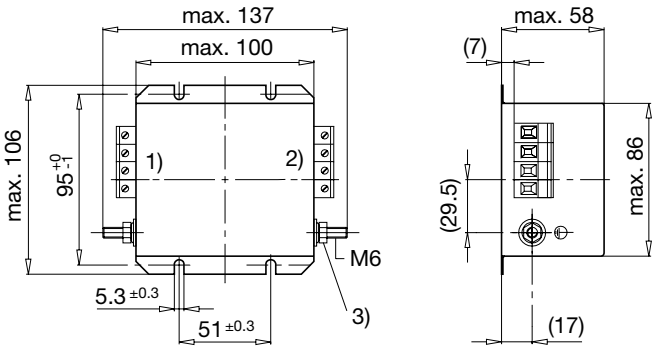
Compliances

The product complies with following Guide Lines

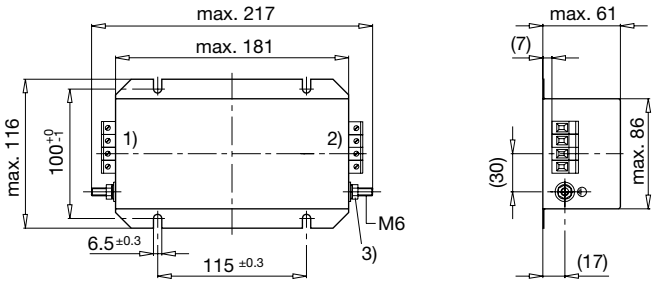
Identification	Details	Initiator	Description
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.
RoHS	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
China RoHS	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	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

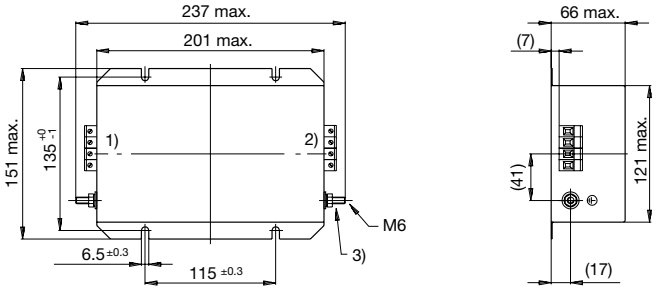


Case 31-4

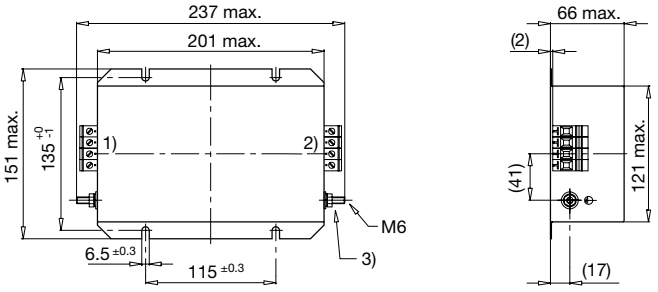


1) Line
2) Load
3) Nut torque 3...4 Nm

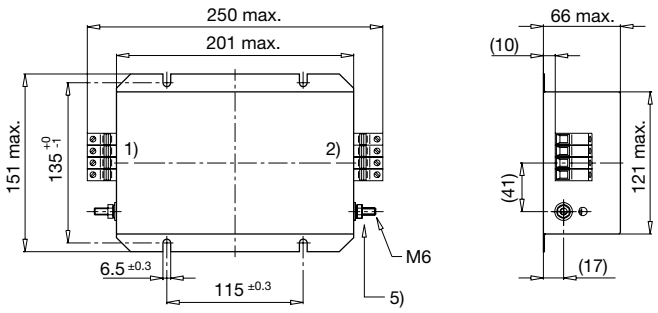
Case 32-4



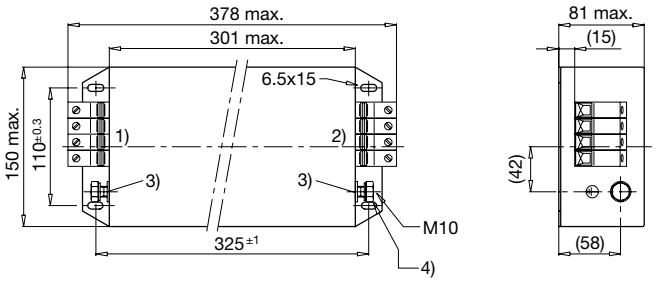
Case 32-8



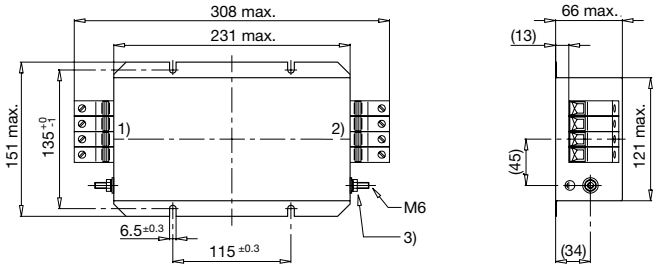
Case 34-4



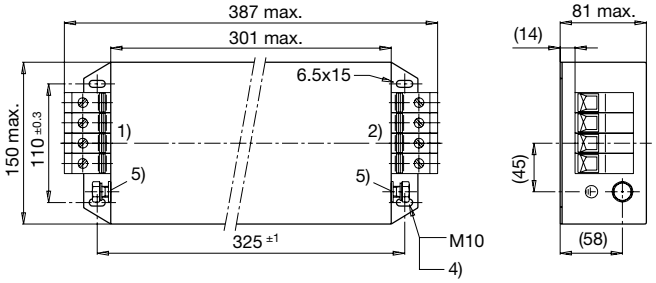
Case 37-4



Case 53-4

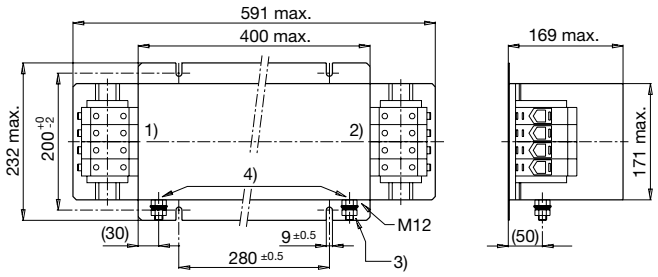


Case 54-4

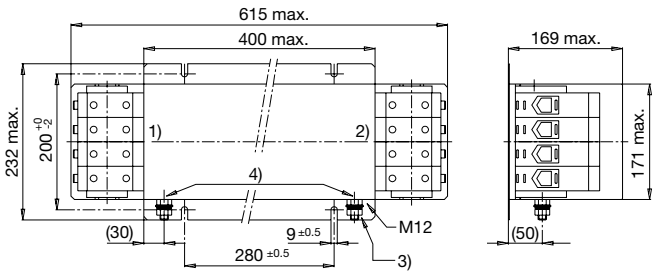


1) Line
2) Load
3) Tightening torque 3...4 Nm
4) Tightening torque 10...17 Nm
5) Do not unscrew lock-nut

Case 55-4

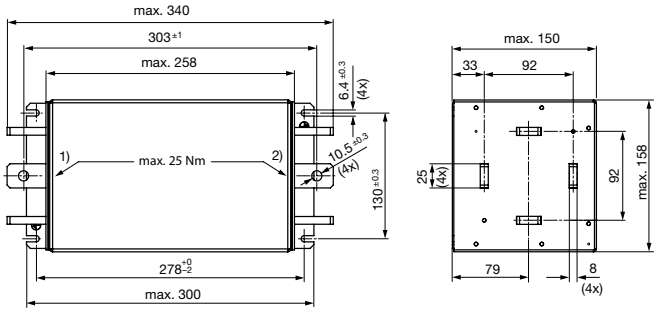


Case 56-4



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

Case KQ



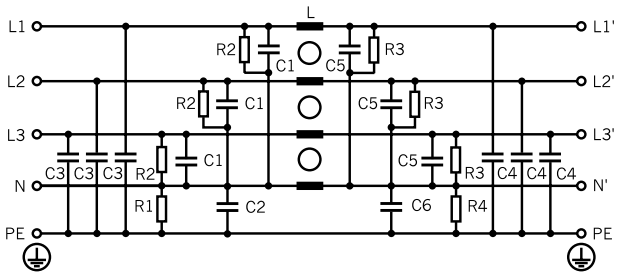
1) Line
2) Load
3) Torsional stress at flat copper max. 25 Nm

Technical data to the filter components

Rated Current @ 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

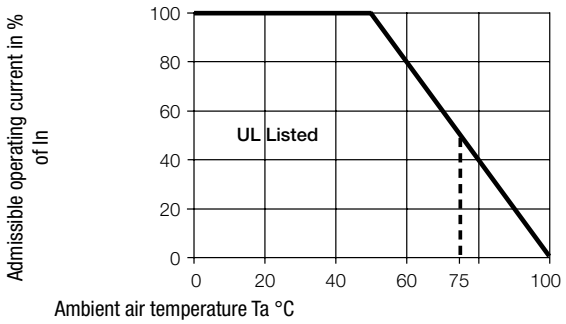
1)



1) Line

Derating Curves

Permissible Working Current as a Function of Ambient Temperature

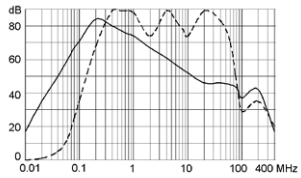


Attenuation Loss

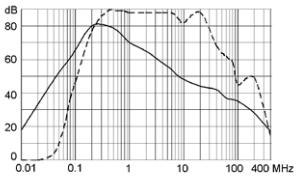
- - - - 50Ω differential mode _____ 50Ω common mode

Industrial version

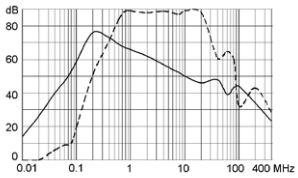
6A (FMAD-0924-0610)



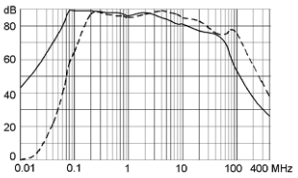
8A (FMAD-0931-0810)



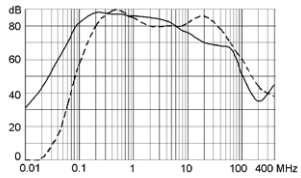
16A (FMAD-0931-1610)
16A (FMAD-0932-1610)



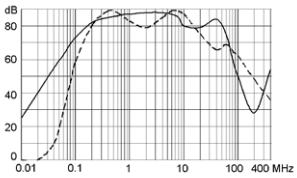
25A (FMAD-0932-2510)



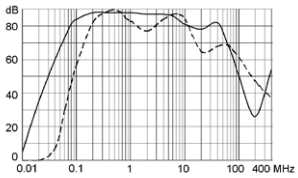
36A (FMAD-0934-3610)



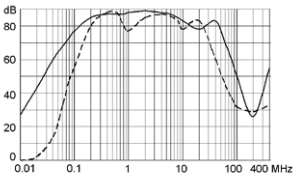
50A (FMAD-0934-5010)



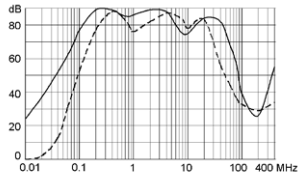
64A (FMAD-0953-6410)



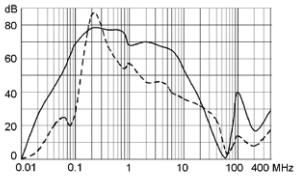
80A (FMAD-0937-8010)



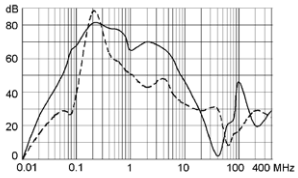
110A (FMAD-0954-H110)



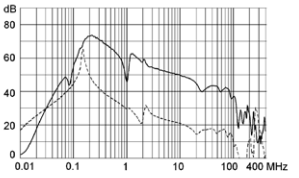
180A (FMAD-0955-H210)



250A FMAD-0956-H310



550A FMAD-09KQ-H650



All Variants

Rated Current @ Tu 40°C (75°C) [A]	Leakage Current [mA] @ 440V, 60Hz 1)	Tripped Power Dissipation [W]	Contact Resistance [mΩ]	Weight [kg]	Clamps [mm2]	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	

Rated Current @ Tu 40°C (75°C) [A]	Leakage Current [mA] @ 440V, 60Hz 1)	Tripped Power Dissipation [W]	Contact Resistance [mΩ]	Weight [kg]	Clamps [mm2]	Housings	Order Number
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: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.

Packaging unit 1 Pcs

01.11.2019

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.