

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



### Description

- Terminals for three phases, neutral conductor and ground
- Very high symmetrical and asymmetrical attenuation loss
- In the frequency range from 10kHz up to 300MHz

### Standards

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

### Applications

- Voltage rating 480 VAC for world wide acceptance
- Protection against interference voltage from the mains
- For standard and industrial applications
- Qualified for use in equipment according IEC/EN 60950

### References

[General Product Information](#)

### Weblinks

[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [Distributor-Stock-Check](#)

### Technical Data

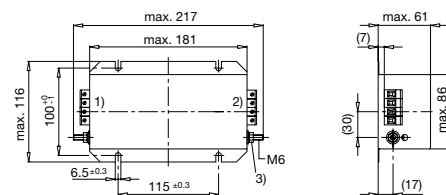
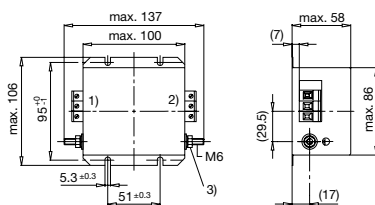
Rated Current	6 - 550A
Rated voltage	275 - 480 VAC, 50/60 Hz
Approval for	6 - 550A @ 40 (75) °C / 275/480 VAC
Overload Current	1.5 x Ir
Leakage Current	industrial < 5 mA (440V / 50Hz)
Dielectric Strength for 480 VAC	2.25 kVDC between L-L 1.7 kVDC between L-N 3 kVDC between L-PE 2.7 kVDC between N-PE Test voltage (2 sec)
Number of Filter Stages	1
Weight	0.95 - 24.5 kg
Material: Housing	Metal
Sealing Compound	UL 94V-0

Mounting	Screw-on mounting on chassis, from top
Terminal	Screw Clamp
Operating Temperature [°C]	-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 1 acc. to IEC 61140
MTBF	> 200'000h acc. to MIL-HB-217 F

### Dimensions

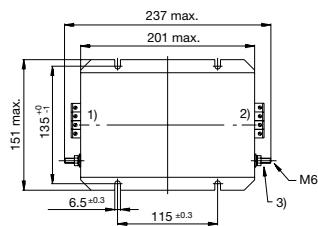
Case 24-3

Case 31-4

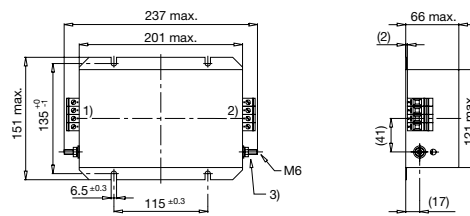


- 1) Line
- 2) Load
- 3) Nut torque 3...4 Nm

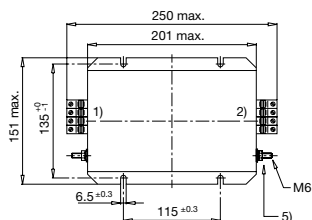
Case 32-4



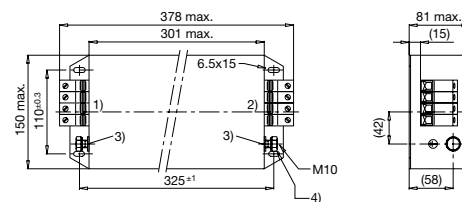
Case 32-8



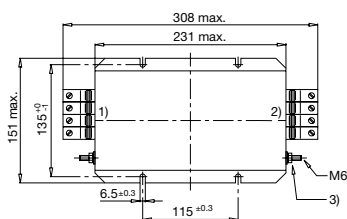
Case 34-4



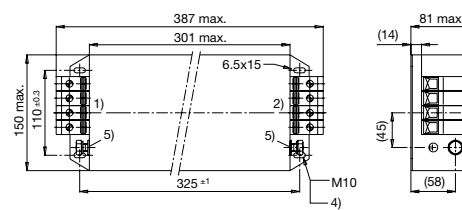
Case 37-4



Case 53-4

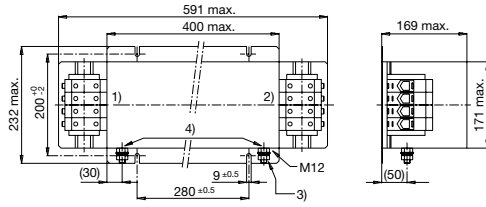


Case 54-4

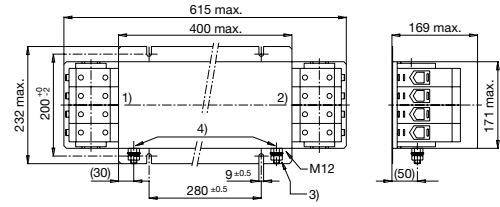


- 1) Line
- 2) Load
- 3) Tightening torque 3...4 Nm
- 4) Tightening torque 10...17 Nm
- 5) Do not unscrew lock-nut

Case 55-4

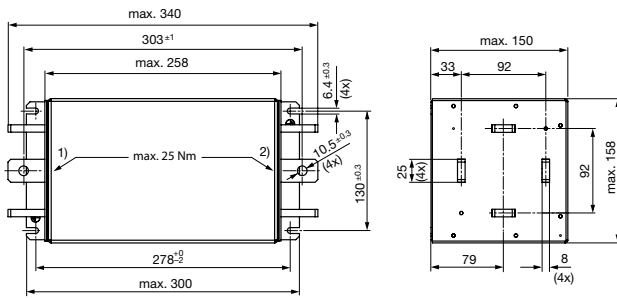


Case 56-4



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

Case KQ

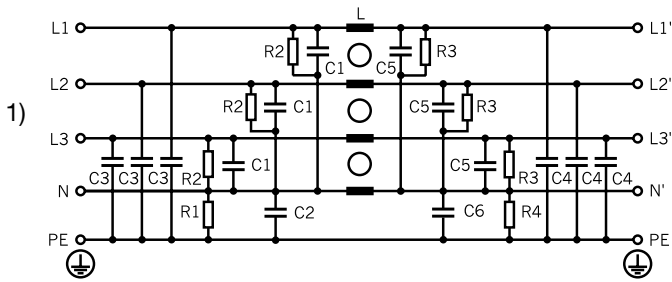


- 1) Line
- 2) Load
- 3) Torsional stress at flat copper max. 25 Nm

**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	-
80 (43)	0.9	6.6	1	47	100	6.6	1	2.2	1	1	-
64 (34)	0.6	4.4	1	10	100	4.4	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

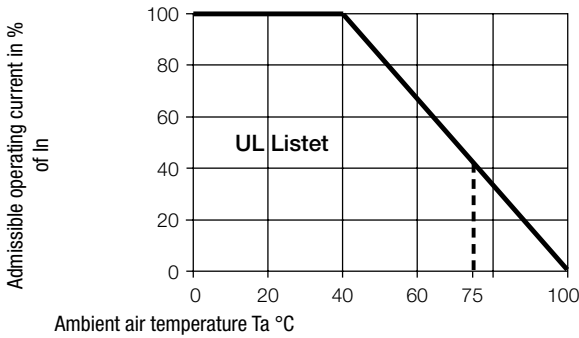
### Diagrams



1) Power Line

### Derating Curves

Permissible Working Current as a Function of Ambient Temperature

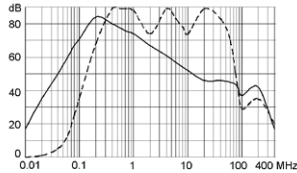


### Attenuation Loss

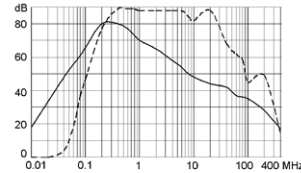
Industrial Version

--- differential mode \_\_\_\_ common mode

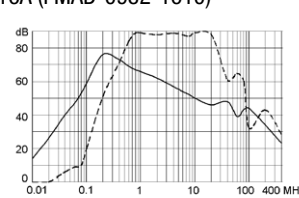
6A (FMAD-0924-0610)



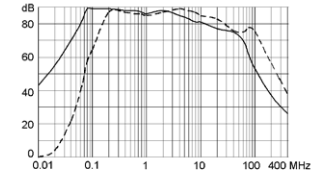
8A (FMAD-0931-0810)



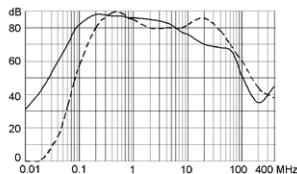
16A (FMAD-0931-1610)  
16A (FMAD-0932-1610)



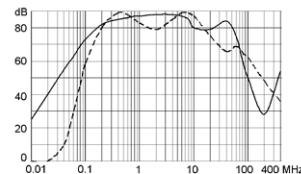
25A (FMAD-0932-2510)



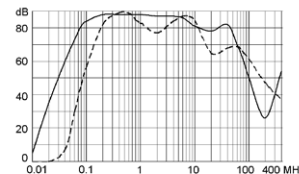
36A (FMAD-0934-3610)



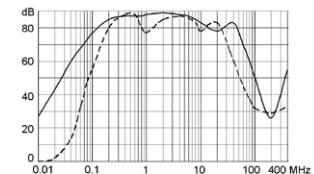
50A (FMAD-0934-5010)



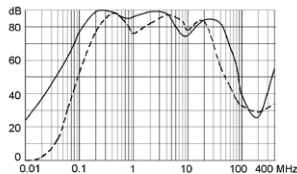
64A (FMAD-0953-6410)



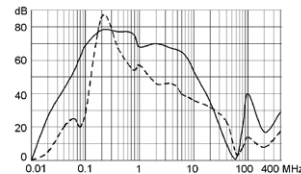
80A (FMAD-0937-8010)



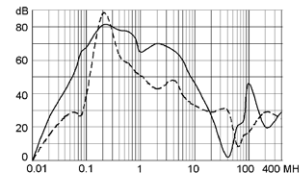
110A (FMAD-0954-H110)



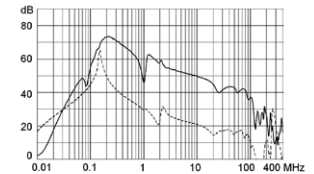
180A (FMAD-0955-H210)



250A FMAD-0956-H310



550A FMAD-09KQ-H650



## Variants

Rated Current @ Ta 40°C (75°C) [A]	Rated Voltage [VAC]	Tripped Power Dissipation [W]	Contact Resistance [mΩ]	Weight [kg]	Clamps [mm <sup>2</sup> ]	Housing	Order Number
6 (4.8)	275 - 480	3.9	27	0.95	4	24-4	FMAD-0924-0610
8 (5)	275 - 480	9	35	1.9	4	31-4	FMAD-0931-0810
16 (9.5)	275 - 480	15.4	15	2.1	4	31-4	FMAD-0931-1610
16 (9.5)	275 - 480	15.4	15	3.1	4	32-4	FMAD-0932-1610
25 (13)	275 - 480	11.5	4.6	3.35	6	32-8	FMAD-0932-2510
36 (19)	275 - 480	21	4	3.4	10	34-4	FMAD-0934-3610
50 (32)	275 - 480	20	2	3.4	10	34-4	FMAD-0934-5010
80 (43)	275 - 480	39	1.5	7.35	25	37-4	FMAD-0937-8010
64 (34)	275 - 480	27	1.6	4.3	25	53-4	FMAD-0953-6410
110 (66)	275 - 480	58	1.2	7.25	50	54-4	FMAD-0954-H110
180 (95)	275 - 480	51	0.39	22	95	55-4	FMAD-0955-H210
250 (120)	275 - 480	62.5	0.25	24.5	240	56-4	FMAD-0956-H310

1) Connection straps for M10

6A version: packing unit 2 pcs.

**Packaging unit** 1 Pcs