

1-stage filter for 3-phase systems with neutral conductor, DIN rail mounting



FMAD RAIL with rail  
from front side



FMAD RAIL with rail  
from rear side

See below:

### Approvals and Compliances

#### Description

- 3 phase line filter with standard attenuation

#### Applications

- Especially designed for electric switch and control cabinets
- Suitable for use in equipment according to IEC/UL 62368-1

#### Weblinks

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

#### Technical Data

|                         |                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------|
| Rated Current           | 3 - 20 A @ Ta 40 °C                                                                                          |
| Rated voltage           | 277/480 VAC, 50/60 Hz                                                                                        |
| Approval for            | 3 - 20 A / 277/480 VAC                                                                                       |
| Overload Current        | 1.5 x Ir for 1 minute, per hour                                                                              |
| Leakage Current         | standard < 0.5 mA (440 V / 50 Hz)                                                                            |
| Dielectric Strength     | 277/480 VAC:<br>2.25 kVDC between L-L<br>1.7 kVDC between L-N<br>3 kVDC between L-PE<br>Test voltage (2 sec) |
| Number of Filter Stages | 1-stage                                                                                                      |
| Weight                  | 0.4 kg                                                                                                       |
| Material: Housing       | Metal                                                                                                        |
| Sealing Compound        | UL 94V-0                                                                                                     |

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Mounting              | DIN rail mounting                                                 |
| Terminal              | Bolts and nuts M4, Quick connect terminal for PE                  |
| 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                  |
|-------------------------------------------------------------------------------------|-------------------------------|--------------------|------------------------------|
|  | <a href="#">VDE Approvals</a> | VDE                | Certificate Number: 40030736 |
|  | <a href="#">UL Approvals</a>  | UL                 | UR File Number: E72928       |

#### Application standards

Application standards where the product can be used

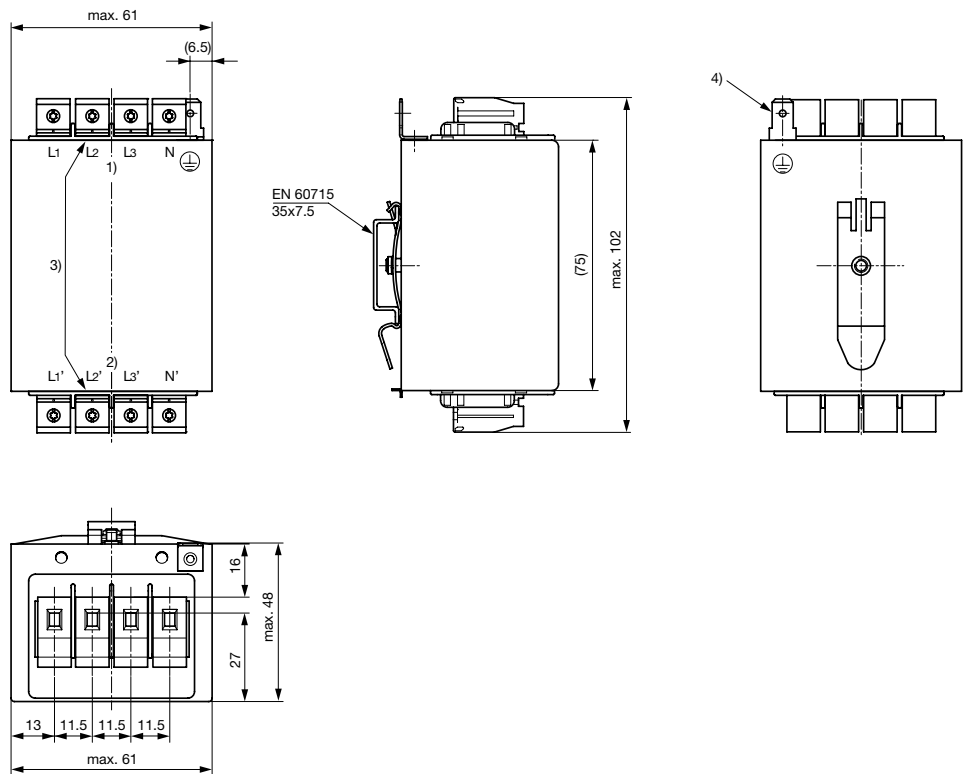
| Organization                                                                        | Design                         | Standard       | Description                                                                                   |
|-------------------------------------------------------------------------------------|--------------------------------|----------------|-----------------------------------------------------------------------------------------------|
|  | Designed for applications acc. | IEC/UL 62368-1 | Audio/video, information and communication technology equipment - Part 1: Safety requirements |

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. |
| UK<br>CA       | UKCA declaration of conformity | SCHURTER AG | The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008.                                                  |
| RoHS           | RoHS                           | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863                                                                                                                                                    |
| e              | 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]

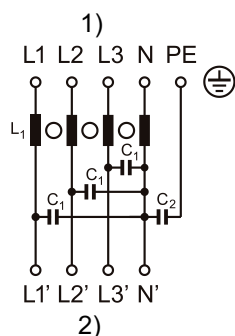


- 1) Line
- 2) Load
- 3) Tightening torque 0.6-0.8 Nm, Screw 4mm<sup>2</sup>
- 4) Quick connect terminal 6.3x0.8mm

Technical data to the filter components

| Rated Current [A] | Rated Voltage [VAC] | L [mH] | C1 [nF] | C2 [nF] |
|-------------------|---------------------|--------|---------|---------|
| 10                | 277 - 480           | 0.4    | 100     | 4.7     |
| 20                | 277 - 480           | 0.15   | 100     | 22      |
| 3                 | 277 - 480           | 1      | 100     | 4.7     |
| 6                 | 277 - 480           | 0.5    | 100     | 4.7     |

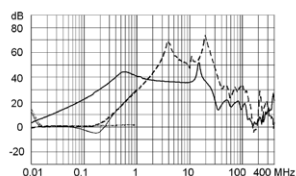
## Diagrams



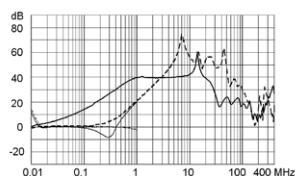
- 1) Line  
2) Load

**Attenuation Loss** . . . 0.1/100Ω differential mode ..... 100/0.1Ω differential mode - - - 50Ω differential mode \_\_\_\_ 50Ω common mode  
Industrial version

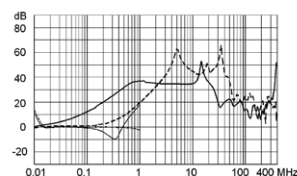
3 A



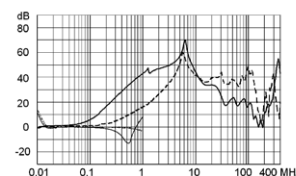
6 A



10 A



20 A



## All Variants

| Rated Current [A] | Tripped Power Dissi- | Leakage Cur-<br>rent [mA] @ 440V, | Contact Resistance<br>[mΩ] | Weight<br>[g] | Screw clamps<br>[mm2] 2) | Order Number   |
|-------------------|----------------------|-----------------------------------|----------------------------|---------------|--------------------------|----------------|
| 10                | 3.2                  | 0.02                              | 8                          | 395 g         | 4                        | FMAD-MRYB-1010 |
| 20                | 5.8                  | 0.08                              | 3.6                        | 420 g         | 4                        | FMAD-MRYB-2010 |
| 3                 | 1.4                  | 0.02                              | 38                         | 385 g         | 4                        | FMAD-MRYB-0310 |
| 6                 | 1.7                  | 0.02                              | 11.5                       | 385 g         | 4                        | FMAD-MRYB-0610 |

Most Popular.

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

1) Leakage current according IEC 60939-1

2) Maximum conductor cross section (wire gauge) to be used; a comparative table for AWG and mm² values can be found in the general product information  
<https://www.schurter.com/en/FAQ#10>

**Packaging unit**

5 Pcs