

Ultra compact and efficient 2-stage filter in ECO design for 3-phase systems



See below:

### Approvals and Compliances

#### Description

- High attenuation value

#### Applications

- Voltage rating 480 VAC for world wide acceptance
- Especially designed for industrial applications such as: Frequency Converters, Stepper Motor Drives, UPS-Systems, Inverters
- 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           | 10 - 115 A                                                   |
| Rated voltage           | 480 VAC, 50/60 Hz                                            |
| Approval for            | 10 - 115 A @ Ta 40 °C / 480 VAC;<br>50/60 Hz                 |
| Overload Current        | 1.5 x Ir for 1 minute, per hour                              |
| Leakage Current         | standard < 0.5 mA (440 V / 50 Hz)                            |
| Dielectric Strength     | 480 VAC:<br>> 2.25 kVDC between L-L<br>> 3 kVDC between L-PE |
| Number of Filter Stages | 2-stage                                                      |
| Weight                  | 1.1 - 5 kg                                                   |
| Material: Housing       | Aluminum                                                     |
| Sealing Compound        | UL 94V-0                                                     |

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Mounting              | Screw-on mounting on chassis, upright or lengthwise               |
| Terminal              | Bolts and nuts                                                    |
| 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: FMBC ECO

| Approval Logo                                                                       | Certificates                  | Certification Body | Description                  |
|-------------------------------------------------------------------------------------|-------------------------------|--------------------|------------------------------|
|  | <a href="#">VDE Approvals</a> | VDE                | Certificate Number: 40023521 |
|  | <a href="#">UL Approvals</a>  | 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 62368-1 | IEC 62368-1 includes the basic requirements for safety of audio, video, information technology and office equipment. |

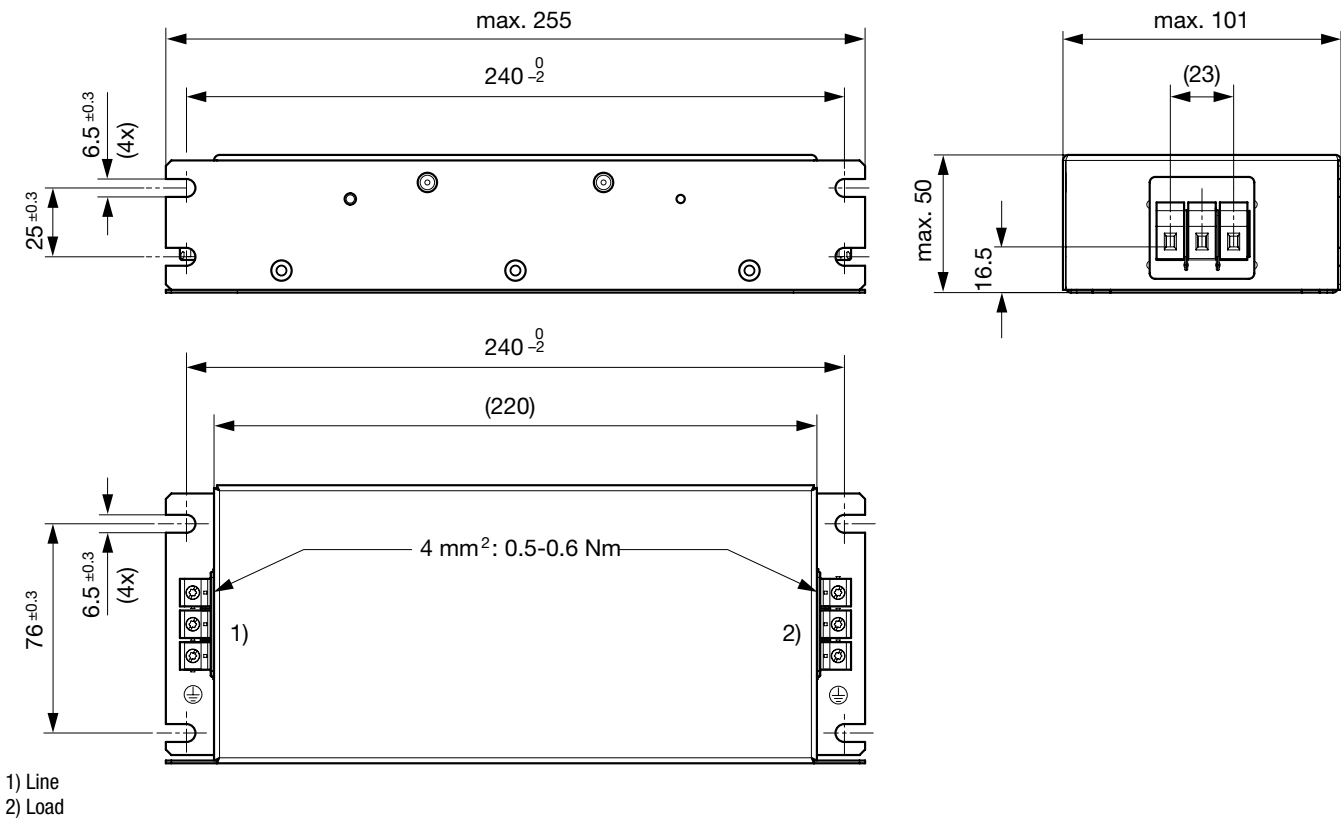
Compliances

The product complies with following Guide Lines

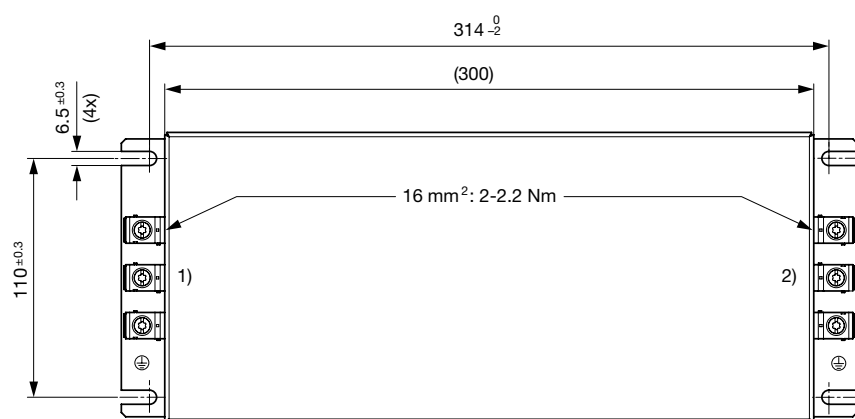
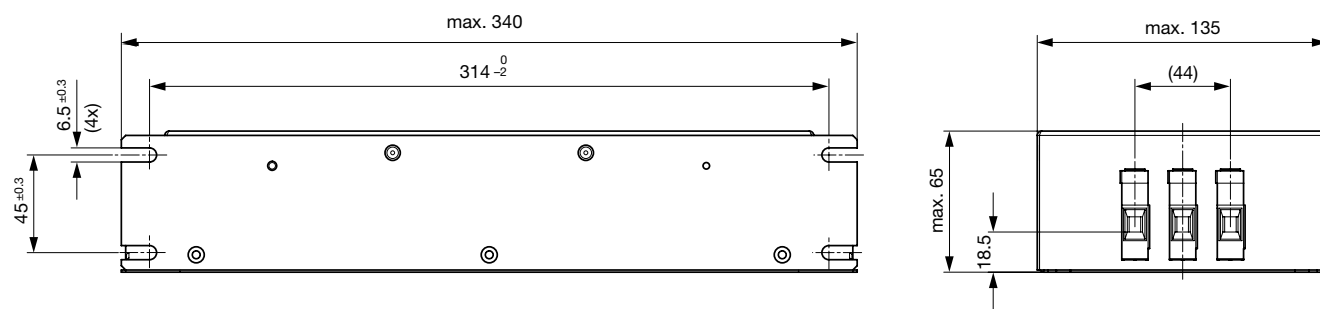
| Identification                                                                   | Details                                      | Initiator   | Description                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|----------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">CE declaration of conformity</a> | 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 | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863                                                                                                                                                    |
|  | 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 94

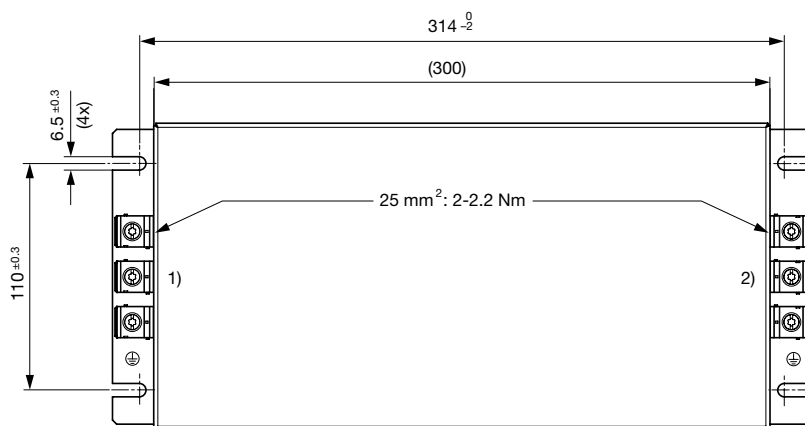
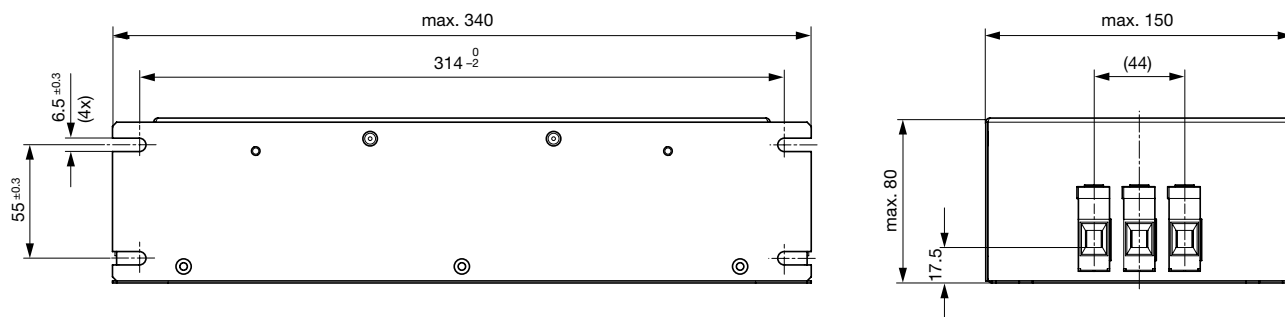


Case 95



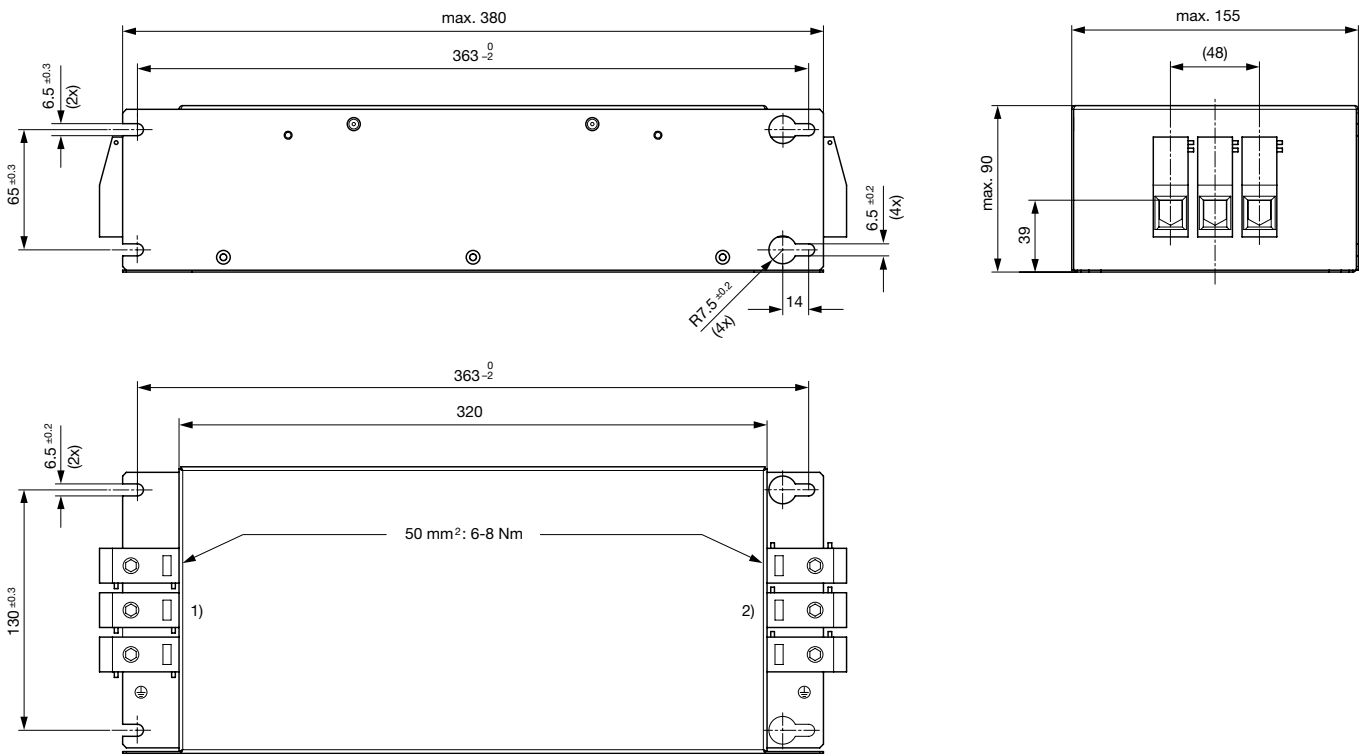
- 1) Line
- 2) Load

Case 96



- 1) Line
- 2) Load

Case 97

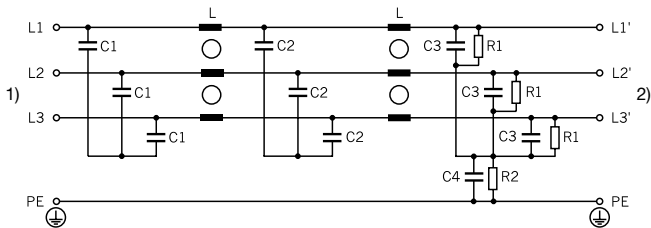


- 1) Line  
2) Load

Technical data to the filter components

| Rated Current [A] | L [mH] | C1 [μF] | C2 [μF] | C3 [μF] | C4 [nF] | R1 [MΩ] | R2 [MΩ] | Netzfilter Aus- |
|-------------------|--------|---------|---------|---------|---------|---------|---------|-----------------|
| 10                | 2.3    | 1       | 1       | 1       | 10      | 1       | 1       | Indus-          |
| 20                | 1.5    | 1       | 1       | 1       | 10      | 1       | 1       | Indus-          |
| 36                | 0.9    | 1       | 1       | 2.2     | 47      | 1       | 1       | Indus-          |
| 50                | 0.45   | 1       | 1       | 2.2     | 47      | 1       | 1       | Indus-          |
| 66                | 0.45   | 1       | 1       | 2.2     | 47      | 1       | 1       | Indus-          |
| 80                | 0.32   | 1       | 1       | 2.2     | 47      | 1       | 1       | Indus-          |
| 115               | 0.24   | 1       | 2.2     | 2.2     | 100     | 1       | 1       | Indus-          |

Diagrams



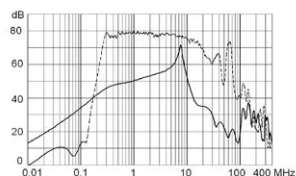
- 1) Line  
2) Load

## Attenuation Loss

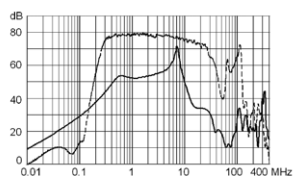
Industrial version

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

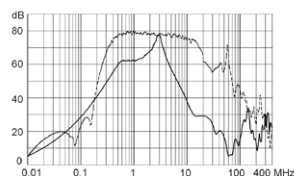
10A (FMBC-0994-1000)



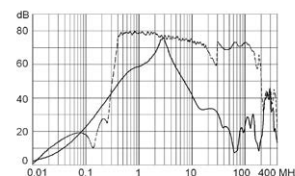
20A (FMBC-0994-2000)



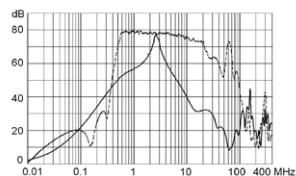
36A (FMBC-0995-3600)



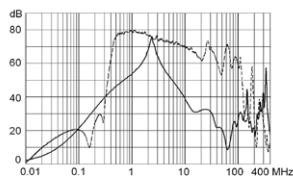
50A (FMBC-0996-5000)



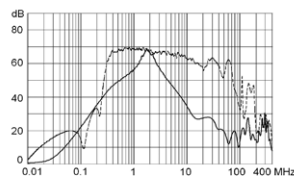
66A (FMBC-0996-6600)



80A (FMBC-0996-8000)



115A (FMBC-0997-H115)



## All Variants

| Rated Current @ Ta<br>50°C (75°C) [A] | Tripped Power Dissipation [W] | Contact Resistance [mΩ] | Leakage Current [mA] @ 440V, | Weight [kg] | Screw clamps | Housings | Packaging unit [PCS] | Order Number   |
|---------------------------------------|-------------------------------|-------------------------|------------------------------|-------------|--------------|----------|----------------------|----------------|
| 10                                    | 4                             | 37                      | 0.04                         | 1.1 kg      | 4            | 94       | 1                    | FMBC-0994-1000 |
| 20                                    | 9                             | 20                      | 0.04                         | 1.6 kg      | 4            | 94       | 1                    | FMBC-0994-2000 |
| 36                                    | 5                             | 3.5                     | 0.2                          | 2.2 kg      | 16           | 95       | 1                    | FMBC-0995-3600 |
| 50                                    | 20                            | 7.5                     | 0.2                          | 2.7 kg      | 16           | 95       | 1                    | FMBC-0995-5000 |
| 66                                    | 22                            | 4.5                     | 0.2                          | 3.4 kg      | 25           | 96       | 1                    | FMBC-0996-6600 |
| 80                                    | 24                            | 3.5                     | 0.2                          | 3.4 kg      | 25           | 96       | 1                    | FMBC-0996-8000 |
| 115                                   | 36                            | 2.5                     | 0.4                          | 5 kg        | 50           | 97       | 1                    | FMBC-0997-H115 |

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** 1 Pcs