

Ultra compact and efficient 1-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           | 16 - 150A @ Ta 40 °C                                                            |
| Rated voltage           | 480VAC, 50/60 Hz                                                                |
| Approval for            | 16 - 150A @ Ta 40 °C / 480VAC;<br>50/60Hz                                       |
| Overload Current        | 1.5 x Ir for 1 minute, per hour                                                 |
| Leakage Current         | < 15mA (440V / 50Hz)                                                            |
| Dielectric Strength     | 480VAC:<br>> 2.25kVDC between L-L<br>> 3kVDC between L-PE<br>Test voltage 2 sec |
| Number of Filter Stages | 1-stage                                                                         |
| Weight                  | 1 - 7 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                  | > 200'000h 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: FMAC ECO

| Approval Logo                                                                       | Certificates                  | Certification Body | Description                  |
|-------------------------------------------------------------------------------------|-------------------------------|--------------------|------------------------------|
|  | <a href="#">VDE Approvals</a> | VDE                | Certificate Number: 40028851 |
|  | <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. |

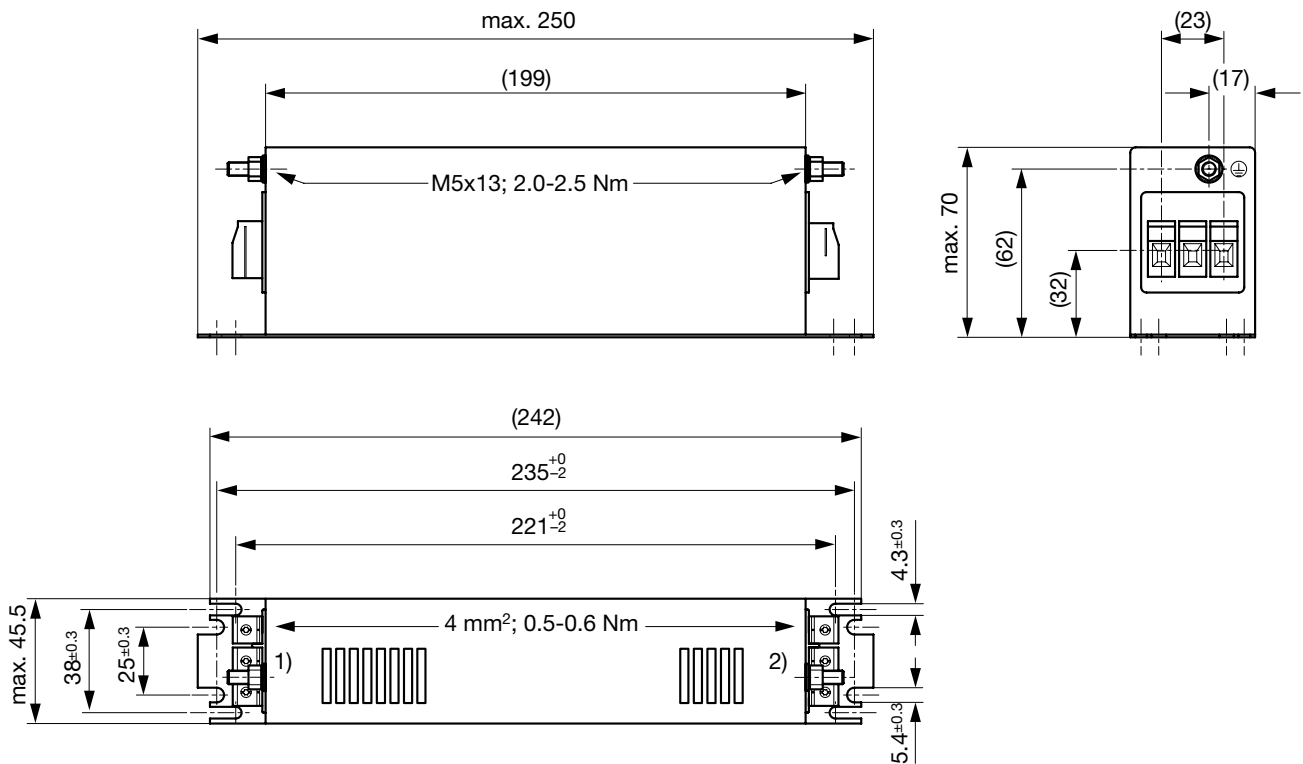
Compliances

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.                               |

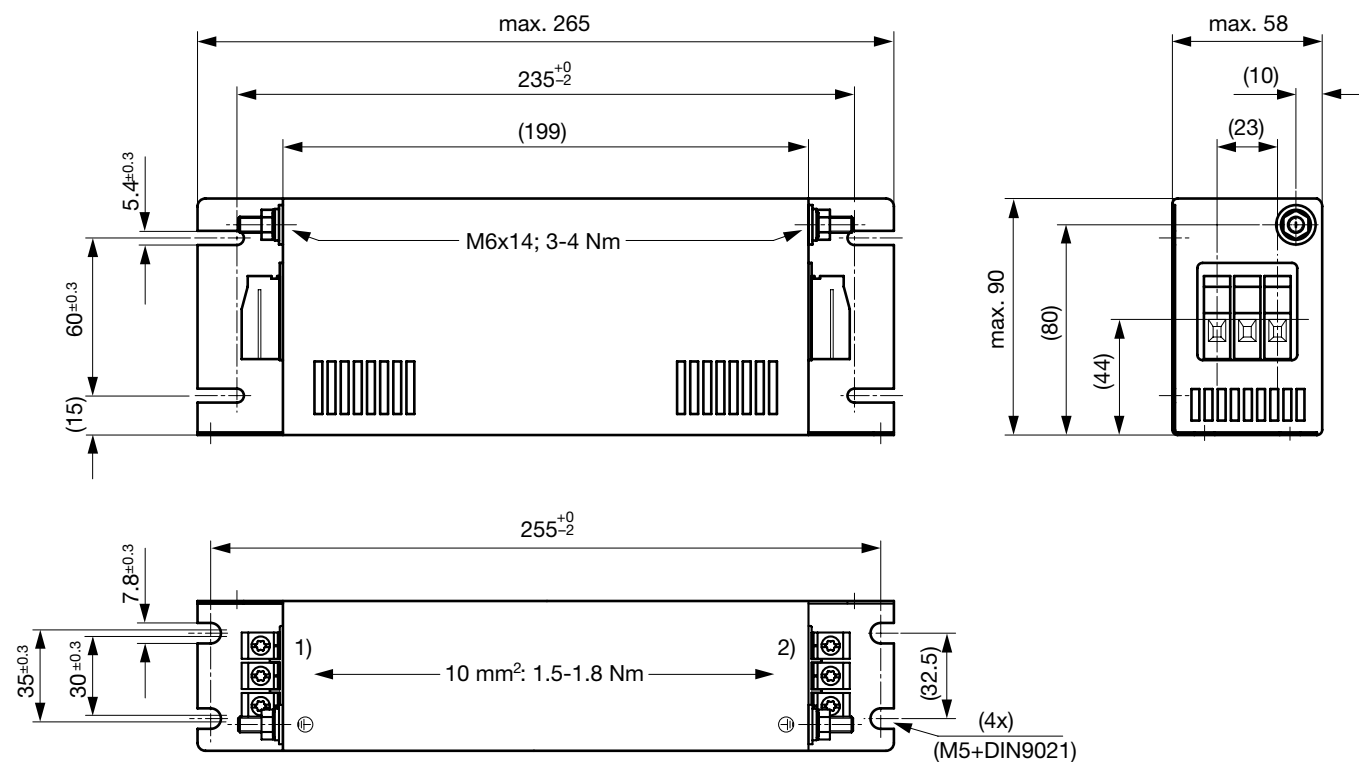
Dimension [mm]

Case 1C

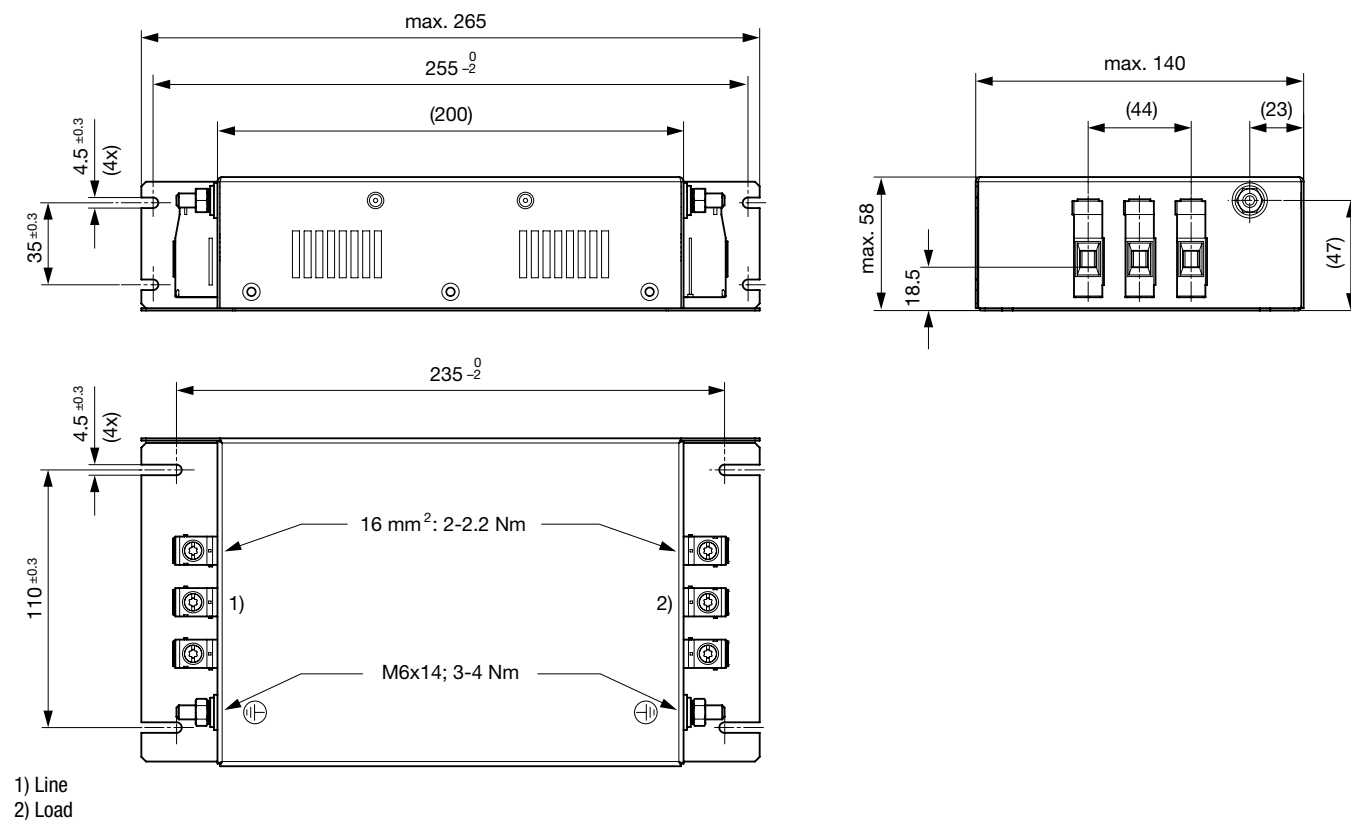


- 1) Line
- 2) Load

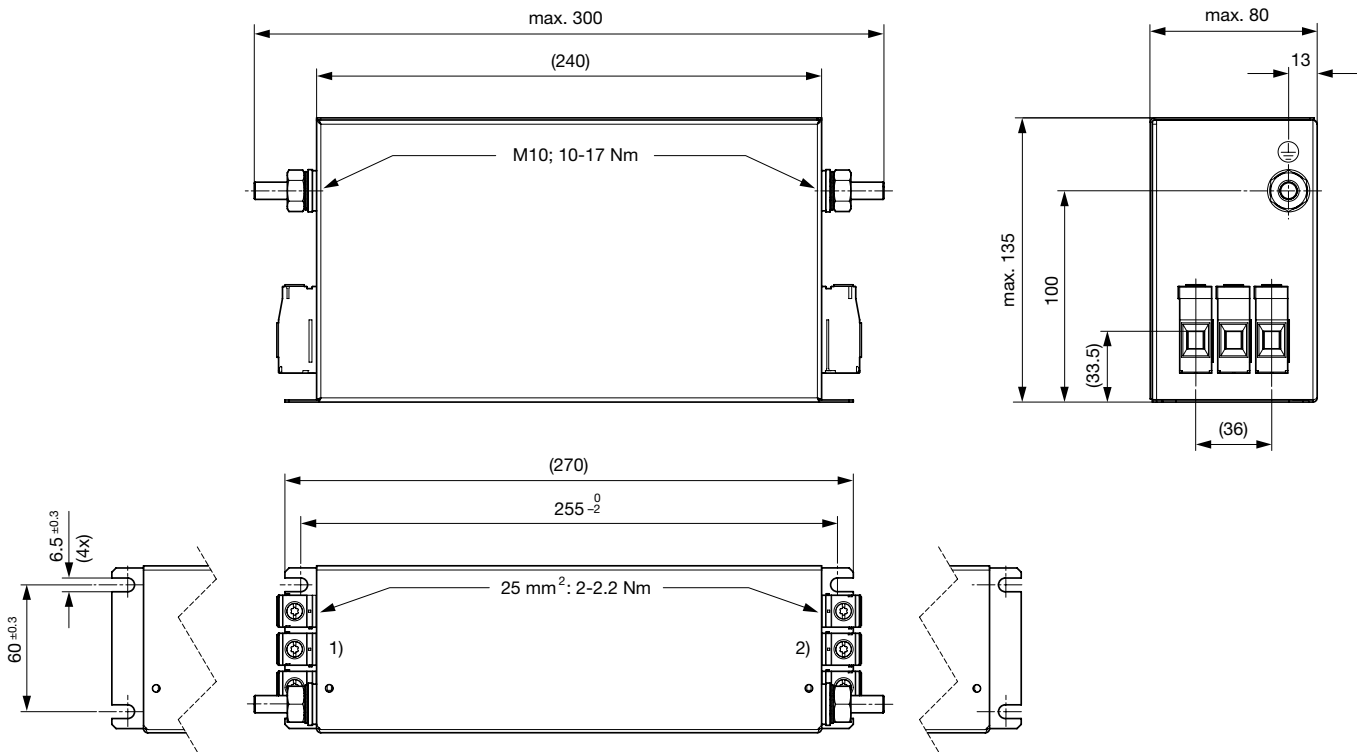
Case 1D-10



Case 1E

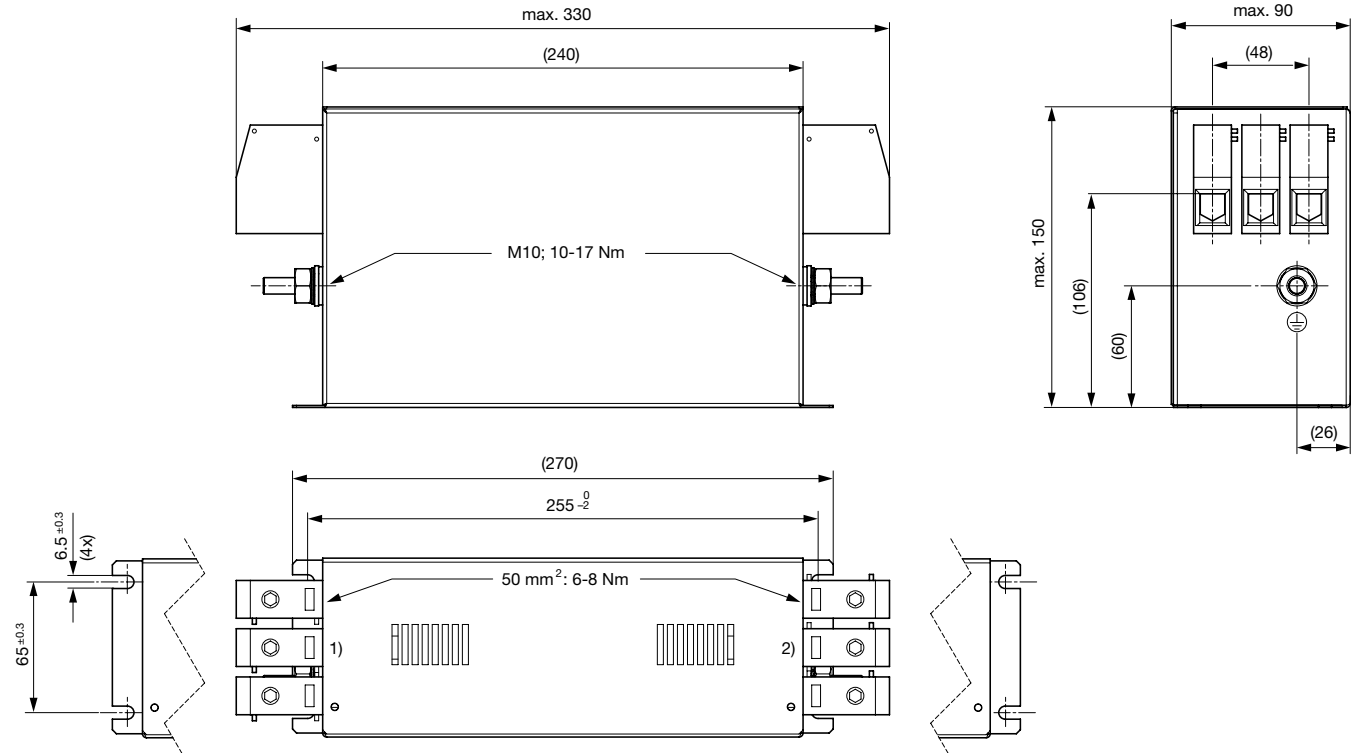


Case 1T



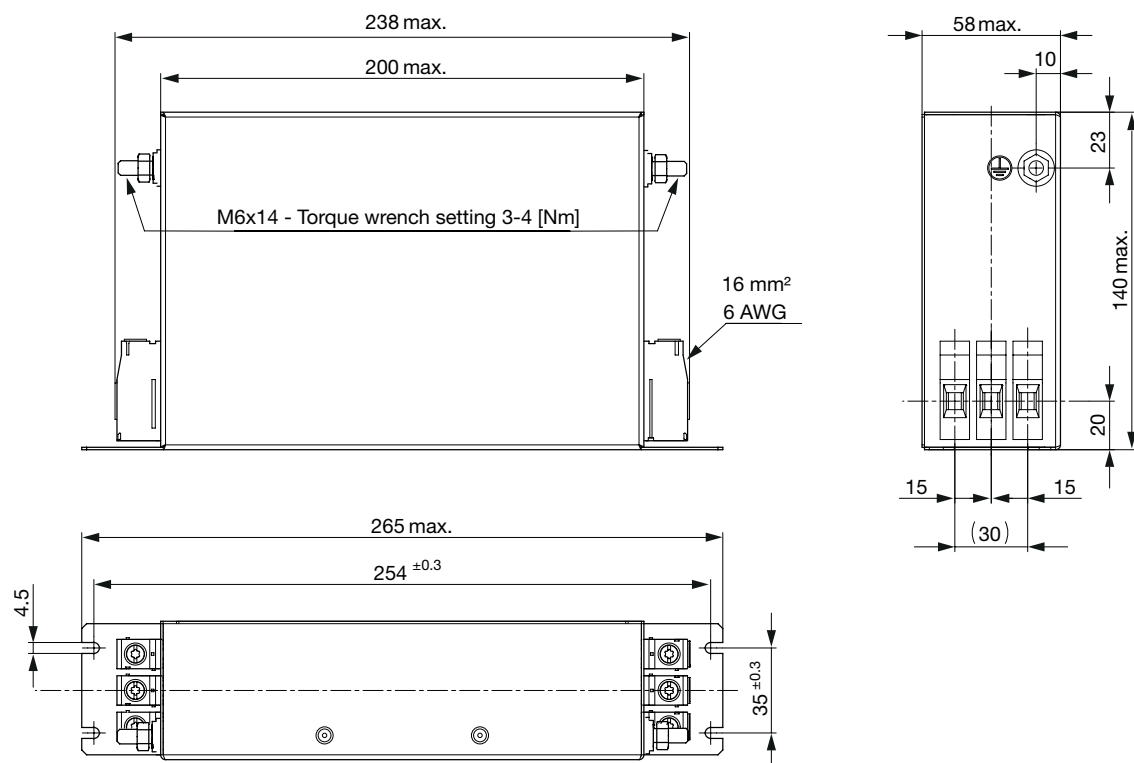
- 1) Line
- 2) Load

Case 1G



- 1) Line
- 2) Load

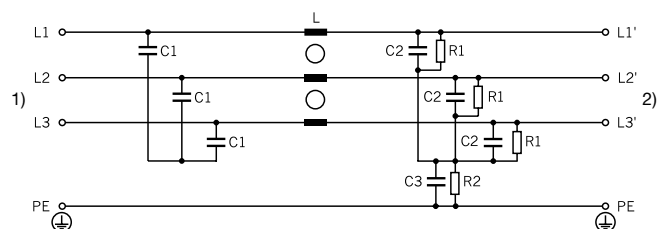
Case SF



Technical data to the filter components

| Rated Current [A] | L [mH] | C1 [μF] | C2 [μF] | C3 [μF] | R1 [MΩ] | R2 [MΩ] | Filter-Type |
|-------------------|--------|---------|---------|---------|---------|---------|-------------|
| 110               | 0.55   | 6.6     | 6.6     | 3.3     | 1       | 1       | Indus-      |
| 150               | 0.48   | 6.6     | 6.6     | 3.3     | 1       | 1       | Indus-      |
| 16                | 0.55   | 2.2     | 2.2     | 3.3     | 1       | 1       | Indus-      |
| 25                | 0.45   | 2.2     | 2.2     | 3.3     | 1       | 1       | Indus-      |
| 36                | 0.57   | 2.2     | 2.2     | 3.3     | 1       | 1       | Indus-      |
| 50                | 0.65   | 4.7     | 3.3     | 3.3     | 1       | 1       | Indus-      |
| 55                | 0.75   | 4.7     | 3.3     | 3.3     | 1       | 1       | Indus-      |
| 64                | 0.55   | 4.7     | 3.3     | 3.3     | 1       | 1       | Indus-      |
| 80                | 0.55   | 4.7     | 4.7     | 3.3     | 1       | 1       | Indus-      |

Diagrams



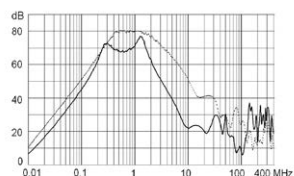
- 1) Line  
 2) Load

### Attenuation Loss

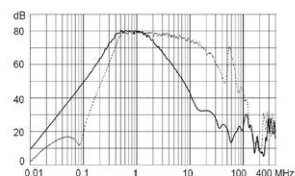
Industrial version

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

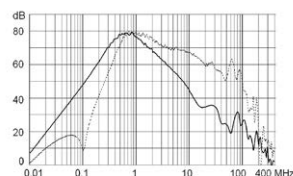
16A (FMAC-091C-1610)



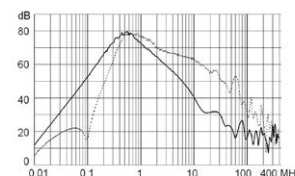
25A (FMAC-091C-2510)



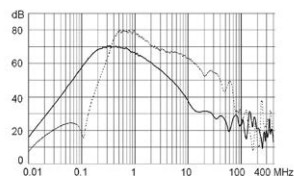
36A (FMAC-091D-3610)



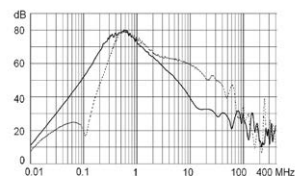
50A (FMAC-091D-5010)



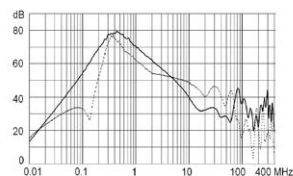
55A (FMAC-091D-5510)



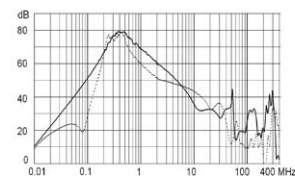
64A (FMAC-091E-6410)



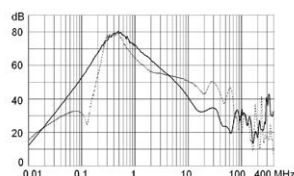
80A (FMAC-091T-8010)



110A (FMAC-091G-H110)



150A (FMAC-091G-H210)



### All Variants

| Rated Current @<br>Tu 40°C (75°C) [A] | Characteristic   | Rated Voltage [VAC] | Tripped Power<br>Dissipation [W] | Leakage<br>Current [mA]<br>@ 440V <sub>L</sub> | Contact Resi-<br>stance [mΩ] | Weight<br>[kg] | Screw clamps<br>[mm <sup>2</sup> ] 2) | Housings | Order Number   |
|---------------------------------------|------------------|---------------------|----------------------------------|------------------------------------------------|------------------------------|----------------|---------------------------------------|----------|----------------|
| 16                                    | High attenuation | 480                 | 6                                | 8.9                                            | 7.6                          | 1 kg           | 4                                     | 1C       | FMAC-091C-1610 |
| 25                                    | High attenuation | 480                 | 8                                | 8.9                                            | 4.1                          | 1 kg           | 4                                     | 1C       | FMAC-091C-2510 |
| 36                                    | High attenuation | 480                 | 10                               | 8.9                                            | 2.5                          | 1.3 kg         | 10                                    | 1D-10    | FMAC-091D-3610 |
| 50                                    | High attenuation | 480                 | 13                               | 10.2                                           | 1.7                          | 1.7 kg         | 10                                    | 1D-10    | FMAC-091D-5010 |
| 55                                    | High attenuation | 480                 | 14                               | 10.2                                           | 1.5                          | 1.7 kg         | 10                                    | 1D-10    | FMAC-091D-5510 |
| 64                                    | High attenuation | 480                 | 17                               | 10.2                                           | 1.4                          | 2 kg           | 16                                    | 1E       | FMAC-091E-6410 |
| 110                                   | High attenuation | 480                 | 28                               | 11.8                                           | 0.8                          | 5.8 kg         | 50                                    | 1G       | FMAC-091G-H110 |
| 150                                   | High attenuation | 480                 | 40                               | 11.8                                           | 0.6                          | 7 kg           | 50                                    | 1G       | FMAC-091G-H210 |
| 80                                    | High attenuation | 480                 | 22                               | 11.1                                           | 1.1                          | 5.1 kg         | 25                                    | 1T       | FMAC-091T-8010 |
| 64                                    | High attenuation | 480                 | 17                               | 10.2                                           | 1.4                          | 2 kg           | 16                                    | SF       | FMAC-3FSF-6410 |

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 mm<sup>2</sup> values can be found in the general product information <https://www.schurter.com/en/FAQ#10>

### Packaging unit

1 Pcs

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А