

IEC Appliance Inlet C20 with Filter, Circuit Breaker TA45 (recessed)



Screw-on from front side
Rocker non-illuminated
white



Screw-on from front side
Rocker illuminated
orange



See below:
[Approvals and Compliances](#)

Description

- Panel mount :
Screw-on mounting from front side
- 3 Functions :
Appliance Inlet Protection class I , circuit breaker type TA45 2-pole
, Line filter in standard and medical version
- Quick connect terminals 6.3 x 0.8 mm

Characteristics

- All single elements are already wired
- Circuit Breaker non-illuminated or illuminated
- With EMC-shield
- Suitable for use in equipment according to IEC/UL 60950
- Suitable for use in medical equipment according to IEC/UL 60601-1

Other versions on request

- Variant with notch for V-Lock mating Cordsets

References

Alternative: version without line filter [EF11](#)
Alternative: Standard version

Weblinks

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

Technical Data

| | |
|---------------------------------|---|
| Ratings IEC | 12 - 16 A @ Ta 40 °C / 250 VAC; 50 Hz |
| Ratings UL/CSA | 12 - 20 A @ Ta 40 °C / 250 VAC; 60 Hz |
| Leakage Current | standard < 0.5 mA (250 V / 60 Hz) medical < 5 µA (250 V / 60 Hz) |
| Dielectric Strength | > 1.7 kVDC between L-N > 2.7 kVDC between L/N-PE Test voltage (2 sec) |
| Allowable Operation Temperature | -10 °C to 55 °C |
| Climatic Category | 10/055/21 acc. to IEC 60068-1 |
| IP-Protection | from front side IP40 acc. to IEC 60529 |
| Protection Class | Suitable for appliances with protection class I acc. to IEC 61140 |
| Terminal | Quick connect terminals 6.3 x 0.8 mm |
| Panel Thickness S | Screw: max 8 mm Mounting screw torque max 0.5 Nm |
| Material: Housing | Thermoplastic, black, UL 94V-0 |

| | |
|-------------------------|--|
| appliance inlet/-outlet | C20 acc. to IEC 60320-1, UL 498, CSA C22.2 no. 42 (for cold conditions) pin-temperature 70 °C, 16 A, Protection Class I |
| Circuit Breakers | Acc. IEC/EN 60934, UL 1077, CSA 22.2 no. 235 2-pole rocker switch, illuminated or non-illuminated. Optional with undervoltage- or remote trip release Short circuit capacity Icn: at In < 3A/240VAC : 10 x In at In ≥ 3A/240VAC : 300A |
| Line Filter | Standard and Medical Version, IEC 60939, UL 1283, CSA C22.2 no. 8 Technical Details |
| MTBF | > 100'000 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: EF12

| Approval Logo | Certificates | Certification Body | Description |
|--|-------------------------------|--------------------|------------------------------|
|  | VDE Approvals | VDE | Certificate Number: 40001520 |
|  | UL Approvals | UL | UL File Number: E72928 |



Product standards

Product standards that are referenced

| Organization | Design | Standard | Description |
|--|-----------------------|------------------|---|
|  | Designed according to | IEC 60320-1 | Appliance couplers for household and similar general purposes |
|  | Designed according to | IEC 60939 | Passive filters for suppressing electromagnetic interference |
|  | Designed according to | IEC 61058-1 | Switches for appliances. Part 1. General requirements |
|  | Designed according to | UL 498 | Standard for Attachment Plugs and Receptacles |
|  | Designed according to | UL 1283 | Electromagnetic interference filters |
|  | Designed according to | CSA C22.2 no. 42 | General Use Receptacles, Attachment Plugs, and Similar Wiring Devices |
|  | Designed according to | CSA C22.2 no. 8 | Electromagnetic interference (EMI) filters |







Application standards

Application standards where the product can be used

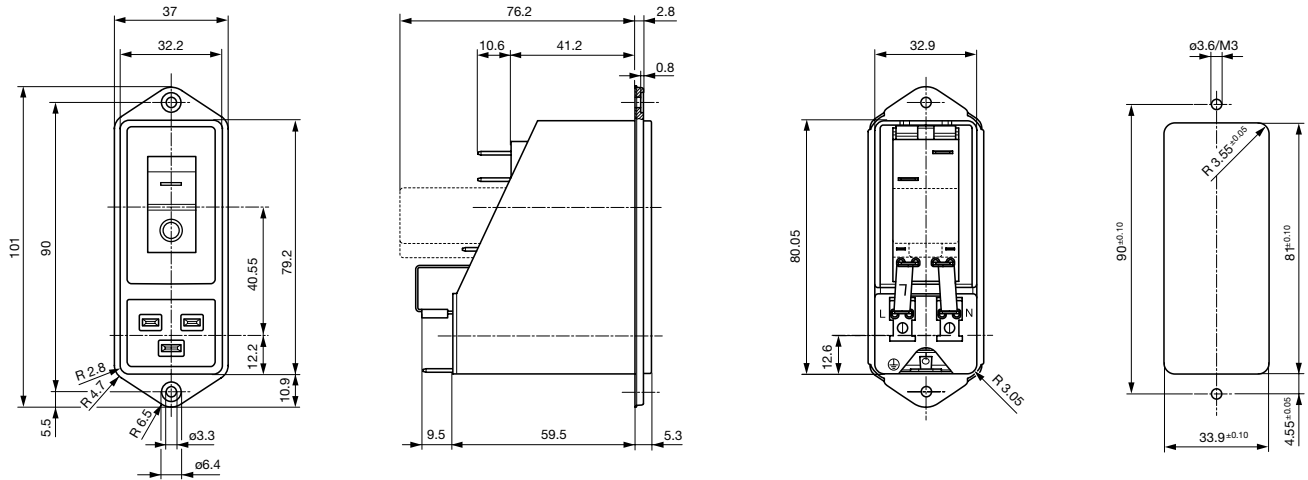
| Organization | Design | Standard | Description |
|--|--------------------------------|--------------|--|
|  | Designed for applications acc. | IEC/UL 60950 | IEC 60950-1 includes the basic requirements for the safety of information technology equipment. |
|  | Designed for applications acc. | IEC 60601-1 | Medical electrical equipment - Part 1: General requirements for basic safety and essential performance |

Compliances

The product complies with following Guide Lines

| Identification | Details | Initiator | Description |
|--|--|-------------|--|
|  | 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 | 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. |
|  | Landing Page V-Lock | SCHURTER AG | V-Lock system are based on a matching plug-dose combination. The connector is equipped with a notch intended for use with the latching cordset. The cord latching system prevents against accidental removal of the cordset. |
|  | Medical Technology | SCHURTER AG | Suitable for use in medical equipment according to IEC/UL 60601-1 |

Dimensions [mm]



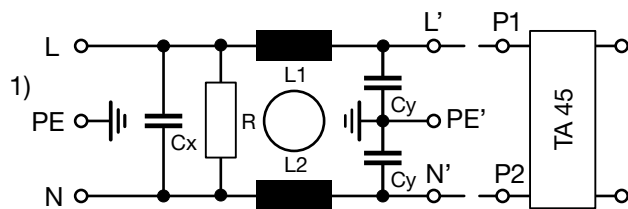
* --- Version TA45 with undervoltage release

Technical Data of Filter-Components

| Rated Current [A] | Filter-Type | Inductances L [mH] | Capacitance CX [nF] | Capacitance CY [nF] | R [M Ω] |
|----------------------|----------------------|-----------------------|------------------------|------------------------|-----------------|
| 12 | Standard Version | 2 x 0.8 | 100 | 2.2 | 1 |
| 16 | Standard Version | 2 x 0.6 | 100 | 2.2 | 1 |
| 20 | Standard Version | 2 x 0.3 | 100 | 2.2 | 1 |
| 12 | Medical Version (M5) | 2 x 0.8 | 100 | - | 1 |
| 16 | Medical Version (M5) | 2 x 0.6 | 100 | - | 1 |
| 20 | Medical Version (M5) | 2 x 0.3 | 100 | - | 1 |

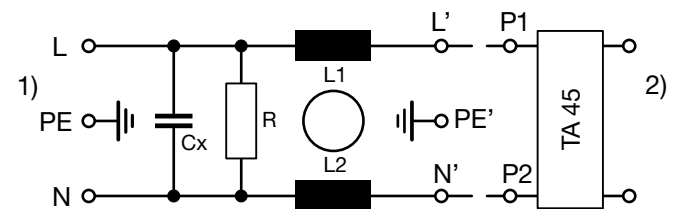
Diagrams

Standard Version



1) Line
2) Load

Medical Version (M5)

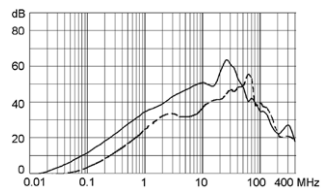


1) Line
2) Load

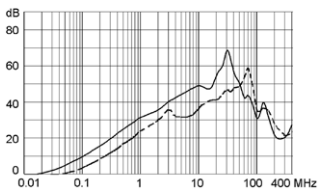
Attenuation Loss

Standard version

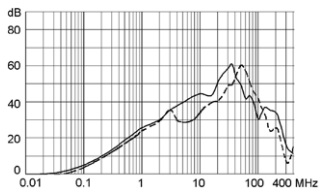
12 A



16 A

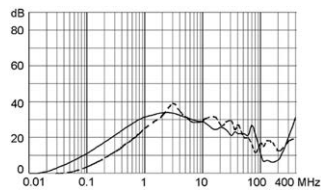


20 A

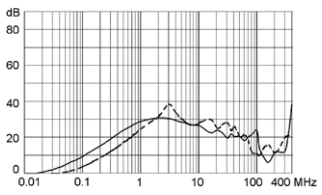


Medical version (M5)

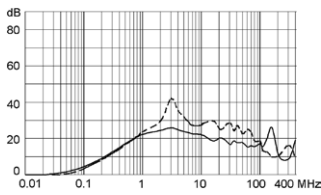
12 A



16 A



20 A



Effect of ambient temperature

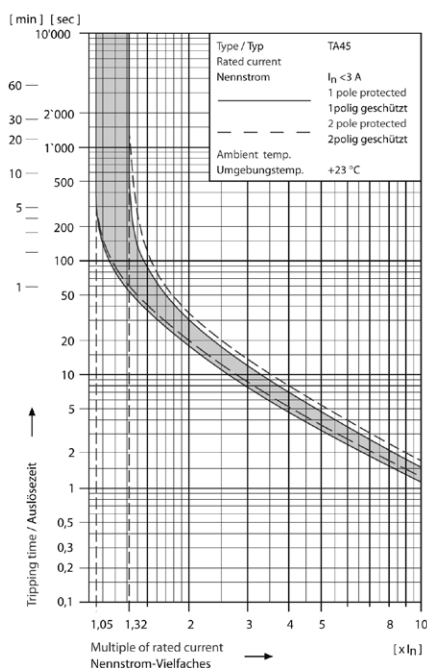
The units are calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor (typical value) from the table below:

| Ambient Temperature [°C] | Correction factor |
|--------------------------|-------------------|
| -10 | 0.89 |
| -5 | 0.91 |
| 0 | 0.92 |
| +23 | 1.00 |
| +30 | 1.03 |
| +40 | 1.08 |
| +55 | 1.16 |

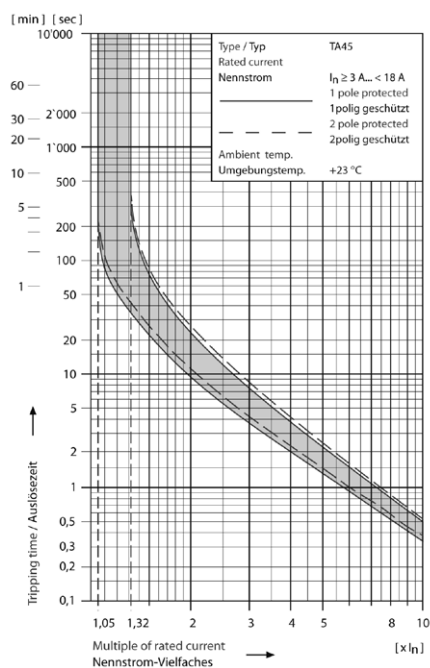
Example: Rated current = 5 A, Environmental temperature = 40 °C, --> Correction factor = 1.08, Resulting current = 5.5 A --> Fount to next higher rated current: 6 A

Time-Current-Curves

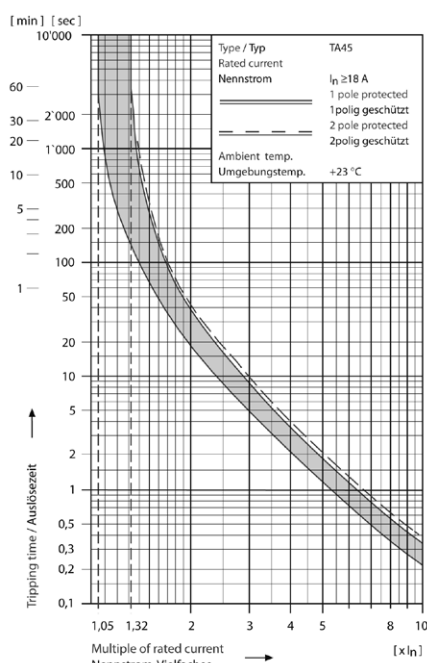
Tripping Characteristics $I_n < 3 \text{ A}$



Tripping Characteristics $I_n \geq 3 \dots < 18 \text{ A}$

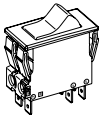


Tripping Characteristics $I_n \geq 18 \text{ A}$



Configuration code TA45

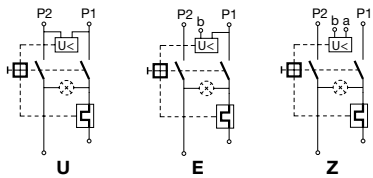
| Type | Configuration code TA45 | | | | | | | | | |
|------|-------------------------|---|---|---|---|---|---|---|---|---|
| EF12 | A | 3 | 2 | 6 | M | 1 | 5 | 0 | C | 0 |
| | - 000-2131-10-00 | | | | | | | | | |



- Circuit Breaker of Equipment
- 2-pole, rocker actuated
- Quick connect terminal
- Other types on request

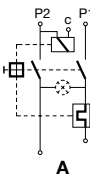
Without release: code C0

Undervoltage release



| | | |
|---|---|---|
| • | • | • |
| • | • | • |
| • | • | • |

Remote trip release



| Code | Rated voltage U_n |
|------|---------------------|
| 2 | 240 V AC |
| 3 | 230 V AC |
| 4 | 120 V AC |

Rated current circuit breaker of equipment

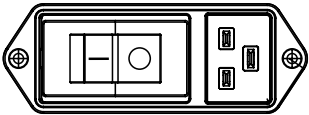
| I_n | Code | I_n | Code | I_n | Code | I_n | Code |
|-------|------|-------|------|-------|------|-------|------|
| 10,0 | 100 | 13,0 | 130 | 16,0 | 160 | 19,0 | 190 |
| 11,0 | 110 | 14,0 | 140 | 17,0 | 170 | 20,0 | 200 |
| 12,0 | 120 | 15,0 | 150 | 18,0 | 180 | | |

Other rated currents on request

Rocker legend

| Surface | Illustration | Colour of print |
|------------|--------------|-----------------|
| F embossed | — ○ | |
| H printed | ON OFF | white |
| K printed | ON OFF | black |
| L printed | — ○ | white |
| M printed | — ○ | black |
| P printed | I ○ | white |
| R printed | I ○ | black |

Position of the rocker legend e.g F

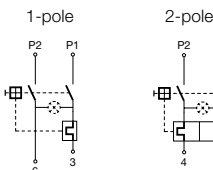


Colours

| Switch front | Rocker |
|--------------|------------------|
| W black | white |
| B black | black |
| 6 black | — orange transp. |

Diagram

Thermal overload protection



Without illumination

ABT ABD

With illumination 220...240 V
110...120 V

A12 A32
A14 A34

Configuration code (Order example)

| Type | Configuration code TA45 | | | | |
|------|-------------------------|---|-----|---|------------|
| EF12 | A 3 2 6 M 1 5 0 C 0 | - | 000 | - | 2131-10-00 |

Color
0 black

Interlocking
0 without V-Lock
1 with V-Lock

Terminal PE
0 without (PCII)
1 QC 6.3x0.8

Terminal L and N
1 QC 6.3x0.8, without connection to TA45
3 Connection to TA45 non insulated

Type of mains filter / capacitor / bleed resistor
1 standard X2,Y2 with bleed resistor
2 medical M5 X2 with bleed resistor

Rated current
1 20 A
2 16 A
3 12 A

The rated current of the line-filter must not be exceeded in the end application.

Variants

| Circuit Breakers | | | | Filter | | Connectors | | Internally wired | Config. Code | Order Number |
|-------------------|---------------|-----------------|----------------|-------------------|----------------------|------------------|--------|------------------|-------------------------|-------------------|
| Rated Current [A] | Rocker colour | Illumination | Add-on modules | Rated Current [A] | Filter Type | Protection Class | V-Lock | | | |
| 12 | black | non-illuminated | - | 12 | Standard Version | I | | prewired | EF12.ABDWF120C0.3110.01 | EF12.1034.3110.01 |
| 15 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABDBL150C0.1110.01 | EF12.1089.1110.01 |
| 15 | black | non-illuminated | - | 16 | Standard Version | I | | prewired | EF12.ABDWF150C0.2110.01 | EF12.0885.2110.01 |
| 16 | black | non-illuminated | - | 16 | Standard Version | I | | prewired | EF12.ABDBL160C0.2110.01 | EF12.2105.2110.01 |
| 16 | black | non-illuminated | - | 16 | Standard Version | I | | prewired | EF12.ABDWF160C0.2110.01 | EF12.0699.2110.01 |
| 16 | black | non-illuminated | - | 16 | Standard Version | I | | prewired | EF12.ABTBP160C0.2110.01 | EF12.3103.2110.01 |
| 16 | black | non-illuminated | - | 16 | Standard Version | I | | prewired | EF12.ABTWF160C0.2110.01 | EF12.0034.2110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.A126K200C0.1110.01 | EF12.3197.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.A326K200C0.1110.01 | EF12.2561.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABDBL200C0.1110.01 | EF12.2196.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABDWF200C0.1110.01 | EF12.0572.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABDWM200C0.1110.01 | EF12.2961.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABTWF200C0.1110.01 | EF12.0035.1110.01 |
| 20 | black | non-illuminated | - | 20 | Standard Version | I | | prewired | EF12.ABTWF200U2.1110.01 | EF12.1164.1110.01 |
| 16 | black | non-illuminated | - | 16 | Medical Version (M5) | I | | prewired | EF12.ABDWF160C0.2210.01 | EF12.0699.2210.01 |
| 20 | black | non-illuminated | - | 20 | Medical Version (M5) | I | | prewired | EF12.ABTWF200C0.1210.01 | EF12.0035.1210.01 |

Most Popular.

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

Packaging unit
 16 Pcs

Accessories

Description



Cord retaining kits
 Cord retaining strain relief

Flat head, H
 4700.0008

Mating Outlets/Connectors

Category / Description



[Connector Overview complete](#)

| | |
|---|-------|
| 4795, Mounting: Power Cord, Cable Connector: IEC C19 | 4795 |
| 4790, Mounting: Power Cord, Screw Connector: IEC C19 | 4790 |
| 0104U, Mounting: Power Supply Cord, Screw clamps Connector: IEC C19 | 0104U |

[Connector further types to EF12](#)

Mating Outlets/Connectors shuttered



[Power Cord Overview complete](#)

| | |
|---|---------|
| VAC19KS, Overview, V-Lock cord retaining, diverse Connector IEC C19, diverse, black | VAC19KS |
|---|---------|

[Power Cord further types to EF12](#)