

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

Standard- or Medical-Filter



V-Lock



C20



70° C

**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

Approvals

- VDE Certificate Number: 40001520
- UL File Number: E72928

Characteristics

- All single elements are already wired
- Line switch non-illuminated
Illuminated version on request
- Thermal overload protection
- Optional with undervoltage- or remote trip release
- With EMC-shield
- Suitable for use in equipment according to IEC 60950

Other versions on request

- Variant with notch for V-Lock mating Cordsets

ReferencesAlternative: version without line filter [EF11](#)

Alternative: Standard version

Weblinks

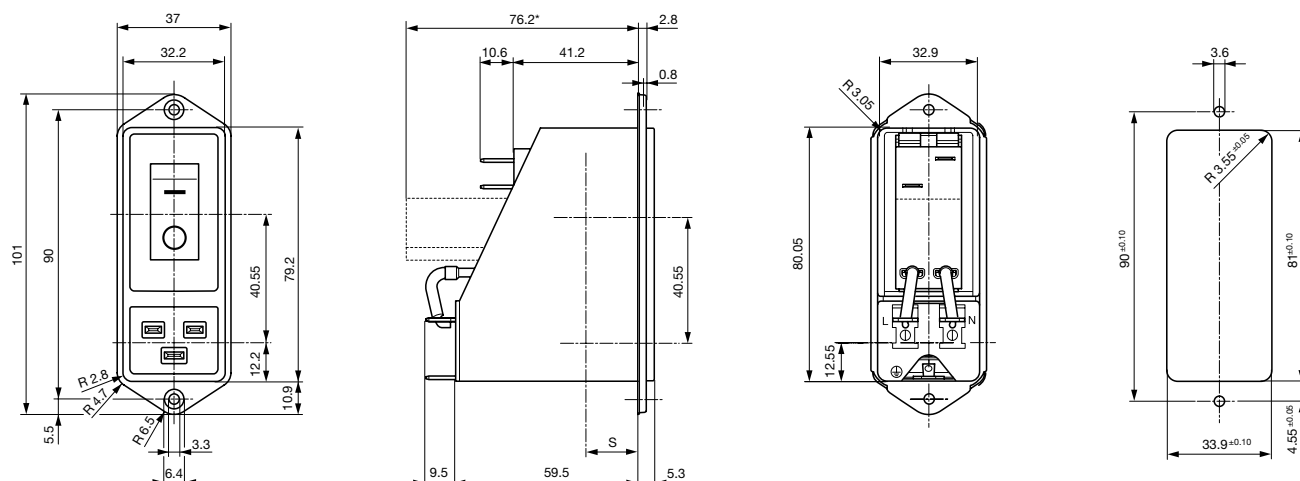
[pdf-datasheet](#), [html-datasheet](#), [General Product Information](#), [Approvals](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [Mating Connectors](#), [e-Shop](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#), [CAD-Drawings](#), [Accessories](#), [Mounting instruction](#), [Detailed request for product](#)

Newly available variants corresponding to V-Lock mating cordset. 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.

Technical Data

Ratings IEC	12 - 16A @ Ta 40 °C / 250VAC; 50Hz	Appliance-Inlet/-Outlet	C20 acc. to IEC 60320, UL 498, CSA C22.2 no. 42 (for cold conditions) pin-temperature 70 °C, 16A, Protection Class I
Ratings UL/CSA	12 - 20A @ Ta 40 °C / 125VAC; 60Hz	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
Leakage Current	standard < 0.5 mA (250 V / 60 Hz) medical < 5 µA (250 V / 60 Hz)	Line Switch	Rocker switch 2-pole, non-illuminated or illuminated, acc. to IEC 61058-1 Technical Details
Dielectric Strength	> 1.7 kVDC between L-N > 2.7 kVDC between L/N-PE Test voltage (2 sec)	Line Filter	Standard and Medical Version, IEC 60939, IEC 60601-1, UL 1283, UL 544, CSA C22.2 no. 8 Technical Details
Allowable Operation Temp.	-10 °C to 55 °C	MTBF	> 100'000h acc. to MIL-HB-217 F
Climatic Category	10/055/21 acc. to IEC 60068-1		
Degree of Protection	from front side IP 40 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 0.5Nm		
Material: Housing	Thermoplastic, black, UL 94V-0		

Dimensions



* --- Version TA45 with undervoltage release

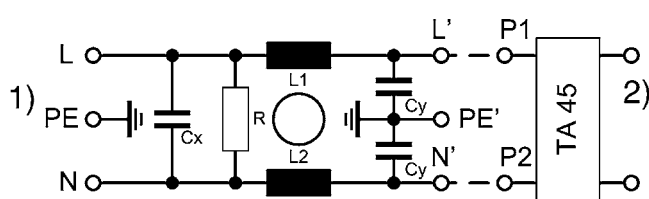
Technical Data of Filter-Components

Rated Current [A]	Filter-Type	Inductances L [mH]	Capacitance CX [nF]	Capacitance CY [nF]	R [MΩ]
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

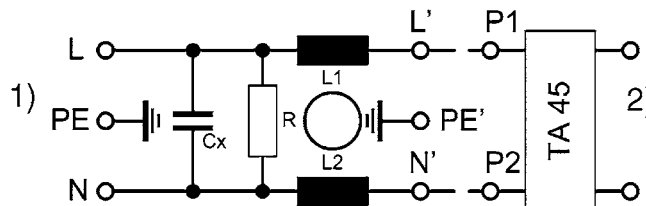
Diagrams

Standard version

Medical version



1) Line
2) Load



1) Line
2) Load

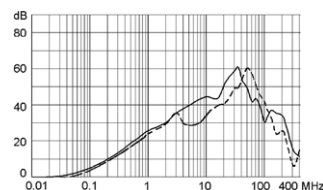
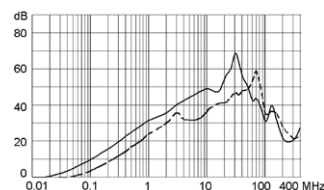
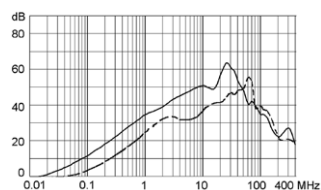
Attenuation Loss

Standard version

12 A

16 A

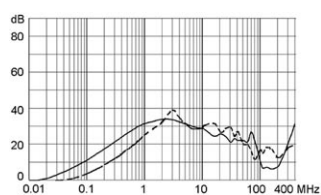
20 A



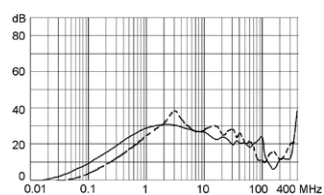
--- differential mode — common mode

Medical version (M5)

12 A



16 A



20 A

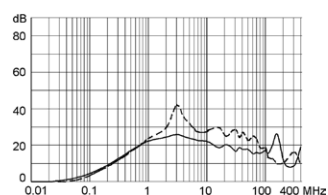


Table 1 Selection for type TA45

Order example



- Line switch
 - 2-pole, rocker actuated
 - Quick connect terminal
- Other types on request

Diagram

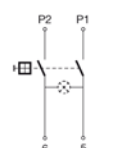
Thermal overload protection

without

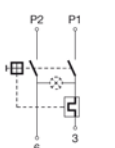
with 1-pole

with 2-pole

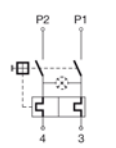
Without illumination



ABC



ABT



ABD

With illumination

220...240 V
110...120 V

A02

A04

A12

A14

A32

A34

Colours

Switch front

W black
B black
6 black

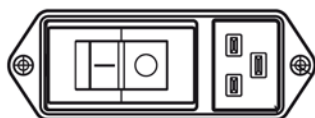
Rocker

white
 black
 — orange transp.

Rocker legend

Surface	Illustration	Colour of print
F embossed	— O	
H printed	ON OFF	white
K printed	ON OFF	black
L printed	— O	white

Surface	Illustration	Colour of print
M printed	— O	black
P printed	I O	white
R printed	I O	black

Position of the rocker legend
e.g F

Rated current:

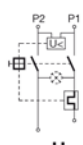
- Without thermal overload protection: code C00 } $I_n = 20\text{ A}$
- With thermal overload protection: rated current I_n (A)

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		

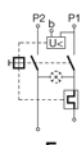
Other rated currents on request

Without release: code C0

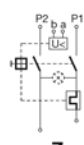
Undervoltage release



U

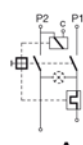


E



Z

Remote trip release



A

Code

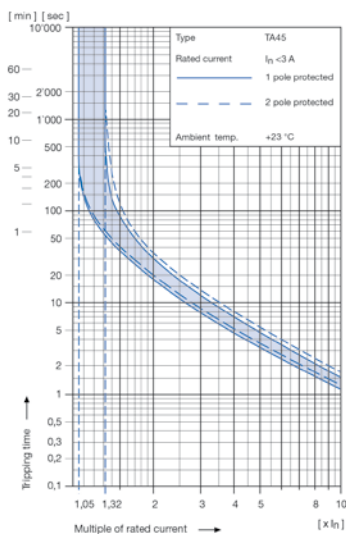
Rated
voltage U_n

•	2	240 V AC
•	3	230 V AC
•	4	120 V AC

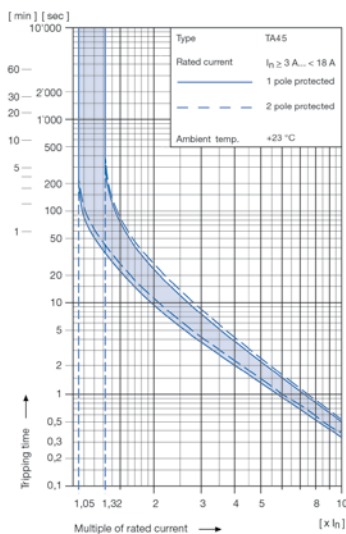
Technical data (continued)

Circuit breaker

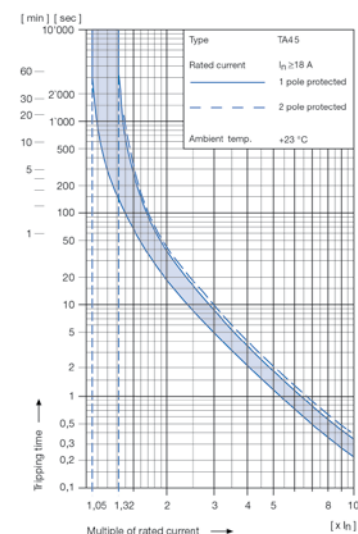
Tripping characteristics

 $I_n < 3 \text{ A}$ 

Tripping characteristics

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

Tripping characteristics

 $I_n \geq 18 \text{ A}$ 

1) Effect of ambient temperature

The unit is calibrated for an ambient temperature of +23 °C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table on the right side:

* 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

* Temperature must be measured at the rear of the breaker next to the terminals after equipment operating temperature has been reached.

1) Example

Rated current at +23 °C	6,0 A
Ambient temperature	+40 °C
Correction factor	1,08
Chosen rated current at +40 °C ambient temperature	6 A x 1,08 = 6,5 A

Order code for EF12 (order example)

Type	Order code TA45 (2-pole rocker-switch without accessories)
EF12.	A B T W F 1 5 0 C 0 . see table 1

11 10.01

Wiring

1 = wired

Protection class

0 = Class I, housing black

Panel mount / V-Lock

0 = Screw-on version

1 = Screw-on version with V-Lock

Terminals

1 = Quick connect terminals 6,3 x 0,8 mm

Line filter version

1 = standard

2 = medical

Line filter, rated current

1 = 20 A, 2 = 16 A, 3 = 12 A

Please note that Schurter will establish an internal new part number for logistical use in addition to the order code. The format of this internal part number is, for example EF12.xxxx.1110.01

Application note

The rated current of the line filter must be equal or higher than the rated current of the circuit-breaker

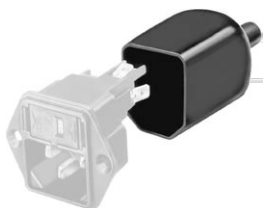
Other versions on request

– Rocker switch illuminated

Packaging unit 16 Pcs

Accessories

Description



[Assorted Covers](#)
Rear Cover



[Cord retaining kits](#)
Cord retaining strain relief

Mating Outlets/Connectors

Category / Description



[Connector Overview complete](#)

IEC Connector C19, Rewireable, Straight

0104U

IEC Connector C19, Rewireable, Angled

4790

IEC Connector C19, Rewireable, Straight

4795

[Connector further types to EF12](#)



[Power Supply or Interconnection Cord Overview complete](#)

Diverse Power Supply and Interconnection Cords 16 A

Cord Sets 15 A

[Power Supply or Interconnection Cord further types to EF12](#)