

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
- 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-datasheet](#), [html-datasheet](#), [General Product Information](#), [RoHS](#), [CHINA-RoHS](#), [REACH](#), [Mating Connectors](#), [e-Shop](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#), [Accessories](#)

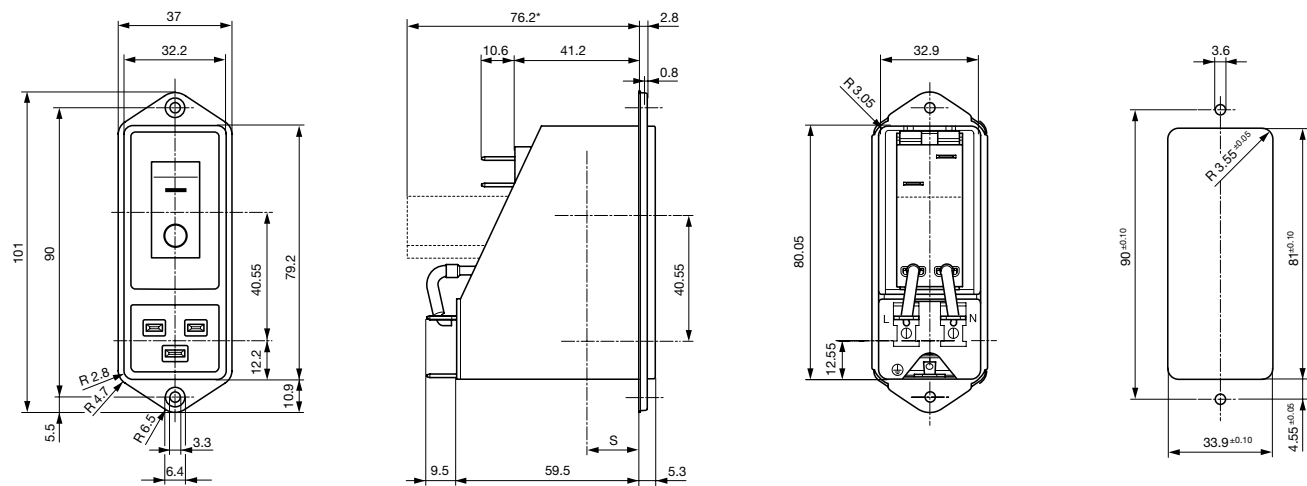
Newly available variants corresponding to V-Lock mating cordset. The connector is equipped with a notch intended for use with the latching cordset. The cord latching system prevents against accidental removal of the cordset.

Technical Data

Ratings IEC	12 - 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 Temp.	-10 °C to 55 °C
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 0.5 Nm
Material: Housing	Thermoplastic, black, UL 94V-0

Appliance-Inlet/-Outlet	C20 acc. to IEC 60320, 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 Switch	Rocker switch 2-pole, non-illuminated or illuminated, acc. to IEC 61058-1 Technical Details
Line Filter	Standard and Medical Version, IEC 60939, UL 1283, CSA C22.2 no. 8 Technical Details
MTBF	> 100'000h acc. to MIL-HB-217 F

Dimension



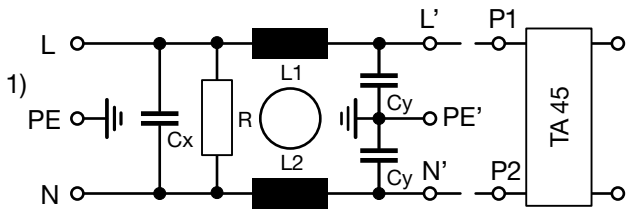
* --- Version TA45 with undervoltage release

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

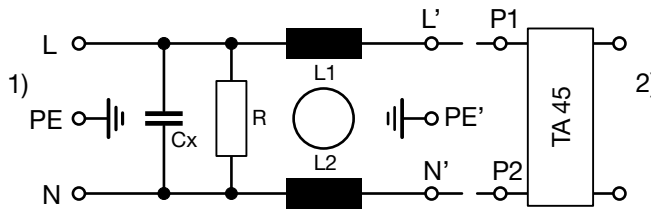
Diagrams

Standard version



1) Line
2) Load

Medical version

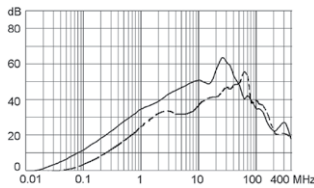


1) Line
2) Load

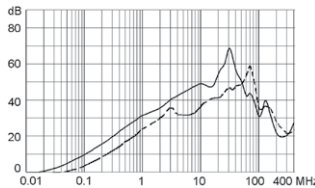
Attenuation Loss

Standard version

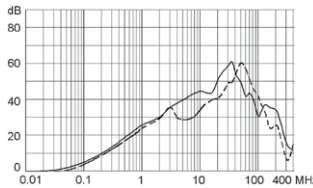
12 A



16 A



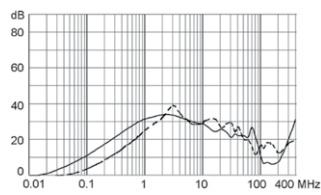
20 A



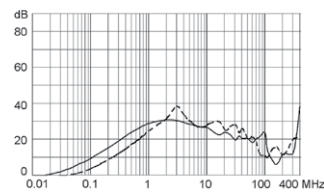
--- differential mode — common mode

Medical version (M5)

12 A



16 A



20 A

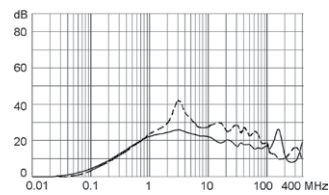


Table 1 Selection for type TA45
Order example



- 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 A02 110...120 V A04	220...240 V A12 110...120 V A14	220...240 V A32 110...120 V A34

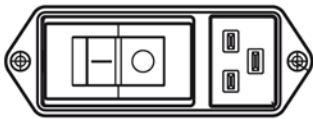
Colours

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

Rocker legend

Surface	Illustration	Colour of print	Surface	Illustration	Colour of print
F embossed			M printed		black
H printed		white	P printed		white
K printed		black	R printed		black
L printed		white			

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
•	•	•
•	•	•
•	•	•

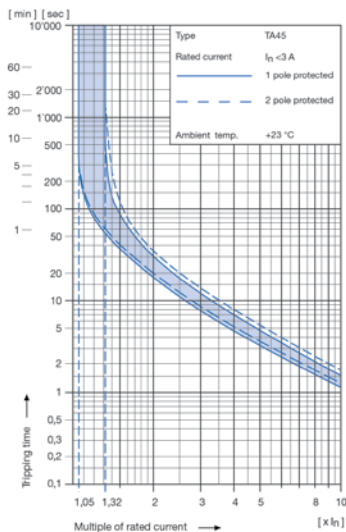
Remote trip release

	A	Code	Rated voltage U_n
•	•	2	240 V AC
•	•	3	230 V AC
•	•	4	120 V AC

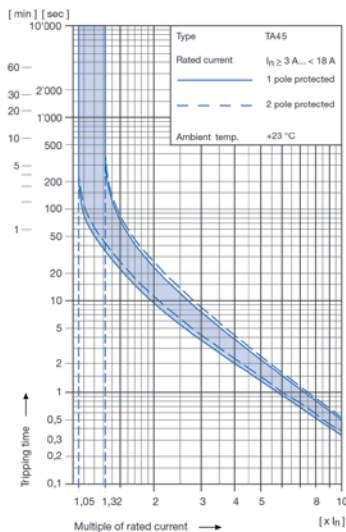
Technical data (continued)

Circuit breaker

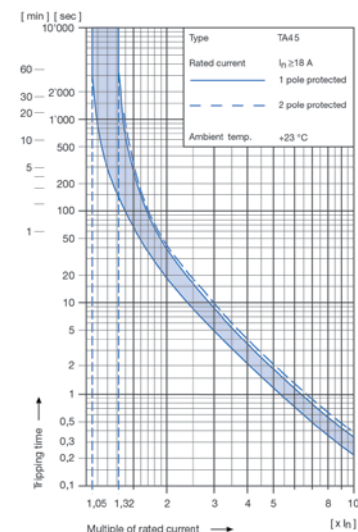
Tripping characteristics
 $I_n < 3 \text{ A}$



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

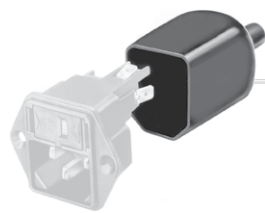
Other versions on request

- 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
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Power Supply or Interconnection Cord further types to EF12

Mating Outlets/Connectors shuttered



Power Cord Overview complete

Overview Power Cord with IEC Appliance Connector C19, V-Lock, straight	VAC19KS
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Power Cord further types to EF12