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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](#), [Distributor-Stock-Check](#), [Accessories](#), [Detailed request for product](#)

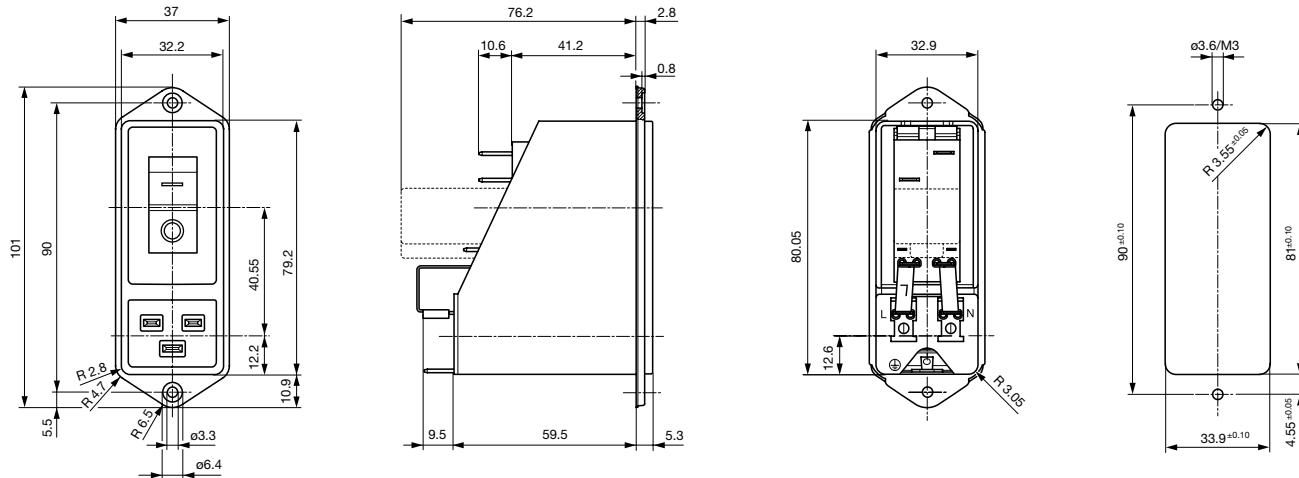
Newly available variants corresponding to V-Lock mating cordset. The connector is equipped with a notch intended for use with the latching cordset. The cord latching system prevents against accidental removal of the cordset.

## Technical Data

Ratings IEC	12 - 16A @ Ta 40 °C / 250VAC; 50Hz
Ratings UL/CSA	12 - 20A @ Ta 40 °C / 250VAC; 60Hz
Leakage Current	standard < 0.5mA (250V / 60Hz) medical < 5 µA (250 V / 60 Hz)
Dielectric Strength	> 1.7kVDC between L-N > 2.7kVDC 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 8mm 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, 16A, 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 $I_n < 3A/240VAC$ : $10 \times I_n$ at $I_n \geq 3A/240VAC$ : $300A$
Line Switch	Rocker switch 2-pole, non-illuminated or illuminated, acc. to IEC 61058-1 <a href="#">Technical Details</a>
Line Filter	Standard and Medical Version, IEC 60939, UL 1283, CSA C22.2 no. 8 <a href="#">Technical Details</a>
MTBF	> 100'000h acc. to MIL-HB-217 F

### Dimensions



\* --- Version TA45 with undervoltage release

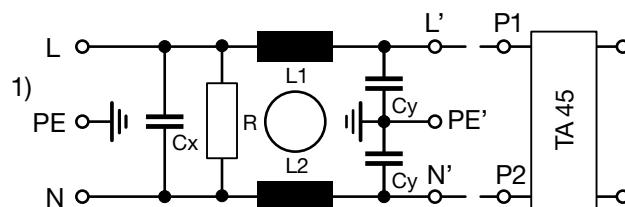
### Technical Data of Filter-Components

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

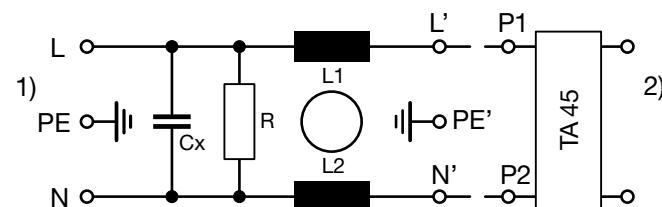
### Diagrams

Standard version

Medical version (M5)



1) Line  
2) Load

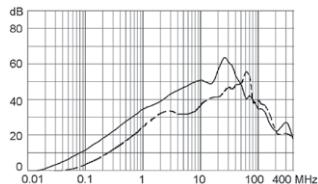


1) Line  
2) Load

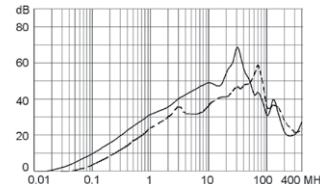
**Attenuation Loss**

Standard version

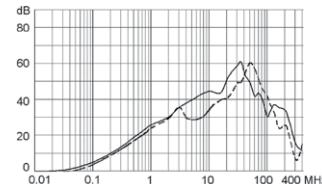
12 A



16 A



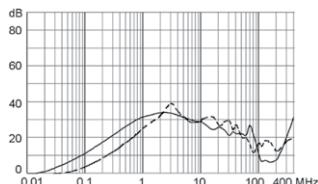
20 A



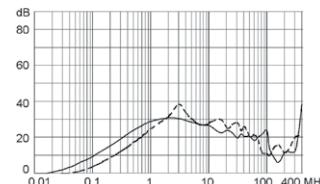
--- 50Ω differential mode — 50Ω common mode

Medical version (M5)

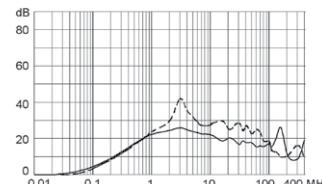
12 A



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					
	P2	P1			
	6	5			
Without illumination	ABC	ABT			
With illumination	220...240 V 110...120 V	A02 A04	A12 A14	A32 A34	ABD

**ABT****W****F****150****C0**

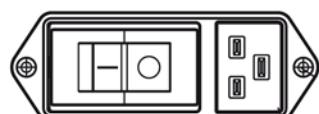
{

**Colours**

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

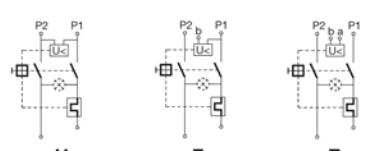
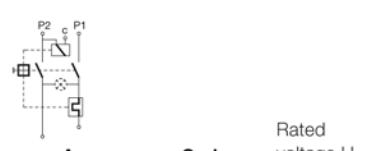
**Rocker legend**

Surface	Illustration	Colour of print	Surface	Illustration	Colour of print
F embossed	— O		M printed	— O	black
H printed	○ H	white	P printed	I O	white
K printed	○ H O	black	R printed	I O	black
L printed	— O	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****Remote trip release**Rated voltage  $U_n$ 

•	•	•
•	•	•
•	•	•

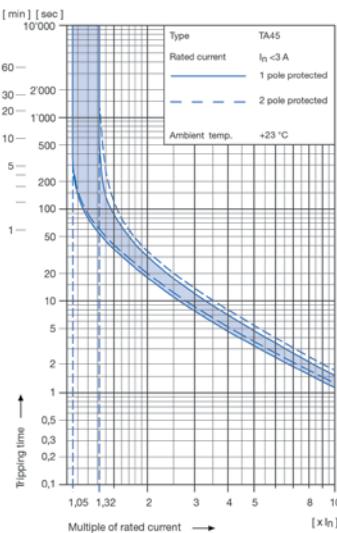
•	2	240 V AC
•	3	230 V AC
•	4	120 V AC

**Technical data (continued)**

**Circuit breaker**

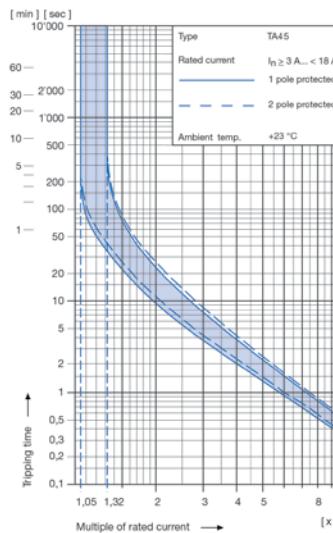
Tripping characteristics

$I_n < 3 \text{ A}$



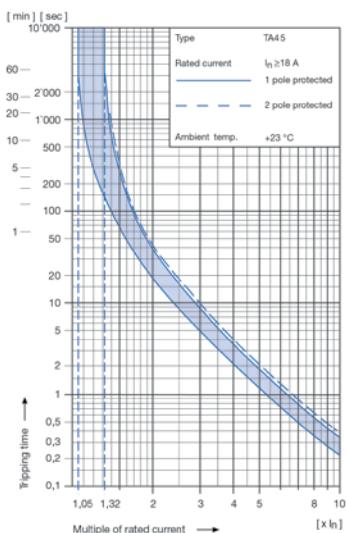
Tripping characteristics

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



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

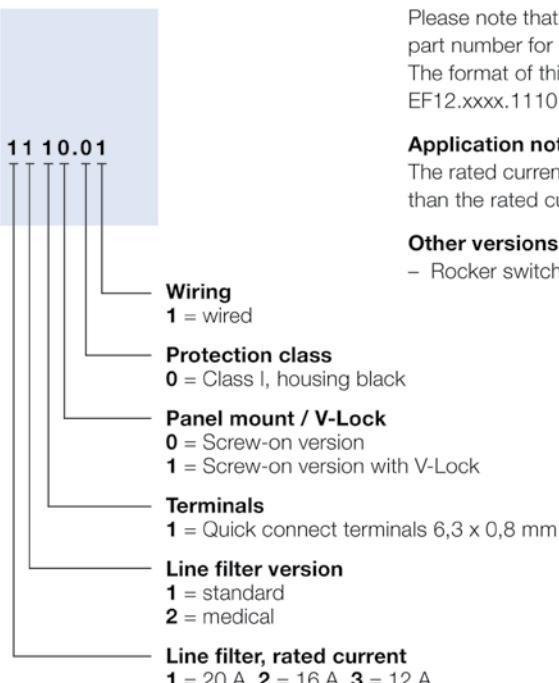
\* Temperature must be measured at the rear of the breaker next to the terminals after equipment operating temperature has been reached.

**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	<b>6 A x 1,08 = 6,5 A</b>

**Order code for EF12 (order example)**

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



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

### Variants

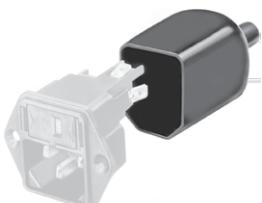
Circuit Breakers				Filter		Connectors				
Rated Current [A]	Rocker colour	Illumination	Add-on modules	Rated Current [A]	Filter Type	Protection Class	V-Lock	Internally wired	Config. Code	Order Number
12	black	non-illuminated	-	12	Standard Version	I		prewired	EF12.ABDWF120C0.3110.01	<a href="#">EF12.1034.3110.01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

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**Packaging unit** 16 Pcs

### Accessories

Description	
	Assorted Covers Rear Cover
	0859.0109
	Cord retaining kits Cord retaining strain relief
Flat head, Z	0888.0021
Flat head, H	4700.0008

**Mating Outlets/Connectors**

## Category / Description



## Connector Overview complete

IEC Connector C19, Rewireable, Straight 4795

IEC Connector C19, Rewireable, Angled 4790

IEC Connector C19, Rewireable, Straight 0104U

Connector further types to EF12

**Mating Outlets/Connectors shuttered**

## Power Cord Overview complete

Overview Power Cord with IEC Appliance Connector C19, V-Lock, straight VAC19KS

Power Cord further types to EF12