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





C20

70° C

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 datasheet, html-datasheet, General Product Information, Distributor-Stock-Check, Accessories, Detailed request for product, Microsite

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 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 60320-1, 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

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

Application standards

Application standards where the product can be used

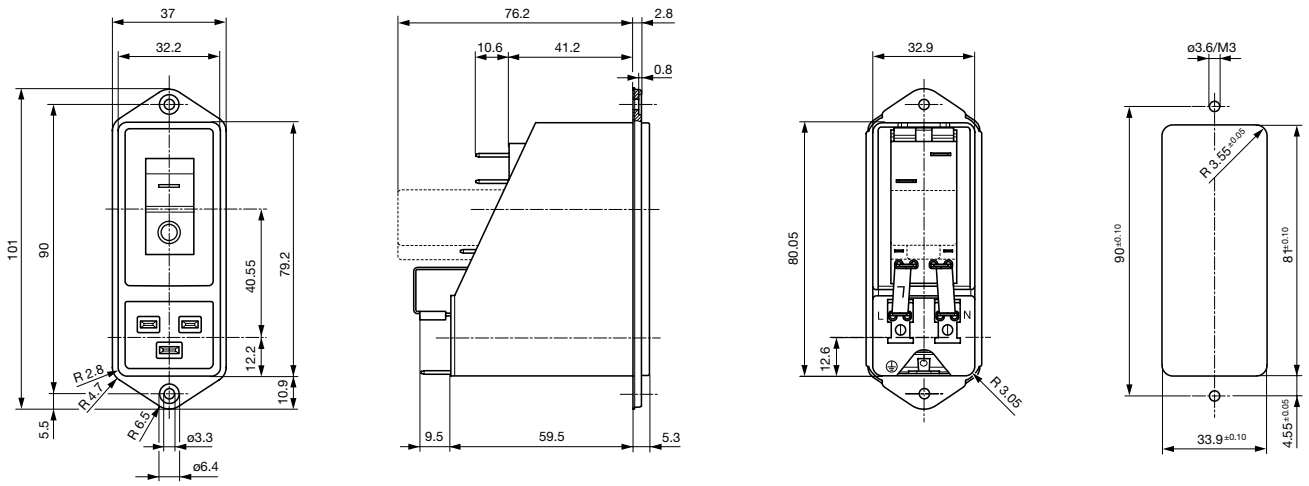
Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 60950	IEC 60950-1 includes the basic requirements for the safety of information technologyequipment.
IEC	Designed for applications acc.	IEC 60601-1	Medical electrical equipment - Part 1: General requirements for basic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

Compliances

The product complies with following Guide Lines

Identification	Details	Initiator	Description
CE	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 COMPLIANT	RoHS	SCHURTER AG	EU Directive RoHS 2011/65/EU
50	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	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.
V-Lock	MicrositeV-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 Equipment	SCHURTER AG	Suitable for use in medical equipment according to IEC/UL 60601-1

Dimension [mm]



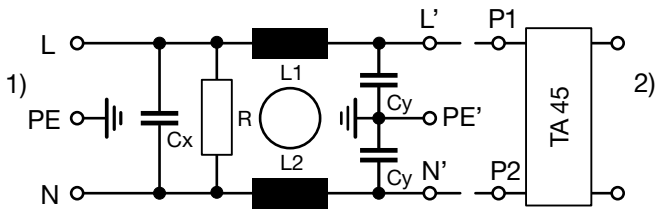
* --- Version TA45 with undervoltage release

Technical Data of Filter-Components

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

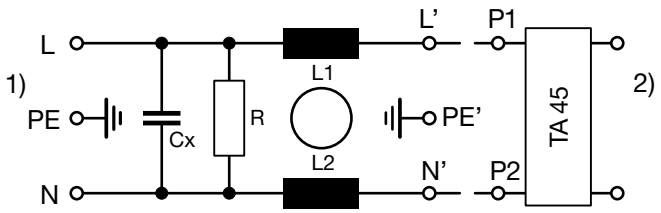
Diagrams

Standard version



1) Line
2) Load

Medical version (M5)



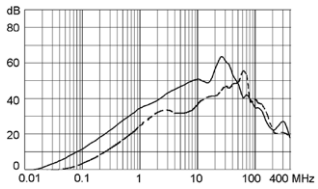
1) Line
2) Load

Attenuation Loss

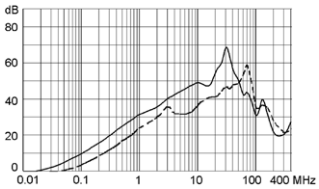
- - - - 50Ω differential mode _____ 50Ω common mode

Standard version

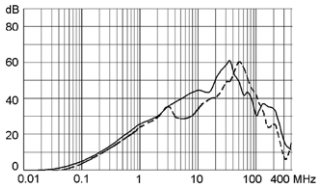
12 A



16 A

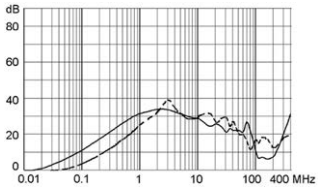


20 A

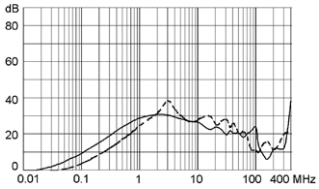


Medical version (M5)

12 A



16 A



20 A

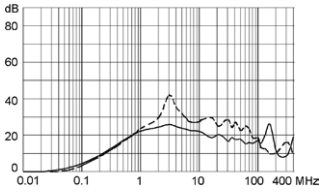
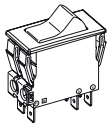


Table 1 Selection for type TA45
Order example

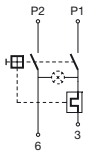
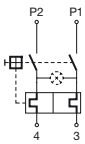


- Circuit Breaker of Equipment
- 2-pole, rocker actuated
- Quick connect terminal

Other variants on request

ABT | W | F | 150 | C0

Diagram

		1-pole	2-pole
Thermal overload protection			
Without illumination		**ABT**	**ABD**
With illumination	220…240 V	**A12**	**A32**
	110…120 V	**A14**	**A34**

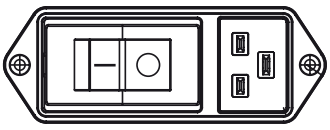
Colours

Switch front		Rocker	
W	black	white	–
B	black	black	–
6	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
M	printed	– O	black
P	printed	I O	white
R	printed	I O	black

Position of the rocker legend
e.g F



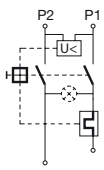
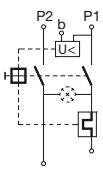
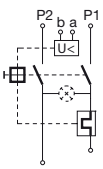
Rated current circuit breaker of equipment

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**		

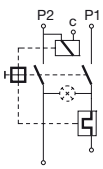
Other rated currents on request

Without release: code C0

Undervoltage release

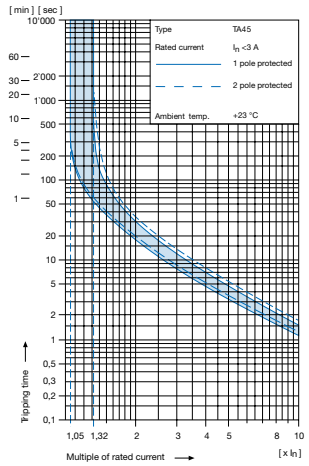
U	E	Z
		
•	•	•
•	•	•
•	•	•

Remote trip release

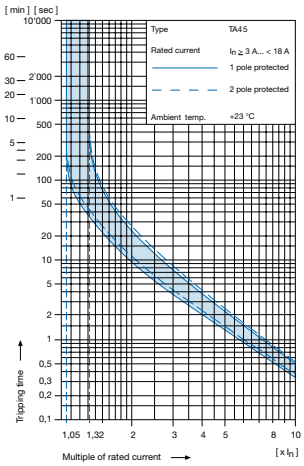
A	Code	Rated voltage U_n
		
•	**2**	240 V AC
•	**3**	230 V AC
•	**4**	120 V AC

Technical data (continued)
Circuit breaker

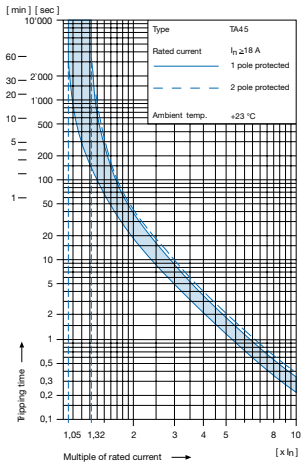
Tripping characteristics
I_n < 3 A



Tripping characteristics
$I_n \geq 3 ... < 18$ A



Tripping characteristics
$I_n \geq 18$ 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**

Configuration code (example)

Type	Order code TA45 (2-pole rocker-switch without accessories)
EF12 -	ABTWF150C0 - 000 - 1111 - 00 - 00
	see table 1

Color
0 black

Interlocking
0 without V-Lock
1 with V-Lock

Terminal PE
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)

1	20 A
2	16 A
3	12 A

1) The rated current of the line-filter must be equal or more than the rated current of TA45.

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	
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	

02.12.2017

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.