NEW

New compact
Power Entry Module EF12

Consisting of appliance inlet, circuit breaker for equipment and line-filter.

Now for high currents
- 12/16 A IEC/EN
- 12/16/20 A UL/CSA

EF12 EF12 EF12

APPLIANCE INLET WITH CIRCUIT BREAKER AND LINE-FILTER

EF12 supplements type EF11 launched December 2001.

SCHURTER

Certified Management Systems

ISO 9001/ISO 14001

European Foundation for Quality Management «General Member of»

Power entry module with line-filter, for high current, Type EF12

– Panel mount: – screw-on version, front-side
– Appliance inlet, circuit breaker type TA 45, line-filter, standard and medical versions

C US

Characteristics

- Circuit breaker, 2-pole, rocker actuated, non-illuminated. Illuminated version on request.
- Combined with thermal overload protection
- Optional with undervoltage release or remote trip release
- All single elements wired
- With EMC-shield
- Qualified for use in equipment according to IEC/EN 60950

Technical data

Rated voltage	125/250 VAC; 50/60 Hz
Rated currents I_n[1] Filter	12/16 A @ T_a 40 °C; VDE 12/16/20 A @ T_a 40 °C; UL/CSA
TA 45	10 up to 16 A; VDE, see table 1 10 up to 20 A; UL/CSA, see table 1
Leackage current, Standard	< 0,5 mA (250 V/60Hz)
Medical	< 5 µA (250 V/60Hz)
Test voltage (2 sec)	1,7 kVDC between L-N 2,7 kVDC between L/N-PE
Allowable ambient air temperatures T_a	–10 °C to +55 °C
Climatic category	10/055/21 acc.to IEC/EN 60068-1
Degree of protection (front side)	IP40 acc. to IEC 60529
Protection class	suitable for equipment with prot. cl. I, acc. to IEC 61140
Terminals	quick-connect 6,3 x 0,8 mm
Panel thickness s	s = max. 8 mm
Materials: Housing, plastic part	Thermoplastic, black, UL94 V-0

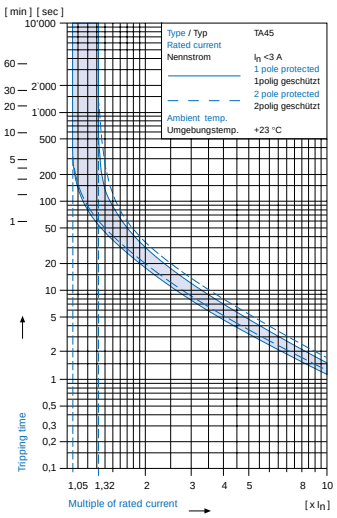
Appliance-inlet	acc. to IEC/EN 60320-1/C20, Protection class I, pin-temperature 70 °C (cold condition)
Circuit breaker type TA 45	acc. to IEC/EN 60934, UL 1077, CSA 22.2 no 235 2-pole rocker switch, non-illuminated. Optional with undervoltage- or remote trip release Short circuit capacity Icn: at I_n < 3 A/240 VAC: 10 x I_n at I_n ≥ 3 A/240 VAC: 300 A
Line filter, standard and medical	acc.to IEC 60939/EN 133200/ UL 1283/CSA C22.2 no 8

[1] **Application note**
The rated current of the line-filter must be equal or higher than the rated current of the circuit-breaker.

Technical data (continued)
Circuit breaker

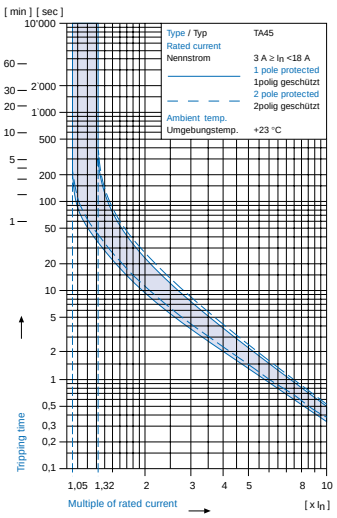
Tripping characteristics

I_n < 3 A



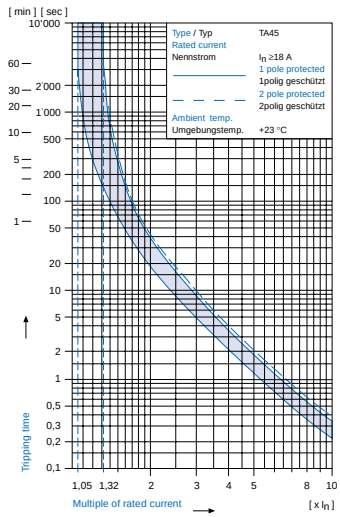
Tripping characteristics

I_n ≥ 3... < 18 A



Tripping characteristics

I_n ≥ 18 A



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.

Example

Rated current at +23 °C

6,0 A

Ambient temperature

+40 °C

Correction factor

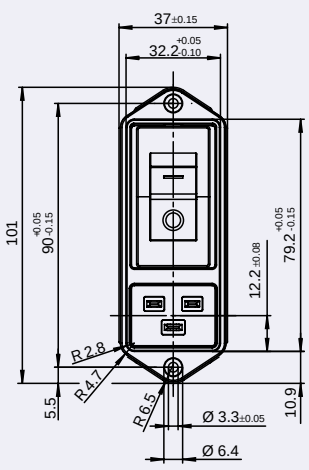
1,08

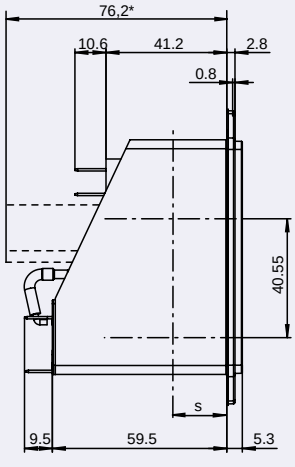
Chosen rated current at +40 °C ambient temperature

6 A x 1,08 = 6,5 A

Dimensions

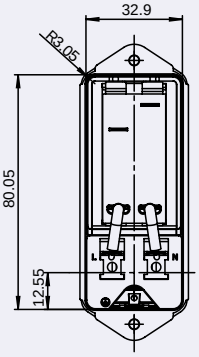
Screw-on mounting

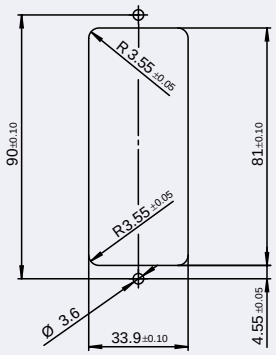




Mounting screw torque 0,5 Nm

Panel cut-out

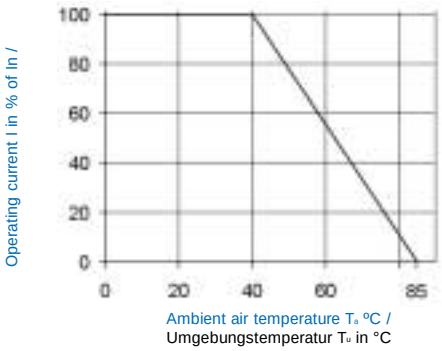




*- - - - - Version TA45 with undervoltage release

Derating curve

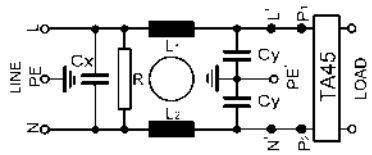
Correlation between max. operating current I and the ambient air temperature T_a



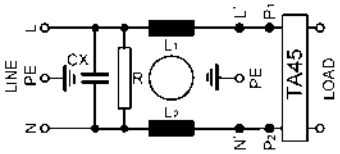
Diagram

Line-switch non-illuminated

Standard version



Medical version



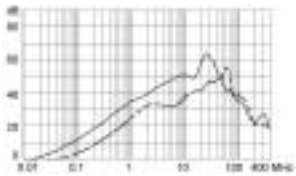
Technical data of filters-components

Rated current (A)	Filter-Type	Inductance L 1/L2 (mH)	Capacitance CX (nF)	CY (nF)	R (MΩ)	DC-Resistance @ 25 °C (mΩ)
12	Standard	2 x 0,8	100	2 x 2,2	1	7,5
16		2 x 0,6				5
20		2 x 0,3				3,5
12	Medical	2 x 0,8	100		1	7,5
16		2 x 0,6				5
20		2 x 0,3				3,5

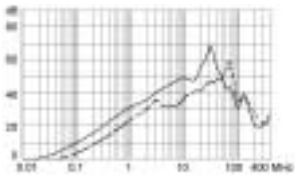
Attenuation loss line-filter

Standard version /
Standardversion

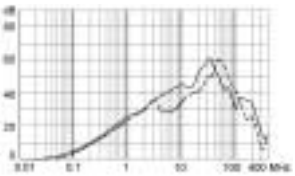
12 A



16 A

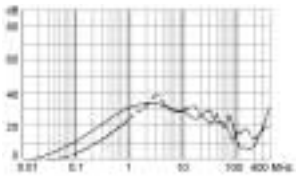


20 A

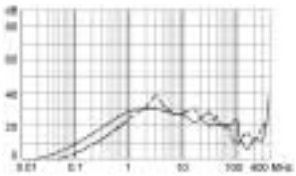


Medical version

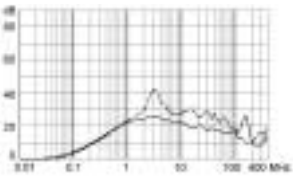
12 A



16 A



20 A



Order code for EF12 (order example)

Type /	Order code TA45 / (2-pole rocker-switch without accessories) /			
F2.	A B T W F 1 5 0 C 0.	11	10.	01
	see table 1			

- Line filter, rated current, 1 = 20 A, 2 = 16 A, 3 = 12 A
- Line filter version, 1 = standard, 2 = medical
- Terminals 1 = Quick connect terminals 6,3 x 0,8 mm
- Panel mount: 0 = Screw-on version
- Protection class: 0 = Class I, housing black
- Wiring: 1 = wired

Please note that Schurter will establish an internal new part number for logistical use in addition to the order code. For example, order code F2ABTWF200C0111 will reflect the internal part number of EF12.0035.1110.01.

Application note

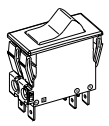
The rated current of the line-filter must be equal or less than the rated current of the circuit-breaker

Other versions on request

- Rocker switch illuminated

Table 1
Selection for type TA45
Order example

ABT	W	F	150	C0



- Line-switch
- 2-pole, rocker actuated
- Quick connect terminal

Other types on request

Diagram

		ABC	ABT	ABD
Without illumination				
With illumination	220…240 V	A02	A12	A32
	110…120 V	A04	A14	A34

Colours

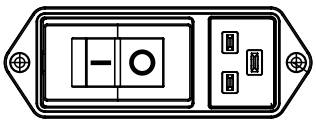
Switch front		Rocker	
W	black	white	–
B	black	black	–
6	black	–	orange transp.

Rocker legend

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

	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

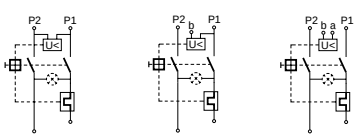


- **Without thermal overload protection: code C00** I_n = 16 A
- **With thermal overload protection: rated current I_n (A)**

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**		

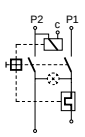
Without release: code C0

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