

File E72928
Project 02ME07911

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REPORT

on

COMPONENT - ELECTROMAGNETIC INTERFERENCE FILTERS

Schurter AG
Luzern, Switzerland

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component - **Electromagnetic Interference** Appliance Filters, Models EC12, followed by -1, -2 or -3, followed by 01 or 02 or 11 or 12, followed by 11 or 21, followed by -1 or -3, followed by 0, 1 or 3, followed by 0 or 1, followed by 0 or 1, may be followed by additional suffixes.

USR, CNR - Component - **Electromagnetic Interference** Appliance Filters, Models EF12, followed by -XXXXXXXXXX-XXX, followed by -1, -2 or -3, followed by 1 or 2, followed by 10, 30, 11 or 31, followed by -00 or -10, may be followed by additional suffixes. Where -XXXXXXXXXX-XXX indicates the Circuit Breaker code for the equipment.

Refer to Nomenclature Breakdown for type designation.

GENERAL:

These devices are EMI filters intended for incorporation in appliances. They are housed in a metal housing and incorporate with terminals for factory Wiring.

ELECTRICAL RATINGS:

Model No.	Voltage (V ac)	Current (A)	Number of Phases	Frequency (Hz)	Maximum Ambient Temperature (°C)
EC12, EF12, Series	125/250	12,16,20	1	50/60	40

MODEL DIFFERENCES:

The EC12 is identical to the EF12 Series except for the following:

1. The EF12 Series has a bigger frame than that of the EC12 Series. (For further details see Ill. 1).
2. The EF12 has a supplementary protector instead of a rocker switch.

NOMENCLATURE:

Type Code and Description for EC12 Series Filters

Example:

EC12	-	1	1	1	1	1	-	1	1	1	0	-	00
I		II	III	IV	V	VI		VII	VIII	IX	X		XI

No.	P/N Character Position	Mark	Description
I	1-4	EC12	Model Number Type Designation: EC12
II	5	1	Current Rating, in Ampere: 1 = 20 A 2 = 16 A 3 = 12 A
III	6	1	Rocker Switch: 0 = Non-illuminated 1 = Illuminated
IV	7	1	Mounting: 1 = Screw Mounting 2 = Snap-In 1.0 - 3.0 mm
V	8	1	Terminal L & N 1 = Quick Connect 6.3 x 0.8 mm 2 = Connection to switch
VI	9	1	Terminal PE 1 = Quick Connect 6.3 x 0.8 mm
VII	10	1	X-Capacitor: 1 = X2, 100 nF 3 = X1, 47 nF
VIII	11	1	Y-Capacitor: 0 = without Y-Capacitor 1 = Y2, 2.2 nF 3 = Y1, 2.2 nF
IX	12	1	Bleeder Resistor: 0 = without Resistor 1 = 1 MΩ
X	13	0	Locking system 0 = standard 1 = V-Lock
*XI	14-15	00	Customer Specific 00 = Standard 01 = Rocker switch rotated 180°

NOMENCLATURE:

Type Code and Description for EF12 Series Filters

Example:

EF12	-	0000000000-000	-	1	1	1	1	-	1	1	-	00
I		II		III	IV	V	VI		VII	VIII		

No.	P/N Character Position	Mark	Description
I	1-4	EF12	Model Number Type Designation: EF12
*II	5-17	0000000000-000	Circuit Breaker for Equipment: Without CBE = 0000000000-000 With CBE = see Configuration Code CBE Type TA45
*III	18	1	Current Rating, in Ampere: 1 = 20 A 2 = 16 A 3 = 12 A
IV	19	1	Type of mains filter / Capacitor / bleed resistor: 1 = standard / X2, Y2 / with resistor 2 = medical M5 / X2 / with resistor
V	20	1	Terminal L & N 1 = Quick Connect 6.3 x 0.8 mm 3 = Connection to TA45 (non-insulated)
VI	21	1	Terminal PE 0 = without Terminal PE (PC II) 1 = Quick Connect 6.3 x 0.8 mm
*VII	22	1	Locking system: 0 = standard 1 = V-Lock
VIII	23	1	Color: 0 = black
*IX	24-25	00	Customer Specific (Optional)

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REPLACEMENT PAGE

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ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USE):

***USR indicates the filters have been evaluated to the Standard for Electromagnetic Interference Filters, UL 1283, Sixth Edition.**

CNR indicates investigation to the requirements of the Canadian Standard for Electromagnetic Interference (EMI) Filters, CSA C22.2 No. 8-13, Fifth Edition.

The components covered by this report are filter assemblies intended to be used in end-use products where the acceptability of the combination has been determined by Underwriters Laboratories Inc.

SPECIAL INSTRUCTIONS:

For reference only, see Ill. 4 for details on production system.

UL FIELD REPRESENTATIVE AT SCHURTER (SK) s.r.o.:

Review only the EC12 Series filter. The product is assembled and subjected to the Production Line Testing as specified in appendix pages including applicable markings.

UL FIELD REPRESENTATIVE AT SCHURTER AG:

Review only the EF12 and EG12 Series filters. The product is assembled and subjected to the Production Line Testing as specified in appendix pages including applicable markings. The EC12 Series will be received and stored at this location.

CONDITIONS OF ACCEPTABILITY:

Use - For use only in equipment the acceptability of the combination has been determined by Underwriters Laboratories Inc. The following items should be considered in the end use product.

1. The filter shall be installed within an overall enclosure suitable for the end product application.
2. The filter shall be installed in compliance with the mounting, terminal, spacing and segregation of the end application.
3. Leakage current measurements were conducted for reference only and not exceeded 0.5mA. The leakage current in the end application shall be considered.
4. Spacings between terminals and dead metal parts shall comply with the end product requirements.
5. The terminals have not been evaluated for field wiring. The acceptability of the grounding terminal should be determined in the end-product.

- *6. The components were submitted and evaluated at a maximum manufacturer's recommended ambient as indicated in the Electrical Ratings Table. Suitability of the filter to operate in ambient temperatures other than those specified, needs to be determined in the end-use application. The case temperature should be measured and the suitability determined in the end use application.
7. The Abnormal Operation/Limited Short Circuit Test (UL 1283, Cl. 32; CSA C22.2 No. 8, Cl. 6.14) was performed on the following models using a short circuit current and fuse rating as indicated below.

Model	Represented Models	Test Current, A	Fuse rating, A
*EC12-10121-1111-00	EC12, EF12, Series	3500	30

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8. The term "medical" does not signify that the product has been tested to medical requirements. All medical applications should be considered in end-product evaluation.

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