File E495089
Project 4788972364

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REPORT

on

COMPONENT - ELECTROMAGNETIC INTERFERENCE APPLIANCE FILTERS

Schurter Ag
Lucerne, Switzerland

DESCRIPTION

PRODUCT COVERED:

USR, CNR – Passive Filter Units for Electromagnetic Interference Suppression, 5200 and 5220 Series, Models 5200-1yz-abc-de, 5220-1yz-abcd-ee, 5200-2yz-abc-de, 5220-2yz-abcd-ee, 5200-4yz-abc-de, 5220-4yz-abcd-ee, 5200-5yz-abc-de, 5220-5yz-abcd-ee, 5200-6yz-abc-de, 5220-6yz-abcd-ee, 5200-7yz-abc-de, 5220-7yz-abcd-ee where y = 1 or 2, z =1, a = 2 or 4, b = 0, 2, 4, or 5, c = 0 or 1, d = 0 or 1, e = 0, ee = 00. See Nomenclature Breakdown for more details.

GENERAL:

The devices covered by this Procedure are passive filters used to attenuate unwanted radio-frequency signals (such as noise or interference) generated from electromagnetic sources. They are intended to be factory-installed as a component part of end-use appliances or equipment connected to (supplied by) the branch circuits of a building wiring system.

ELECTRICAL RATINGS:

Model No.	Coverage	Rated Voltage, Vac	Phases	Rated Frequency, Hz	Rated Current, A	Rated Maximum Ambient Temperature, °C	Climatic Category
5200-1yz-abc-de 5220-1yz-abcd-ee	USR/CNR	125/250	1	50/60	1	40	25/85/21
5200-2yz-abc-de 5220-2yz-abcd-ee	USR/CNR	125/250	1	50/60	2	40	25/85/21
5200-4yz-abc-de 5220-4yz-abcd-ee	USR/CNR	125/250	1	50/60	4	40	25/85/21
5200-5yz-abc-de 5220-5yz-abcd-ee	USR/CNR	125/250	1	50/60	6	40	25/85/21
5200-6yz-abc-de 5220-6yz-abcd-ee	USR/CNR	125/250	1	50/60	8	40	25/85/21
5200-7yz-abc-de 5220-7yz-abcd-ee	USR/CNR	125/250	1	50/60	10	40	25/85/21

NOMENCLATURE BREAKDOWN SERIES 5200:

Example:

5200	-	x	y	z	-	a	b	c	-	d	e
I		II	III	IV		V	VI	VII		VIII	IX

No.	Example Mark	Description
I	5200	Model Number Series Designation
II	x	Rated current: 1 = 1A 5 = 6A 2 = 2A 6 = 8A 4 = 4A 7 = 10A
III	y	Mounting: 1 = Screw (front side) 2 = Snap-in (front side, 0.8–3mm)
IV	z	Terminals (L, N, PE): 1 = QC 6.3x0.8mm
V	a	X-Capacitor: 2 = X2, 47nF 4 = X2, 100nF
VI	b	Y-Capacitor: 0 = without Y-Capacitors (Medical M5 Filter) 2 = Y2, 470pF (Medical M80 Filter) 4 = Y2, 2200pF (Standard Filter) 5 = Y2, 4700pF (Standard Filter)
VII	c	Resistor: 0 = without resistor 1 = with (1MOhm)
VIII	d	Common Mode Choke: 0 = Standard 1 = 8mH (2A only)
IX	e	Reserve: 0 = Standard

NOMENCLATURE BREAKDOWN SERIES 5220:

Example:

5220	-	x	y	z	-	a	b	c	d	-	ee
I		II	III	IV		V	VI	VII	VIII		IX

No.	Example Mark	Description
I	5200	Model Number Series Designation
II	x	Rated Current: 1 = 1A 5 = 6A 2 = 2A 6 = 8A 4 = 4A 7 = 10A
III	y	Mounting: 1 = Screw (front side) 2 = Snap-in (front side, 0.8-3mm)
IV	z	Terminals (L, N, PE): 1 = QC 6.3x0.8mm
V	a	X-Capacitor: 2 = X2, 47nF 4 = X2, 100nF
VI	b	Y-Capacitor: 0 = without Y-Capacitors (Medical M5 Filter) 2 = Y2, 470pF (Medical M80 Filter) 4 = Y2, 2200pF (Standard Filter)
VII	c	Resistor: 0 = without resistors 1 = with 1MOhm resistor
VIII	d	Common Mode Choke: 0 = Standard 1 = 4mH (4A only)
IX	ee	Reserve: 00 = Standard

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Additional Details Regarding Electrical Ratings:

Coverage:

USR indicates the filters have been evaluated to the Standard for Passive Filter Units for Electromagnetic Interference Suppression - Part 3, UL 60939-3, First Edition.

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

Phases: 1 = Single Phase Alternating Current; 1S = Split Single Phase Alternating Current; 3Y = Three Phase Wye Alternating Current; 3H = Three Phase Hi-Leg Delta Alternating Current; 3D = Three Phase Delta Alternating Current; DC = Direct Current.

Maximum Ambient Temperature: Maximum Operating Ambient Temperature.

Climatic Category: Lower Limit Temperature/Upper Limit Temperature/Number of days of exposure to damp heat (steady state). The Lower Limit Temperature represents the rated Cold Operating Ambient Temperature for CSA C22.2 No. 8-13.

CONDITIONS OF ACCEPTABILITY:

Use - The components covered by this Report are Component Appliance Electromagnetic Interference Filters intended to be used in the end-use product where the acceptability of the combination with the end-use product has been determined by UL LLC.

Conditions of Acceptability - The following items should be considered to determine acceptability when evaluating the end-use product.

1. The filters shall be provided with an overall enclosure suitable for the applicable end product requirements. Mounting means should be considered in the end-use application.

2. The filter shall be installed in compliance with the terminal spacing and segregation requirements of the end use application.

3. The terminals have not been evaluated for field wiring.

4. Appliance filters inherently have high leakage currents. Leakage current measurements in the end use application should be considered for compliance with the end use application requirements.

5. The components were submitted and evaluated at a maximum manufacturer’s recommended ambient as indicated in the Electrical Ratings Table. The need for additional testing if these devices are used above this rating shall be considered in the end-use application.

6. The suitability of the grounding means in conjunction with the filter shall be evaluated in the end-use application.

7. These devices may be provided with double pole Attachment Plugs that incorporates the ability of the fusing of two lines. Acceptability of this arrangement must be evaluated in the end use application. Fuses shall not be provided in the grounded (neutral) conductor unless it opens all conductors when it operates, or is considered acceptable by the end use application.

CONDITIONS OF ACCEPTABILITY (CONT'D):

8. The Limited Short Circuit Test has been performed on these filters and they are capable of withstanding limited short-circuit conditions up to those stated in the table below, with the correlating Fuse/Circuit Breaker that were used. Evaluation for test currents higher than those stated in the table, or with Fuses or Circuit breakers rated higher or different than what is stated, shall be determined in the end-use product in which these filters are installed.

Filter Model	Short Circuit Current (A)	Fuse	Rated	Manufacturer
5200-711-450-00	2000	K5 Class	250Vac, 20A	Bussman
5220-711-4400-00	2000	K5 Class	250Vac, 20A	Bussman
5200-721-201-00	2000	K5 Class	250Vac, 20A	Bussman
5220-721-2010-00	2000	K5 Class	250Vac, 20A	Bussman
5200-111-450-00	200	K5 Class	250Vac, 20A	Bussman
5220-511-4400-00	1000	K5 Class	250Vac, 20A	Bussman