File E362999
Project 4789540585

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REPORT

on

Power Circuit and Motor-mounted Apparatus

TDK-LAMBDA UK LTD
ILFRACOMBE, UK

DESCRIPTION

The device is an open type AC/DC switch mode power supply intended to be used in industrial control applications for DIN-Rail mounting (building in), permanently connected (field wired), TN, TT and IT (star networks) power systems, Class I (earthed). It has an output with an adjustable voltage, passive relay signal circuit. Connector X2 may be used for external or remote control of the unit.

PRODUCT COVERED:

USL/CNL – Open type, Switch Mode Power Supply model: DRF960-24-1-xyz and DRF960-24-1/C02-xyz. Where x, y and z can be any alphanumeric character or blank. Where C02 equals coated PCB's (both sides).

GENERAL:

These devices are open type power supply modules intended for DIN rail mounting and to be used in combination with Industrial Control Equipment, in a pollution degree 2 environment (Controlled Environment). These devices are suitable for field wiring.

Enclosure	Open Type
Equipment Function	Switch Mode Power Supply model
Connection to mains supply	Permanent
Overvoltage Category	CAT II up to 5000m and CAT III up to 3000m
Pollution Degree	2
Means of Protection	Class I (earthed)
Environmental Conditions Temperature: Humidity: Altitude:	 Max ambient temperature 50 °C Full Load 70 °C with linear de-rating above 50 °C down to 75% of full load ≤ 95% without condensation Altitude of operation up to 3000 (OV CAT III) and up to 5 000m (OV CAT II)
For use in wet locations	No
Equipment mobility	Built-in
Operating Conditions	Continuous
Overall size of equipment (W x D x H)	110 x 123 x 139 mm
Mass of equipment (kg)	1.64 Kg
Marked degree of protection: IP Or Type rating to UL50/50E	Open Type Protection Provided by External Enclosure.

RATINGS:

Electrical:

Input:

Cat. No.	Input	
	Volt	W, VA
DRF960-24-1-xyz, where x, y and z can be any alphanumeric character or blank.	200-240 Vac, 50/60 Hz, 5.1-4.3 A	Maximum power 960 W
DRF960-24-1/C02-xyz, where CO2 equals Coated PCB's both sides. where x, y and z can be any alphanumeric character or blank.	200-240 Vac, 50/60 Hz, 5.1-4.3 A	Maximum power 960 W

Output:

- O/P: 24-28 Vdc, 40-34.3 A

Other:

NOMENCLATURE:

DRF960-24-1-xyz, where x, y and z can be any alphanumeric character or blank.

DRF960-24-1/C02-xyz. Where x, y and z can be any alphanumeric character or blank. Where C02 equals coated PCB's (both sides).

TECHNICAL CONSIDERATIONS (NOT FOR UL FIELD REPRESENTATIVES USE):

USL - Indicates Investigated to Standard UL61010-1 3rd Edition dated May 11, 2012, revision dated July 19, 2019 and UL 61010-2-201 2nd Edition Issue dated May 14, 2018.

CNL - Indicates Investigated to Canadian National Standard(s) CAN/CSA C22.2 No. 61010-1-12 3rd Edition dated May 2012, revision dated November, 2018 and CAN/CSA C22.2 61010-2-201 2nd Edition Issue dated May 14, 2018.

NOTE:

USL = US Standards – Listed
CNL = Canadian Standards – Listed

Due to harmonization of the UL61010-1 and UL61010-2-201 standards with IEC 61010-1 and IEC 61010-2-201 standards it is deemed that EN61010-1 and EN61010-2-201 requirements are also met.

TECHNICAL CONSIDERATION

use only in complete equipment where the acceptability of the combination has been determined by Underwriters Laboratories LLC. The following items should be evaluated to determine the acceptability for use in the end product.

1. Insulation between primary circuits and accessible dead metal complies with the requirements for: Basic insulation.

2. Creepage and clearance distances were based on a maximum working voltage across each critical location. Max working voltage 600V.

3. The Clearances and Creepage Distances have additionally been assessed for suitability up to 5000 m elevation for installation in OV cat II: multiplying factor of 1.48

4. The Clearances and Creepage Distances have additionally been assessed for suitability up to 3 000 m elevation for installation in OV CAT III: multiplying factor of 1.14.