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REPORT

ON

COMPONENT - DRIVERS FOR LIGHT-EMITTING-DIODE ARRAYS, MODULES AND CONTROLLERS
ADAPTER TECHNOLOGY CO LTD

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component LED Drivers for light-emitting-diode arrays, modules and controllers.

ELECTRICAL RATING:

Model No.	Input Voltage (Vac)	Input Freq (HZ)	Input Current (A)	Max Output Power (W) ##	Max Output Voltage (V dc)	Output Current (mA) @@@
AC-60CD350UV	120-277	50/60	0.6-0.26	60	171	350
AC-50C350AAL AC-50CD350UV AC-50C350AQY	120-277	50/60	0.5-0.22	50	143	350
AC-40CD350UV	120-277	50/60	0.4-0.17	40	114	350
AC-60CD450UV	120-277	50/60	0.6-0.26	60	133	350-450
AC-50CD450UV-DS	120-277	50/60	0.5-0.22	50	111	350-450
AC-40CD450UV-DS	120-277	50/60	0.4-0.17	40	89	350-450
AC-60CD700UV-QS	120-277	50/60	0.6-0.26	60	86	350-700
AC-50CD700UV-QS	120-277	50/60	0.5-0.22	50	71	350-700
AC-40C500UV-DSC	120-277	50/60	0.42-0.18	40	80	350-500
AC-40C500UV-DSC (Bare Board)	120-277	50/60	0.42-0.18	40	80	350-500
AC-75CD700UV-QS	120-277	50/60	0.68-0.3	75W	85-107	350-700
AC-Q40CD700ATFX	120-277	50/60	1.56-0.68	160W	71	700

All models except the AC-40C500UV-DSC are provided with a 0-10V dimming leads. @@@ - The models that have more than one current rating are provided with a switch to change the current.

- For all of the models provided with a switch, the maximum wattage is with the switch in the highest current switch position.

Suffix YY indicates the drivers may be provided with or without a secondary switch designated as D2, D3, or D4 which indicates adjustable output currents with switch per table above.

USR - Indicates investigated Standard For Safety For Light Emitting Diode (LED) Equipment for Use in Lighting Products, UL 8750

CNR - Indicates investigation to CSA Standard C22.2 No. 107.1 and CAN/CSA-C22.2 No. 250.13-12

GENERAL CHARACTER:

The LED Drivers are suitable for connection to a 120-277 Vac branch circuits. The output of these drivers is a constant current design.

The drivers consist of a PWB assembly with an enclosure that is formed of steel. An insulating barrier is provided between the board and the enclosure before potting.

The dimming circuit is for connection to 0-10 dimming systems. However, the circuit is to be treated and considered as part of the primary circuit in the end-use application.

Models with more than one output current rating are provided with a switch to vary the current.

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

Conditions of acceptability -

When installed in the end-use equipment, the following are among the considerations to be made:

1. The equipment shall be installed in compliance with the enclosure, mounting, spacing, casualty and segregation requirements of the ultimate application.
2. The driver case must be grounded in the end-use application. The need for conducting additional Leakage Current Test is to be determined as part of the end-product evaluation.
3. The driver is suitable for use in "DAMP" and "DRY" locations.
4. The secondary and dimming circuits (0-10V) should be considered as part of the primary circuit in the end-use application. All output circuits are considered hazardous.
5. Drivers Cat. Nos. AC-60CD1.4UV-TS, AC-60CD1.4ATSHH, AC-60CD1.4AQHE, AC-60CD1.4ATEF, AC-60CD1.4ATNU, AC-50CD1.4ATN, AC-60CD1.4APPU, AC-60CD1.4APTPU, AC-60CD1.4AFRD, AC-50CD1.4APUQ, AC-60CD1.05UVTS, AC-60CD1.15UVTS, AC-60CD700UV-QS, AC-60CD450UV-DS and AC-60CD350UV were temperature tested at 58°C. The maximum temperature on the enclosure, above T2 was 80.4°C with the thermocouple located on the top cover, 8.4 cm from the end of the driver where the input leads exit the unit and centered from the side.
6. Drivers Cat. Nos. AC-50C350AAL, **AC-50CD350UV**, AC-50C350AQY, AC-40CD350UV, AC-50CD450UV-DS, AC-40CD450UV-DS, AC-50CD700UV-QS, were temperature tested at 55°C. The maximum case temperature on the enclosure, above T2 was 81°C with the thermocouple located on the top cover, 1.5 cm from the end of the driver where the output leads exit the unit and centered from the side.
7. The maximum recorded temperatures on the isolation transformer (class F system) and the unit case for Model AC-Q40CD700ATFX were as follows when tested at an ambient of 45°C. These temperatures shall not be exceeded:

Transformer T2 Coil: 108°C
Tc Point on Case above T2: 72°C
8. All units utilize a Class B insulation system for the isolation transformer (T2).
9. Model AC-40C500UV-DSC was temperature tested in an oven at 60°C ambient. The maximum temperature on the enclosure, above T2 was 86.5°C with the thermocouple located on the top cover.

10. Driver Cat. No. AC-40C500UV-DSC (Bare Board) is provided with no enclosure and was temperature tested in an oven at 55°C.

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11. Model AC-40C500UV-DSC (Bare Board) is intended for building-in. Suitable Electrical, Fire and Mechanical enclosure shall be provided that is in compliance with all the applicable requirements regarding mounting, spacing, casualty, and segregation requirements in the end product applications.
12. For model AC-75CD700UV-QS, the driver utilizes a Class F (155°C) insulation system for Transformer T2 and T1, and Class B (130°C) for Transformer T3.
13. Model AC-75CD700UV-QS was temperature tested with a case temperature of 90°C above T2.
- *14. Models AC-75CD700UV-QS and AC-Q40CD700ATFX are considered to have an isolated output.
15. For model AC-75CD700UV-QS, testing was conducted using resistive and/or electronic loads resulting in an output rating current as note in the electrical ratings table.