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Project 11SC04255

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REPORT

On

COMPONENT - DRIVERS FOR LIGHT-EMITTING-DIODE ARRAYS, MODULES AND CONTROLLERS

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DESCRIPTION

PRODUCT COVERED:

USR/CNR - Class 2 LED Drivers, Models:

- AC-D18C350UVH,
- AC-25CD571ATKL, AC-23CD571ATNE
AC-42CD700UV-QS, AC-42CD700UV-QS
- AC-39CD700ARBHQ, AC-42CD700UVQSC
AC-29CD800ALS, AC40CD950UVBMQS
AC-40CD950AQBQ
- AC-38CD900AQBKH,
AC-50CD1.05UVTS, AC-60CD1.05UVTS
- AC-44CD1.15UVTS,
- AC-47CD1.14ATNF,
AC-60CD1.4UV-TS
AC-60CD1.4ATSHH
AC-60CD1.4ATNU, and AC-60CD1.4AQHE
- AC-60CD1.4ATEF,
- **AC-60CD1.4BTMT**
- AC-62CD1.3AHR

where YY indicates an optional switch designated as D2, D3, or D4 and represents two, three, or four different output current settings in the range below.

GENERAL:

The units are switch-mode isolating power supplies. The units consist of transformers and other related electronic circuitry provided with input/output pigtail leads for connection in the end-use application.

ELECTRICAL RATINGS:

| Cat. No. | Input Voltage (V) 50/60 Hz | Input Current (A) | Max Output Voltage (Vdc) | Max Output Current (mA) - CC |
|---|-------------------------------|-------------------|--------------------------|------------------------------|
| AC-D18C350UVH | 120-277 | 0.34-0.17 | 55 | 350 |
| AC-25CD571ATKL AC-23CD571ATNE | 120-277 | 0.27-0.11 | 46 | 620 |
| AC-42CD700UV-QS AC-39CD700ARBHQ AC-42CD700UV-QS | 120-277 | 0.44-0.19 | 60 | 700 |
| AC-42CD700UVQSC AC-29CD800ALS | 120-277 | 0.4-0.175 | 60 | 700 |
| AC40CD950UVBMQS AC-40CD950AQBQ AC-38CD900AQBKH | 120-277 | 0.4-0.17 | 47 | 950 |
| AC-50CD1.05UVTS | 120-277 | 0.5-0.22 | 57 | 1050 |
| AC-60CD1.05UVTS | 120-277 | 0.6-0.26 | 57 | 1050 |

| | | | | |
|--|----------------|-----------------|-----------|-------------|
| AC-60CD1.15UVTS | | | | |
| AC-44CD1.15UVTS | 120-277 | 0.44-0.19 | 45 | 1150 |
| AC-47CD1.14ATNF | 120-277 | 0.54-0.24 | 52 | 1240 |
| AC-60CD1.4UV-TS AC-60CD1.4ATSHH AC-60CD1.4ATNU | 120-277 | 0.6-0.26 | 57 | 1400 |
| AC-60CD1.4AQHE AC-60CD1.4ATEF | 120-277 | 0.6-0.26 | | |
| AC-60CD1.4BTMT | 347 | 0.2 | 43 | 1400 |
| AC-62CD1.3AHR | 120-277 | 0.6-0.26 | 48 | 1300 |

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CC = Constant Current

Where "D" after the model number indicates that it is provided with 0-10 V dimming circuitry

TECHNICAL CONSIDERATIONS (NOT FOR UL FIELD REPRESENTATIVE USE):

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

USR - Indicates investigation to the United States requirements UL Standard for Safety for Light Emitting Diode (LED) Equipment for Use In Lighting Products, UL 8750.

CNR - Indicates investigation to the Canadian standard for Light emitting diode (LED) equipment for lighting applications, CSA C22.2 no. 250.13-12.

The outputs were evaluated as Class 2 per UL Standard for Safety for Class 2 Power Units, UL 1310.

CN - Either the Canadian Standards Association Certification or Component Acceptance Mark or the UL Listing or UL Recognition Mark for Canada.

*Spacing's have been evaluated in accordance with an Overvoltage Category II and Pollution Degree 1 (potted enclosure) per Exception #1 of cl. 7.8.3 of UL 8750 (with live parts to enclosure spacing's evaluated per Table 7.6) and CSA C22.2 No. 223, Clause 4.10.6 and CSA C22.2 No. 250.13-12 via Table 5 (with live parts to enclosure spacing's evaluated per Table 7).

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

1. The power supply shall be installed in compliance with the enclosure, mounting, spacing, casualty, temperature, and segregation requirements of the end-use application.
2. All units utilize a Class B insulation system for the isolation transformer (T2).
3. The drivers were temperature tested in a 65°C oven. The maximum temperature on the enclosure, above T2, was:
 - 84.0°C for Models AC-42CD700UVQS1 and along with
 - 76.9°C for model AC-60CD1.4AQHE, and
 - 83.0°C for model AC-44CD1.15UVTS (represents models AC-25CD571ATKL AC-23CD571ATNE, AC-47CD1.14ATNF).
 - 78.4°C for model **AC-60CD1.4BTMT** (represents models **AC-60CD1.4BTMT**) on backside of T2.
 - **83.8°C for model** AC-62CD1.3AHR

Models AC-29CD800ALS, AC40CD950UVBMS and AC-D18C350UVH were tested in a 55°C ambient with a maximum temperature measured on the enclosure above T2 as 87.7°C for first two models and 75.4°C for model AC-D18C350UVH.

4. The products were tested while connected to a 20A branch circuit. Additional testing shall be considered in the end-use product if used on a branch circuit greater than 20A.
5. The products are provided with input and output pigtail leads. The suitability of the leads shall be determined in the end-use application.
6. Tests were conducted using resistive and/or electronic loads.
7. The enclosure is required to be grounded in the end-use application. Proper grounding shall be evaluated during the end-product installation since the unit only employs functional bonding to the case.
- *9. Models AC-42CD700UVQS1, AC-29CD800ALS, AC40CD950UVBMS, AC-42CD700UVQS1, AC-44CD1.15UVTS, **AC-60CD1.4BTMT**, AC-62CD1.3AHR are provided with a 0-10 V dimming circuit where testing utilized the 10 Volt OC condition as the worst case output condition.

Dim circuit evaluated per UL 935, SB8, SB9, and SB11 as "Class 2".

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10. For Model AC-D18C350UVH, the unit has two outputs which are not intended to be interconnected. Consideration shall be given to marking the end-product with, "WARNING - Risk of Fire or Electric Shock. Do not interconnect output terminations."

*11. LED Drivers, Models AC-29CD800ALS, **AC-60CD1.4BTMT**, AC-D18C350UVH, AC-47CD1.14ATNF, **AC-60CD1.4BTMT**, AC-62CD1.3AHR comply with LVLE requirements per CSA Informs Ref. No. I13-020 and therefore can be marked Class 2 for Canada. These outputs shall not be accessible which shall be determined in the end-use application.