

CERTIFICATE OF COMPLIANCE

Certificate Number 20151216-E472943
Report Reference E472943-20141215
Issue Date 2015-DECEMBER-16

Issued to: BENDER & WIRTH GMBH & CO
VOLMESTRASSE 161
58566 KIERSPE GERMANY

**This is to certify that
representative samples of**

COMPONENT - SOLID-STATE LIGHTING BASES,
HOLDERS AND CONNECTORS

USR – CNR: Component, LED Solid State Lighting Holders.
Series 4XX and 5XX.

Where “XX” can be alphanumeric digits identifying the
shape and the overall dimension of the holder.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

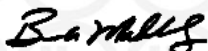
Standard(s) for Safety: UL 8754 & CAN/ULC-S8754 Standard for Holders, Bases,
and Connectors for Solid-State (LED) Light Engines and
Arrays

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



DESCRIPTION

PRODUCT COVERED:

USR - CNR: Component, LED Solid State Lighting Holders. Series 4XX **and 5XX**.

Where "XX" can be alphanumeric digits identifying the shape and the overall dimension of the holder.

GENERAL:

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These devices are LED holders for use with LED Arrays (COBs).

Series 4XX are intended for use for use with LED Light Engines with separate drivers. It is intended for indoor and outdoor use in signs, appliances and luminaires, when installed in accordance with the manufacturer's instructions.

HOLDER FOR HIGH TEMPERATURE:

The maximum holder operating temperature is indicated by a T symbol and 3-digits, show on catalogue. T180 shall indicate that the holder maximum limit temperature is 180°C.

ELECTRICAL RATINGS:

Max 80 Vdc, 5 A, max T180

Max 150 Vdc, 5 A, max T180

Max 450 Vdc, 5 A, max T180

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

USR indicates compliance with United States Standard for Standard for Holders, Bases, and Connectors for Solid-State (LED) Light Engines and Arrays, UL 8754, and the United States country specific requirements.

CNR indicates this product was investigated under the United States and Canadian (Bi-National) Standard for Holders, Bases, and Connectors for Solid-State (LED) Light Engines and Arrays, CAN/ULC-S8754, and the Canadian country-specific requirements.

For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Accessibility - When installed in the end-use product, consideration shall be given to the following:

1. These holders shall be operated within an enclosure as required by the end product investigation.
2. These holders shall be used within their established electrical ratings.
3. These LED holders are only suitable for use with LEDs powered by a LED driver or power supply.
4. The leads **optionally** employed shall be solid wire or solder dipped stranded rated 18 to 24 AWG.
5. The suitability of the lead voltage and temperature rating shall be determined in the end use.
6. Temperatures on these holders shall not exceed 180°C.
- *7. These Solid-state Assembly (CoB) holders, **rated for 450 Vdc**, must be mounted over a Recognized insulation pad in order to guarantee min. **5 mm** creepage and **3 mm** clearance between contacts and mounting surface. The suitability of the insulation pad must be verified in the end use.

MARKINGS:

Each device shall be marked plainly and permanently with the following:

- a. The manufacturer's name or trade name or trademark or other distinctive marking by which the organization responsible for the product may be identified.
- b. A distinctive catalog number or the equivalent.
- c. The electrical ratings. If not marked on product, electrical ratings shall appear on each carton or other container in which the device is packaged.

The Solid-state Assembly (CoB) holders may be molded in various color and shape.

Model No. 459

Fig. 1 - Ill. 1

Model No. 434

Fig. 2 - Ill. 2

Model No. 431

Fig. 3 - Ill. 3

General - Fig. 1 to 3 show overall views of examples of series 4XX.

1. Body - Made of mica. Composed min. two main pieces secured together by rivets. Overall dimension are shown in ill.1-3 but can be different. Provided with two or more openings pivot for mounting purpose.
2. Contacts - min Two provided. Copper or copper alloy, or nickel plated , min 0,15 mm thick; approx. dimension 5 by 7 by 1 mm; secured within compartment of Body by press fit.
3. Leads - **Optional**. min Two provided. R/C (AVLV2/CN), min 24 AWG up to 18 AWG, rated min. 70 V, 90°C, welded to contact.