

CERTIFICATE OF COMPLIANCE

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Issued to: TYCO ELECTRONICS CORP
2901 FULLING MILL RD
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This is to certify that representative samples of COMPONENT - JUNCTION BOXES FOR USE IN PHOTOVOLTAIC MODULES AND PANELS
Model PVEDGE-abcdefgh

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

Standard(s) for Safety: UL 3730, Photovoltaic Junction Boxes
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.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:  may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

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

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DESCRIPTION

PRODUCT COVERED:

USR - Component Photovoltaic Junction Boxes:

Models are as follows:

MODELS	DESCRIPTION
PVEDGE-abcdefgh	Single-pole junction box

GENERAL:

USR indicates investigation to UL 3730, 1st Edition - Standard for Safety for Photovoltaic Junction Boxes issued November 11, 2014, including latest revisions dated March 27, 2017.

These devices are photovoltaic junction boxes consisting of an attachment base and front cover for connection and mounting to thin-film, or crystalline PV modules and panels where the acceptability of the combination is determined by UL, LLC.

The devices have been evaluated for use with Tyco Electronics UL Recognized Component PV Connectors, model PV4-S1F4 (female) and PV4-S1M4 (male). These devices are fully assembled, crimped to Listed (ZKLA), type PV wire cable 12 AWG size, and rated at 1500 V dc.

RATINGS:

Model	Maximum System Voltage (V dc)	Maximum Rated Current (A dc)
*PVEDGE-abcdeTgh	1500 V dc	15 A
**PVEDGE-abcdeVgh	1500 V dc	17 A

* - The current rating is based on junction box construction without the use of Thermal Interface Material (TIM).

** - The current rating is based on junction box construction with the use of Thermal Interface Material (TIM).

The junction box is intended for factory wiring only.

MODEL DIFFERENCES:

All models are identical in construction, except for differences in number of contact rails, direct output termination, number of bypass diodes, and edge-mount construction for thin-film module application and non-edge mount for polymeric substrate application.

Model PVEDGE-abCdefgh series is identical to the rest of the devices, except that no provision to output termination is provided. The device is designed as a transition junction box to interconnect male and female single-pole junction boxes within the module's laminate construction.

Model Nomenclature:

PVEDGE-abcdefgh

PVEDGE	a	b	c	d	e	f	g	h
	I	II	III	IV	V	VI	VII	VIII

Where "abcdefgh" denotes the following model configuration:

- I denotes number of contact rails, where 1 = one contact rail, AND 2 = two contact rails.
- II denotes coding of connector outlet, where F = for plus coding, D = for minus coding, and G = for no connection.
- III denotes coding of the terminations, where G = no connections via direct termination.
- IV denotes no cable attachment, where A = no cables pre-attached.
- V denotes number of diodes, where 1 = one diode and Z = no diode(s) employed.
- VI denotes maximum allowable current, where T = 15 A and V = 17 A which employed the use of Thermal Interface Material (TIM).
- VII can be blank denotes the use of no potting compound.
- VIII denotes for edge mount, or non-edge mount configuration, where 1 = edge mount version (with flap) and 2 = non-edge mount version (without flap).

TECHNICAL CONSIDERATIONS (FOR ENGINEERING USE ONLY) (CONT'D):

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following conditions shall be met:

1. The suitability of the mounting means to the substrate of the end-product module shall be determined in the end use equipment.
2. The UL 1703 Temperature, Water Spray, Reverse Current Overload, and Humidity Cycling tests shall be conducted in the end use equipment.
3. The Bypass Diode Thermal test in accordance with IEC 61215 or 61646 Standard shall be conducted in the end use equipment.
4. These components use a plastic material which has an RTI of 125 °C. Consideration shall be given to the end use that operating temperatures not exceed 105 °C when evaluated at a 40°C ambient at full load.
5. These components have not been assessed for a maximum series fuse ampere rating. The maximum series fuse ampere rating shall be assessed in the end product.
6. These devices should be used only where they will not interrupt current. In addition, the need to include specific instructions in the end-use equipment's manual describing the method of achieving disconnect while not under load should be considered.
7. The junction box is intended for factory installation only and not user serviceable.
8. Low Temperature Impact test at -35 °C shall be conducted in the end-product if installed at temperature above 0 °C.