



Ryan Fetgatter
 E.M.O. TECHNOLOGIES LLC
 583 N REFUGIO RD
 SANTA YNEZ CA 93460

Date: 2017/09/20
 Subscriber: None
 PartySite: 1748281
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 PD No: 17042860
 Type: R
 PO Number:

Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
2013/09/30	1	1	Revised Description Page(s) 1,2	2017/09/19
2013/09/30	1	1	New Test Record 3	2017/09/19

Inspections at your plant will be conducted under the supervision of Ruben Sandoval Jr, UL INSPECTION CENTRAL/SOUTHERN CA-NV, HI, UL LLC, 29951 W. Avalon Dr., Buckeye AZ 85396., PHONE: 480-290-6987, FAX: 847-513-7826, EMAIL: Ruben.SandovalJr@ul.com

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at <http://ul.com/aboutul/locations>.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above.

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NBK File

UL INSPECTION CENTER 844

DESCRIPTION

PRODUCT COVERED:

USR, CNR: Component, Energy Usage Monitoring Equipment, Model abcde where a = A through F; b = 1 through 4; c = 0 through 3; d = 0 through 9; e = 0 through 7; may be followed by additional alphanumeric characters.

GENERAL:

The products covered are components for Electricity kWh energy usage monitoring systems that measure the consumption of electricity. These **open type** devices are components for **installing** into an **end use equipment** overall enclosure.

Accuracy and performance criteria for revenue generating watt-hour meters for use in metering of utilities was not included as part of this evaluation. These devices were evaluated to the requirements of the product safety standards noted below.

RATINGS:

Table of Voltage Ratings by Model:					
Model	Voltage Ratings			Power (W)	Overvoltage Category
	System	Voltage Sense	Operational		
A	1 Φ ; 2or3-wire	120 VAC L-N 240 VAC L-L	100 - 130 Vac 200-250 Vac	2	II
	3 Φ ; 4-wire	120/208 VAC Wye			
B	3 Φ ; 4 wire Delta	120/240 Vac 208 Vac	120 Vac, L-N; 200-250 Vac, N-3 rd Leg	2	II
C	1 Φ ; 2-wire	220 Vac	200-250 VAC L-N	2	III
	3 Φ ; 4 wire wye	220/380 Vac			
D	1 Φ ; 2-wire	277 Vac	250-300 VAC L-N	2	III
	3 Φ ; 4-wire wye	277/480 Vac	430-499 V L-L		
E	3 Φ ; 4 wire Delta	277/480 Vac 415 Vac	250-300 Vac L-N 415 Vac, N-3 rd Leg	2	III
F	3 Φ ; 3 wire Delta	240 Vac	200-250 V L-L	2	III

Ratings Continued:

(*) = Model with no communication ports.
Operational = Mains supply voltage fluctuation.

*Temperature: -10 to 60°C

Environmental: Pollution Degree 2

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

* **USR - Indicates Investigated to UL 61010-1 - Edition 3 - Revision Date 2016/04/29.**

* CNR - Indicates Investigated To Canadian National Standard(s) C22.2 No. 61010-1 - Edition 3 - Revision Dated **2015/07/01.**

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

Use - For use only in complete equipment where the acceptability of the combination is determined by UL.

Conditions of Acceptability -

1. This component meter was evaluated to pollution degree 2 environments with ambient temperatures 5 to 40°C.
2. These devices have not been evaluated as utility meters or for other revenue generation purposes. Performance and accuracy testing should be considered in the end-use system evaluation if intended for revenue generation.
3. Models A series and B series provide reinforced isolation to the communication ports ISOV In; RX-/ISO2; TX+/ISO1 and ISOGND. The MDRV1/2 and GND (low voltage meter connection) does not provide isolation and this circuit shall not be accessible in the end product.
4. Testing was conducted with a 15 A Branch Circuit Overcurrent Protection device. Consideration should be given to including this information in the end-use installation instructions.
5. These units are intended to be factory installed components, mounted within an end product enclosure having adequate strength and thickness. The meter has not been evaluated for use in switchgear or panelboards.

DESCRIPTION

PRODUCT COVERED:

USR, CNR: Component, Energy Usage Monitoring Equipment, Model abcde where a = A through F; b = 1 through 4; c = 0 through 3; d = 0 through 9; e = 0 through 7; may be followed by additional alphanumeric characters.

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2. These devices have not been evaluated as utility meters or for other revenue generation purposes. Performance and accuracy testing should be considered in the end-use system evaluation if intended for revenue generation.
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TEST RECORD NO. 3

No Testing or samples were required to evaluate the product for UL 61010-1 3rd edition, CSA C22.2 NO.61010-1-12, 3rd edition, UL 61010-2-030 and CSA C22.2 NO. 61010-2-030-12.

There was no change in product design so the measured spacings as originally evaluated under Test Record No. 1 were used to determine the compliance with the updated standards. All testing and spacings were reviewed under Test Record No. 1 and will be considered acceptable under the same conditions described there. This is due to the similarity in requirements for standard 61010 2nd and 3rd edition.

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in UL Standards 61010-1, 3rd Edition, April 29, 2016, and UL 61010-2-030, 1st edition, September 16, 2016, and CAN/CSA standards CSA C22.2 NO. 61010-1-12, 3RD Edition July 1, 2015, and CSA C22.2 NO. 61010-2-030-12, 1st edition, May 1, 2012, and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Test Record by:

Reviewed by:

Jeff Werner
Engineer

Brett VanDoren
Staff Engineer

Rudy Manzano
Staff Engineer
