CLASSIFICATION
Constructional Data Report (CDR)

1.0 Reference and Address			
Report Number	102705562SAT-001L	Original Issued: 27-Oct-2017	Revised: 31-Jul-2019
Standard(s)	Fire Test For Heat And Visible Smoke Release For Discrete Products And Their Accessories Installed In Air-Handling Spaces [UL 2043:2013 Ed.4]		

Applicant	Crestron Electronics Inc	Manufacturer 1	**Crestron Electronics Inc**
Address	15 Volvo Dr Rockleigh, NJ 07647	Address	6 Volvo Drive Rockleigh, NJ 07647
Country	USA	Country	USA
Contact	Mathews Thomas	Contact	Keith James
Phone	(201) 750-7004 Ext. 12347	Phone	(201) 750-7004 Ext. 11255
FAX	(201) 767-5771	FAX	
Email	mthomas@crestron.com	Email	kjames@crestron.com

Manufacturer 2	**EPI de Mexico S de RL de CV**
Address	Bolevard Independencia #1451 Int. 2 Parque Industrial Intermex Oriente, CP 32599 Juarez, Chihuahua
Country	Mexico
Contact	Alberto Alvarado Marcos Reyes
Phone	(915) 791-5299 (915) 791-5334
FAX	
Email	alberto.alvarado@neotech.com

2.0 Product Description	
Product	Wireless Controller
Brand name	Zūm™
Description	The product covered by this report is the Zūm™ series of wireless devices consisting of load controllers, keypads and sensors providing a simple energy management solution for commercial buildings. Multiple models are offered to support the choice of 16 Amp switching, 5 Amp or 16 Amp 0-10V dimming, and 20 Amp plug load control. Each model mounts directly to a 4-inch square junction box and pairs wirelessly with one or more Zūm wireless keypads to control a single lighting load with up to three scene presets.
Models	ZUMMESH-JBOX-20A-SW, ZUMMESH-JBOX-5A-LV, ZUMMESH-JBOX-16A-LV, ZUMMESH-JBOX-20A-PLUG, ZUMMESH-JBOX-PSU, ZUMMESH-NETBRIDGE, ZUMMESH-CCO, ZUMMESH-SIM, ZUMMESH-JBOX-DALI.
Model Similarity	All Models with prefix of ZUMMESH-JBOX and models ZUMMESH-NETBRIDGE, ZUMMESH-CCO, and ZUMMESH-SIM are all constructed of the same enclosure materials. ZUMMESH-JBOX-5A-LV: 5 Amps; ZUMMESH-JBOX-16A-LV: 16 Amps; ZUMMESH-JBOX-20A-SW: 16 Amps, high inrush, zero cross switching; ZUMMESH-JBOX-20A-PLUG: 20 Amps (or 16 Amps derated by 80%), high inrush, zero cross switching for receptacles ZUMMESH-JBOX-PSU: power supply for the Zūm Network Bridge or Zūm Contact Closure Output. ZUMMESH-NETBRIDGE: Accessory to ZUMMESH-JBOX host to enable wireless communication. ZUMMESH-CCO: Accessory to ZUMMESH-JBOX host which adds a low-voltage SPDT form C contact closure. ZUMMESH-SIM: Sensor Integration Module allows standard 24V Motion and Photo sensors to be integrated into the Zum system. ZUMMESH-JBOX-DALI: Junction Box Zone Controller for controlling DALI drivers.
Ratings	100-277 Volts AC, 50/60Hz (input)
Other Ratings	NA

3.0 Product Photographs

Photo 1 - Exterior view of ZUMMESH-JBOX series models

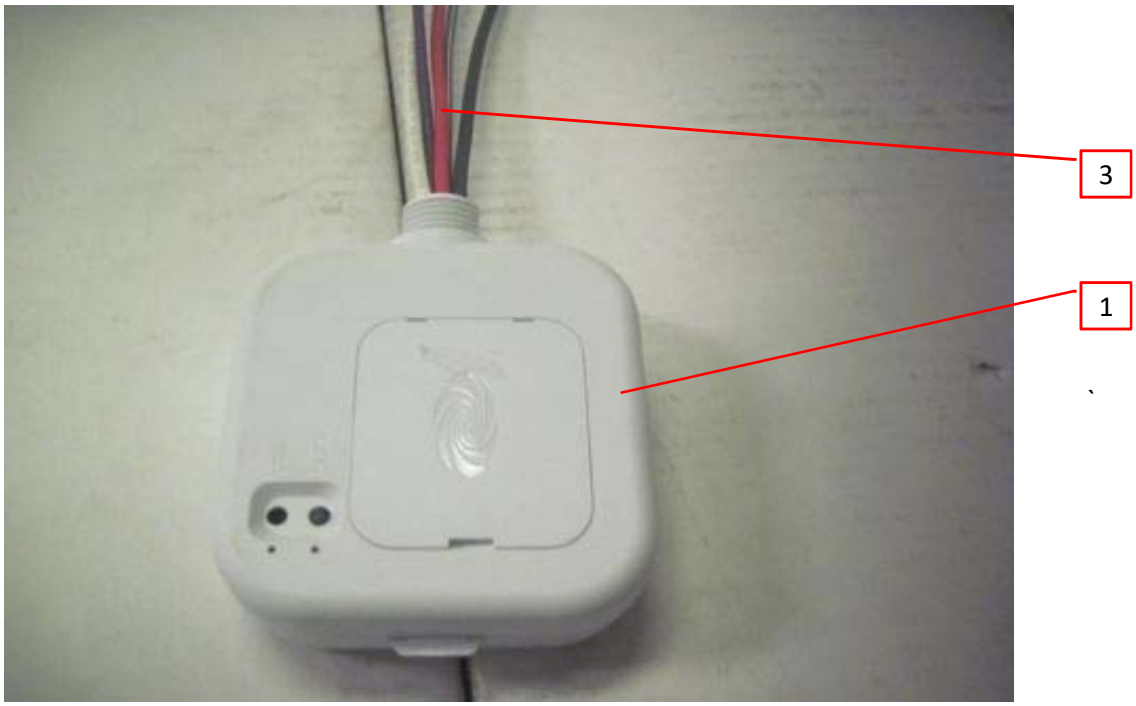


Photo 2 - Exterior view of ZUMMESH-JBOX series models (accessory dock cover removed)

3.0 Product Photographs

Photo 3 - Interior view of ZUMMESH-JBOX series models

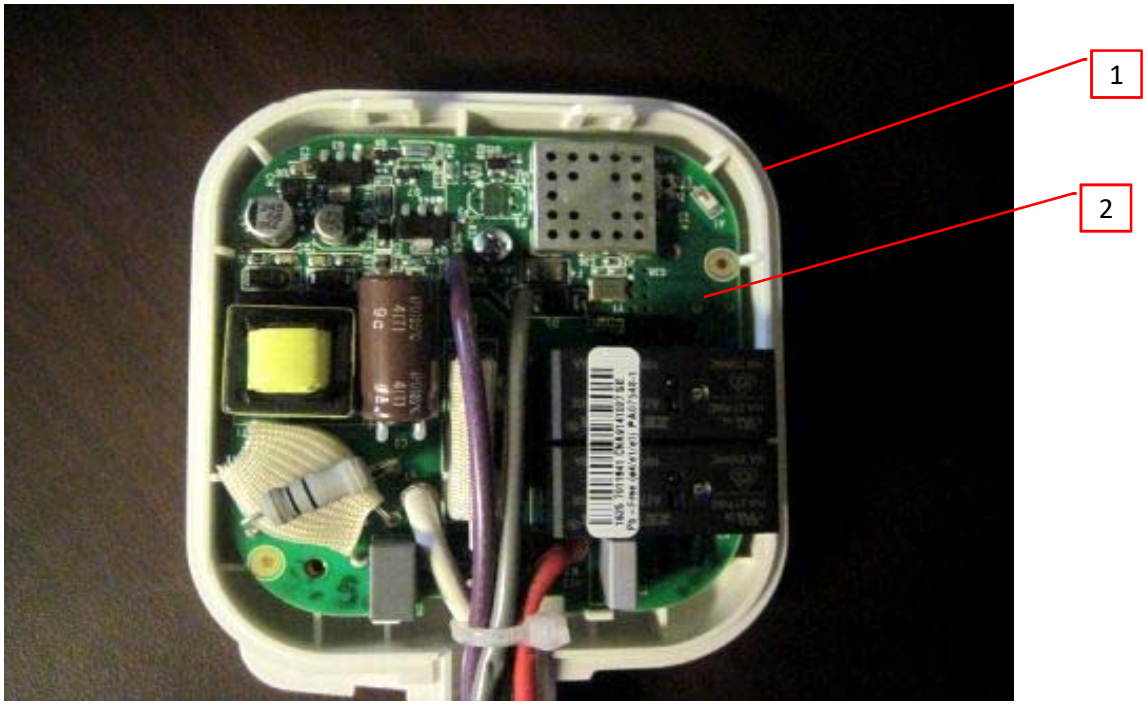


Photo 4 - Exterior view (bottom, top, and installed on ZUMMESH-JBOX) of ZUMMESH-NETBRIDGE accessory for ZUMMESH-JBOX series

3.0 Product Photographs

Photo 5 - Exterior view (bottom, top, and installed on ZUMMESH-JBOX) of ZUMMESH-CCO accessory for ZUMMESH-JBOX series

3.0 Product Photographs

Photo 6 - Exterior view of ZUMMESH-SIM model

4.0 Critical Components

Photo #	Item no.[1]	Name	Manufacturer/ trademark[2]	Type / model[2]	Technical data and securement means	Mark(s) of conformity [3]
1,2, 3,4, 5,6	1	Enclosure	SABIC JAPAN LLC (E207780)	ML7682	All Models. Lexan plastic material approx. 0.125 inch thickness (enclosure wall). UL 94 5VA rated. See Illustration 1 for product dimensions.	UR
			SABIC INNOVATIVE PLASTICS B V (E45329)	EXL9330S		
3	2	PCB	Crestron Electronics Inc	PB07548	Printed Circuit Board	UR
1	3	Insulated wires	Various	Various	3 each 14 AWG rated 105°C 600V and 2 each 16 AWG rated 105°C 600V	UR

NOTES:

1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.

2) “Various“ means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.

3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

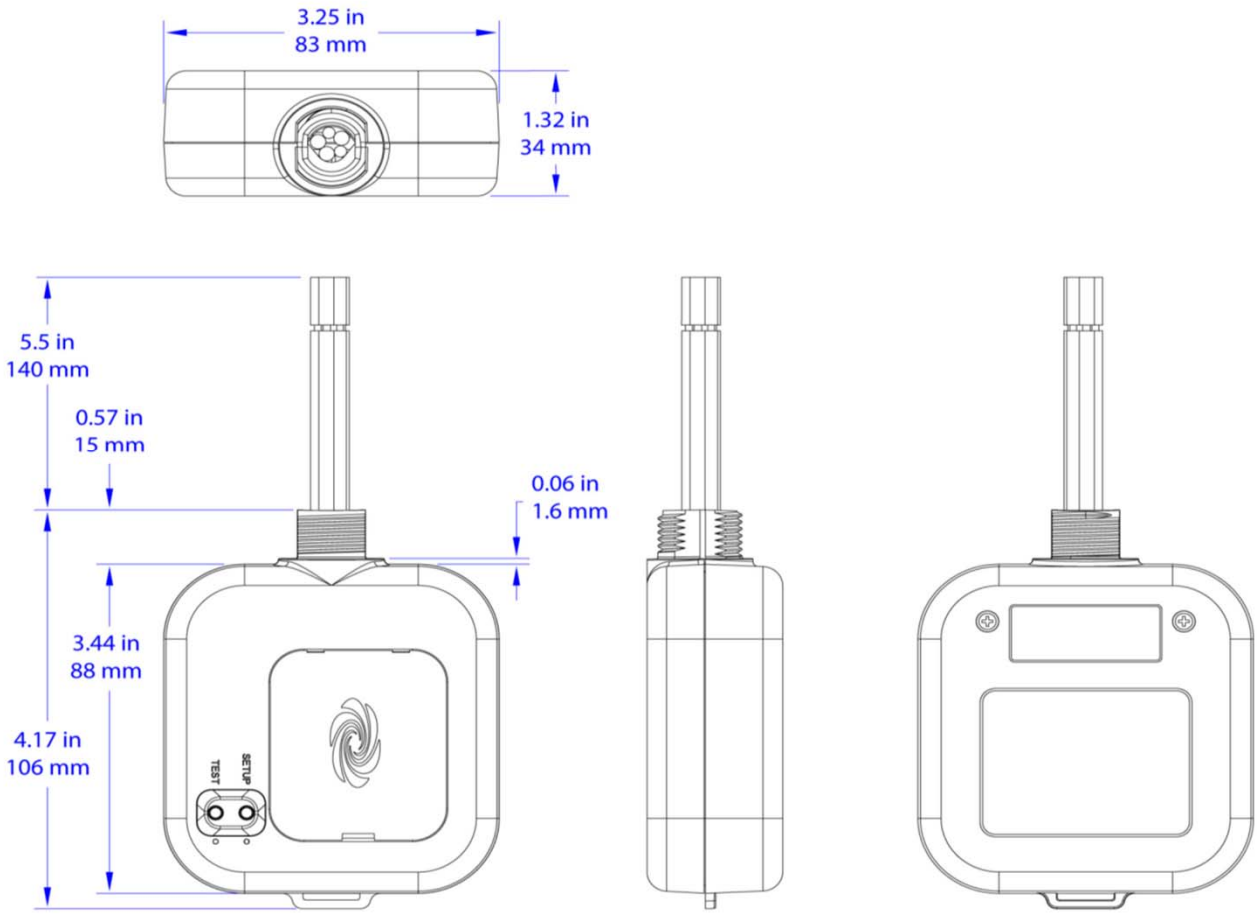
5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features
Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability. Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings. Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition. Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.
Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.
1. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer.
2. Marking - At minimum product shall be marked with model number as indicated in Models in Section 2.
3 Cautionary Markings - None.

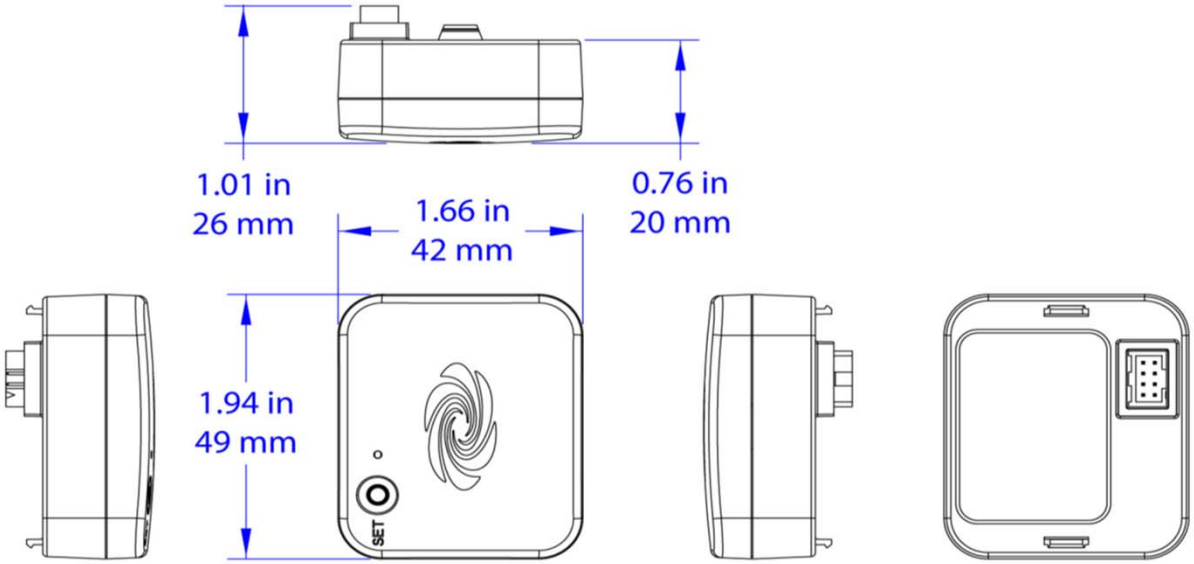
7.0 Illustrations

Illustration 1 - Dimensional drawing of ZUMMESH-JBOX series



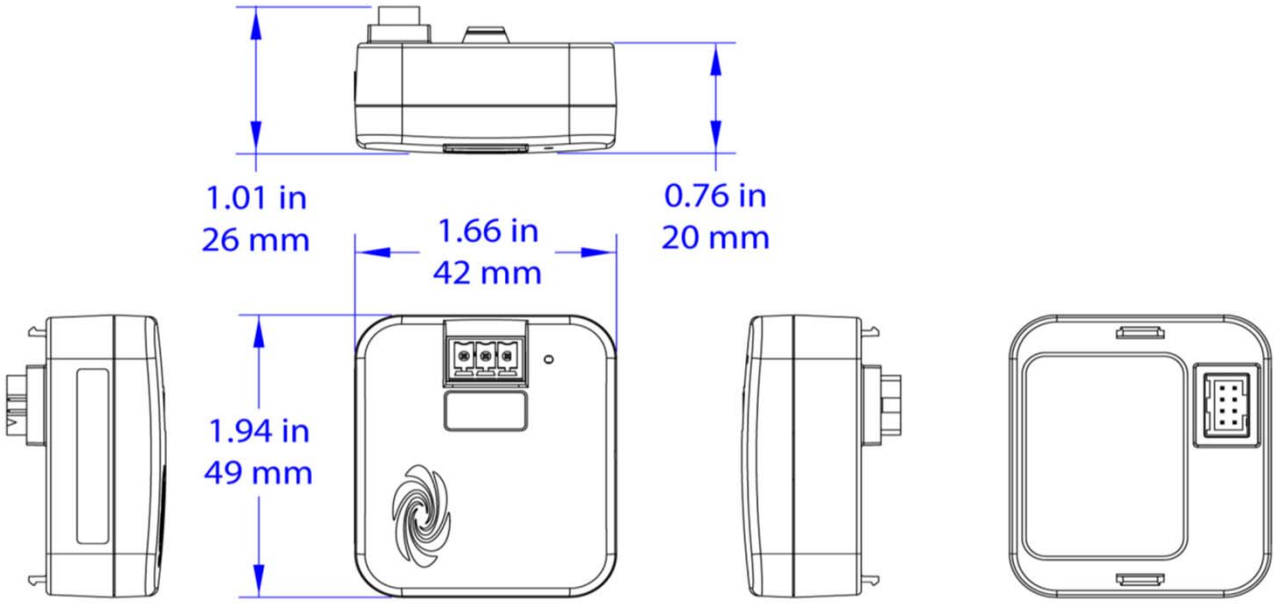
7.0 Illustrations

Illustration 2 - Dimensional drawing of ZUMMESH-NETBRIDGE



7.0 Illustrations

Illustration 3 - Dimensional drawing of ZUMMESH-CCO



8.0 Test Summary					
Evaluation Period	12/2/2016			Project No.	G102705562
Sample Rec. Date	11/21/2016	Condition	Production	Sample ID.	SAT1611211455-001-003
Test Location	Intertek Testing Services, NA - 16015 Shady Falls Road, Elmendorf, Texas 78112				
Test Procedure	Testing Lab				
Determination of the result includes consideration of the performance of the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.					
The following tests were performed:					

Test Description	UL 2043, 4th Ed., dated 10/2/2013
Heat Release Rate	9.1.a
Peak Smoke Release Rate	9.1.b
Total Smoke Released	9.1.c

Evaluation Period	1/20/2017			Project No.	G102865737
Sample Rec. Date	1/13/2017	Condition	Production	Sample ID.	SAT1701131648-001-002
Test Location	Intertek Testing Services, NA - 16015 Shady Falls Road, Elmendorf, Texas 78112				
Test Procedure	Testing Lab				
Determination of the result includes consideration of the performance of the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.					
The following tests were performed:					

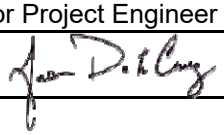
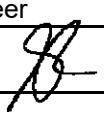
Test Description	UL 2043, 4th Ed., dated 10/2/2013
Heat Release Rate	9.1.a
Peak Smoke Release Rate	9.1.b
Total Smoke Released	9.1.c

Evaluation Period	10/17/2017	Project No.	G103194420
Due to the previous testing performed under Intertek Report 102705562SAT-001 no additional testing was necessary for UL 2043 Issued: 2013/10/02 Ed: 4 Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces for adding additional model ZUMMESH-SIM.			

Evaluation Period	7/31/2019	Project No.	G102705562
Due to the previous testing performed under Intertek Report 102705562SAT-001 no additional testing was necessary for UL 2043 Issued: 2013/10/02 Ed: 4 Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces for adding model ZUMMESH-JBOX-DALI.			

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0 with regard to the risks of flammability and smoke and suitability for use in flammable atmospheres, otherwise known as classified locations only. The risks associated with the other properties of this product have not been investigated.

Completed by:	Jason De La Cruz	Reviewed by:	Servando Romo
Title:	Senior Project Engineer	Title:	Project Engineer
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings	
The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.	
BASIC LISTEE	Crestron Electronics Inc
Address	15 Volvo Dr Rockleigh, NJ 07647
Country	USA
Product	Wireless Controller

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
3) a control number issued by Intertek
4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, “Conforms to” shall appear with the standard number along with the word, “Standard” or “Std.” Example: “Conforms to ANSI/UL Std. XX.”

For Canadian standards, the words “Certified to CAN/CSA Standard CXX No. XX.” shall be used, or abbreviated, “Cert. to CAN/CSA Std. CXX No. XX.”

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use. The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to:
Intertek Testing Services NA Inc.
ETL Component Evaluation Center
45000 Helm Street, Suite 150
Plymouth Twp., MI 48170 USA
Attn: Component Evaluation Center
Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

Dielectric Voltage Withstand Test
Grounding Continuity Test

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:
1 - a voltmeter in the primary circuit;
2 - a selector switch marked to indicate the test potential; or
3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.
In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

Product	Test Voltage	Test Time
All products covered by this Report.	1000V or 1200V	60 s 1 s

11.2 Grounding Continuity Test

Method

Each product listed below shall be subjected to a test to determine that there is continuity between accessible dead-metal parts of the product and the grounding pin or blade of the attachment plug.

If all accessible dead metal is connected, only a single test need be performed. A visual or audible device (ohmmeter, buzzer, etc.) may be used to indicate grounding continuity.

Products Requiring Grounding Continuity Test:

All products covered by this Report.

12.0 Revision Summary				
The following changes are in compliance with the declaration of Section 8.1:				
Date/ Proj # Site ID	Project Handler/ Reviewer	Section	Item	Description of Change
30-Mar-2018	D. Bako	1	--	**Changed** Manufacturer to Manufacturer 1
G103454093GRR	M. Martin			**Added** Manufacturer 2
31-Jul-2019	J. De La Cruz	1	-	Changed standard **from** UL 2043 Issued: 2013/10/02 Ed: 4 Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces **to** Fire Test For Heat And Visible Smoke Release For Discrete Products And Their Accessories Installed In Air-Handling Spaces [UL 2043:2013 Ed.4]
G102705562SAT	S.Romo	2	-	Added ZUMMESH-JBOX-DALI to model list.
		2	-	Added ZUMMESH-JBOX-DALI: Junction Box Zone Controller for controlling DALI drivers.
		3	6	Changed caption **from** Exterior view of ZUMMESH-SIM model (rendering) **to** Exterior view of ZUMMESH-SIM model. Replaced rendered photo with actual photo of product.
		8	-	Added evaluation period of 7/31/2019.