

SPECIFICATION FOR APPROVAL  
AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50/60Hz OUTPUT:12VDC 1.5A

CUSTOMER DWG./PART NO. \_\_\_\_\_

KTEC PART NO. KSM-18W-120150VU (PAHS 6P NP REACH ROHS PROP65)

SAMPLE NO: S99303 REV.: A ISSUE DATE: 2024-05-16

PRODUCT NO: KS240362

Unit Color: Black

White

APPROVED SIGNATURES/客户确认

核准/APPROVED BY	审核/CHECKED BY	检测/TESTED BY

Manufacturer/制造商

业务/SALES	品管/QE	核准/APPROVED BY	制样/MADE BY
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**Switching power supply specification(class BF)**

**KTEC P/N:**

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**KSM-18W-120150VU**

**KS240362**

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**TITLE:**

**REVISION: A**

**DRAWING NO.:**

**PREPARED:** 余国娟

**CHECKED:** 黄程辉 吴清雄

**APPROVED:** 贺洪明

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**1 GENERAL**

**1.1 Description**

This specification defines the performance characteristics for a class II adapter., single-phase 18.0 watts. Single output level power supply.

- Simple design philosophy.
- Reliability level of 400K hours MTBF @ 25° C (rated input voltage and using the Telcordia SR-332 Issue 3 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC60601
- Cooling: natural convection.

**2 INPUT REQUIREMENTS**

**2.1 Input Conditions**

The supply shall operate over the voltage ranges as follows:

Rated input voltage	100-240Vac
Operating range	90-264Vac
Rated input frequency	50/60Hz +/- 3Hz
Rated input current	0.6A max.
Power consumption (no-loading)	0.1W Max.
Primary current protection	An adequate internal fuse on the AC input line is provide.
Configuration	<u>2</u> Conductor

**2.2 AC Inrush Current**

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage full load 25°C cold start.

**3 OUTPUT REQUIREMENTS**

3.1	Nominal DC output voltage	+12.0V
3.2	Minimum load current	0A
3.3	Rating load current	1.5A
3.4	Peak load current	/
3.5	Rating output power	18.0W
3.6	Line regulation	The line regulation is less than <u>±1%</u> while measuring at rated load and +/-10% of input voltage changing.
3.7	Load regulation	The load regulation for +12.0V is less than <u>+/-5%</u> , at measured output load from 10% to 100% rated load.

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3.8	Ripple and noise	120mVp-p Add 0.1uF/50V ceramic capacitor and 47uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.9	Average efficiency	85.00% minimum 115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%. The work of a half hour test CEC
3.10	Turn on delay time	3000 ms max at nominal input AC voltage and full load
3.11	Rise time	The supply shall have a start-up rise time of less than <u>30 ms</u> to rise to within regulation limits for all DC outputs.
3.12	Hold up time	<u>10 ms</u> minimum at <u>115VAC</u> input AC voltage and full load.
3.13	Output over-shoot	Less than <u>10%</u> of nominal voltage value
3.14	LED indication function	/
3.15	Protection function	
	Over-voltage protection	The output voltage shall be clamped by internal protection.
	Short-circuit protection	The adapter shall not be damaged by short the DC output to Ground. The adapter shall resume normal operation when a short circuited fault condition is removed.
	Over current protection	The power supply will be protection when output power at <u>105-200%</u> of all rated DC output.

**4 MECHANICAL**

**4.1 Enclosure and Layout**

Plastic case: UL94V-0  
 Weight : /g (Max.)  
 Dimensions: 70\*43\*30mm  
 Colour : WHITE(WT-07)

**4.2 Input and Output Configuration**

Input pin: US Pin  
 Output connector : DC plug type: 5.5\*2.1\*10.5mm(Fork and Groove)  
 Polarity: Center:"+"  
 Cable: 1.5M VW-1 80°C 300V 22AWG 3.0Q 1185 WHITE(WT-07)  
(PAHS+6P+NP+REACH+ROHS+PROP65)

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**5 REGULATORY COMPLIANCE**

**5.1 EMC Specifications**

The external power supply must meet all specification in this section. it is required that the external power supply work closely with the customer in order to get the best EMC solution.

**5.1.1 Radiated and Conducted Emission**

FCC part 15: Class B for radiated and conducted emissions.

CISPR-II / EN55011: Class B for radiated and conducted emissions.

**5.2 Immunity**

**5.2.1 Electrostatic Discharge Immunity**

EN 61000-4-2

- Air Discharge: ±15kv
- Contact Discharge: ±8kv
- Performance Criteria B

Electrostatic-discharge test by contact or air should be conducted with Static-discharge tester, energy storage capacitance of 150pF, and discharge resistance of 330Ω, 15kv air discharge, 8kv contact discharge.

**5.2.2 Radiated Field Immunity**

EN 61000-4-3

- Frequency Range: 80-5782MHz
- Field Strength: 10 V/m with 80% amplitude modulation of 1kHz for 80-2700MHz
- Field Strength: 9~28 V/m with 80% amplitude modulation of 1kHz for 385-5782MHz
- Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80-5782MHz, 9-28V/m, 80%AM(1KHz).

**5.2.3 Fast Transient Immunity**

EN 61000-4-4

- Power line: 2kv
- Performance Criteria B

**5.2.4 Surge Immunity**

EN 61000-4-5

- 1.2/50 μs Open Circuit voltage
- 8/20 μs Short Circuit current
- Power line: 1kv
- Line to earth: ±2kv

Lighting surge voltage of differential and common modes shall be applies across AC input lines and cross input and frame ground.

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KS240362

## 5.3 Safety Requirements and Certification

### 5.3.1 Regulatory Standard

The power supply shall comply with the following international regulatory standards and meet CLASS BF standards:

for short	Country	Certified Status	Standard
UL	USA	Meet	ANSI/AAMI ES 60601-1

### 5.3.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 4000 Vac, 10mA, 1 minute
- ⊙ Insulation Resistance, Input to output: 100MΩ(MIN.) at 500 VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.1mA.

## 6 ENVIRONMENTAL REQUIREMENTS

### 6.1 Temperature

- ⊙ Operating: 0 °C +40 °C
- ⊙ Non-Operating: -20 °C +70 °C

### 6.2 Humidity

- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

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Switching power supply specification(class BF)

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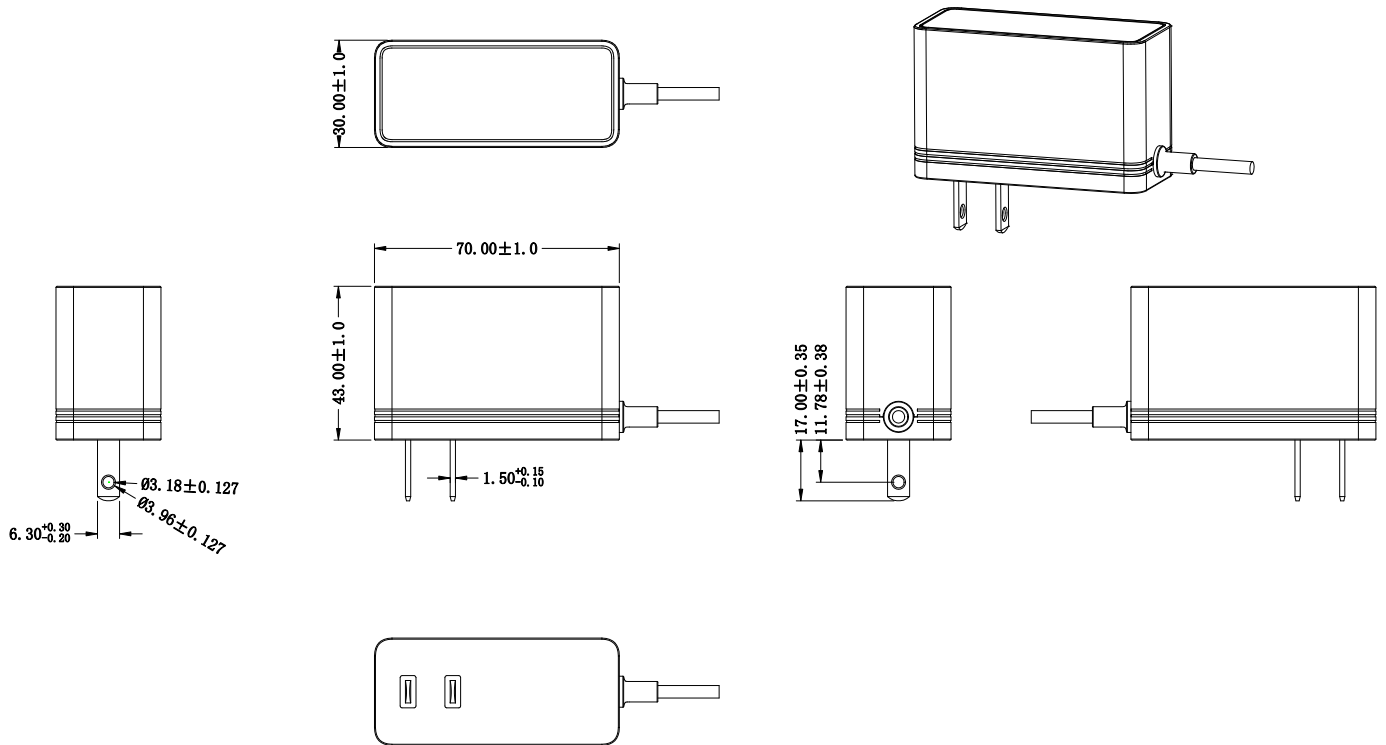
PRODUCT NO

CUSTOMER P/N:

KSM-18W-120150VU

KS240362

7 APPEARANCE DRAWING: (UNIT: MM)



- NOTE: 1. Case cover & chassis material:  
PC (UL94V-0) WHITE(WT-07)  
2. AC PIN MATERIAL: BRASS (NI PLATED)  
3. PAHS+6P+NP+REACH+ROHS+PROP65  
4. Satin Finish  
5. Top mold: MSS018027; Bottom mold: MSS017061

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KTEC P/N:

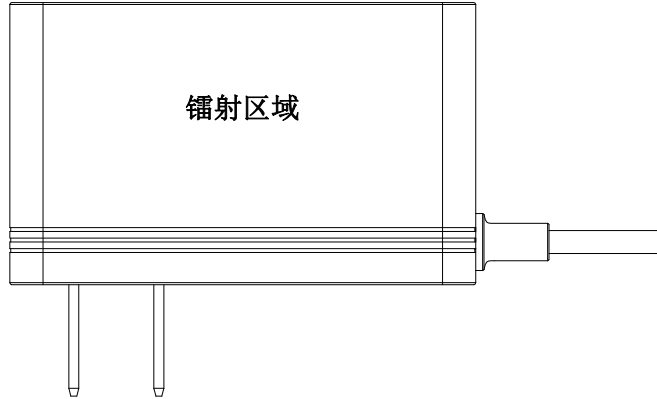
PRODUCT NO

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KSM-18W-120150VU

KS240362

8 NAME PLATE:



$30 \pm 1.00$

AC ADAPTOR

PXXYY

MODEL:KSM-18W-120150VU

INPUT:100-240V~50/60Hz 0.6A

OUTPUT:12V  $\equiv$  1.5A

80CD E343720

MADE IN CAMBODIA

$60 \pm 1.00$

Note:



Laser (鐳射)

PXXYY (P=PAHS+6P+NP, XX=WEEK, YY=YEAR) 按实际生产日期

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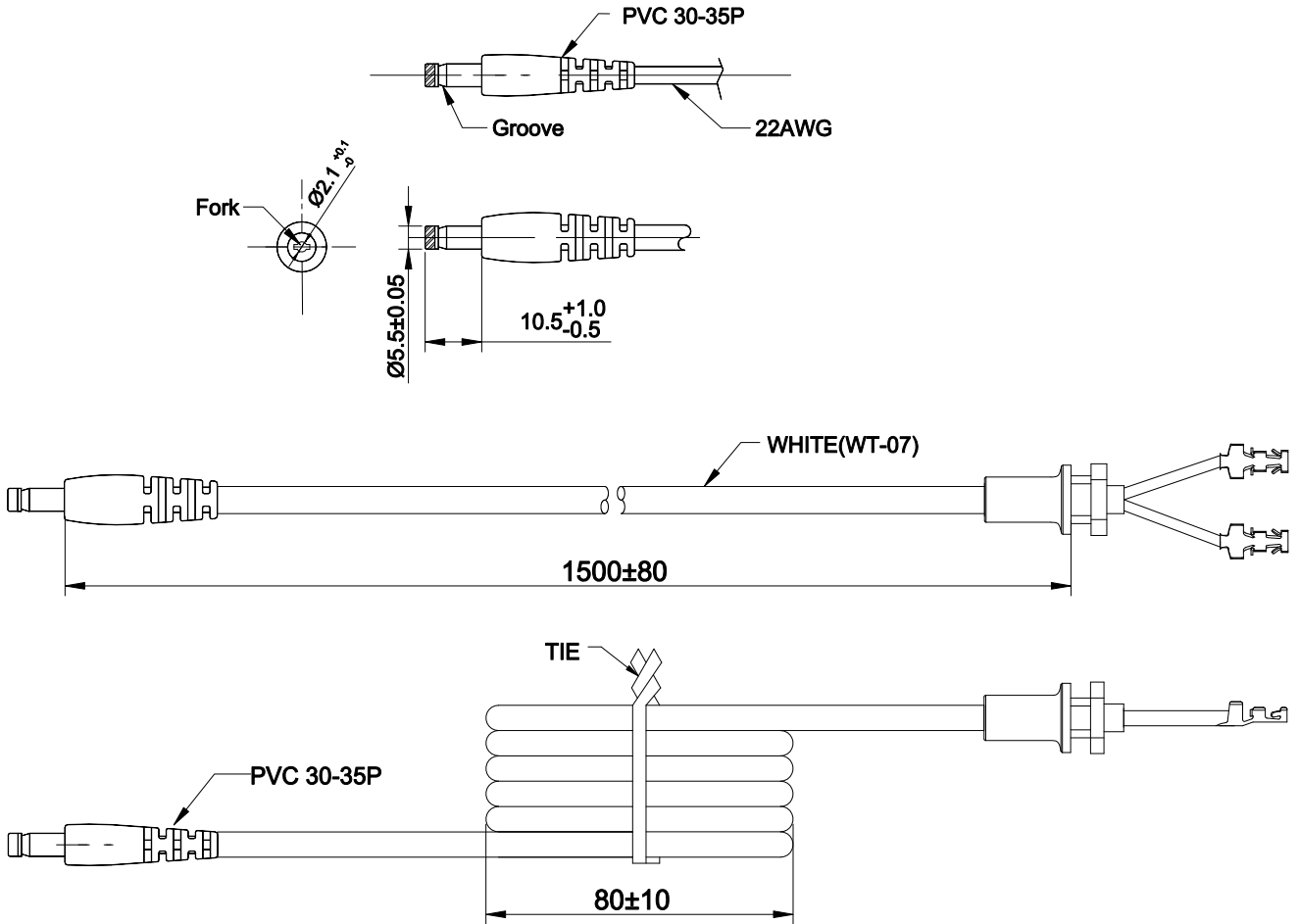
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**9 DIMENSION OF OUTPUT PLUG & DC CORD (UNIT: MM)**



**NOTE: (unit:mm)**

- 1). WIRE TYPE: VW-1 80°C 300V L=1500mm 1185 Ø3.0 22AWG WHITE(WT-07)
- 2). THE POLARITY: 
- 3). PAHS+6P+NP+REACH+ROHS+PROP65
- 4). SR MOLD: ML00325

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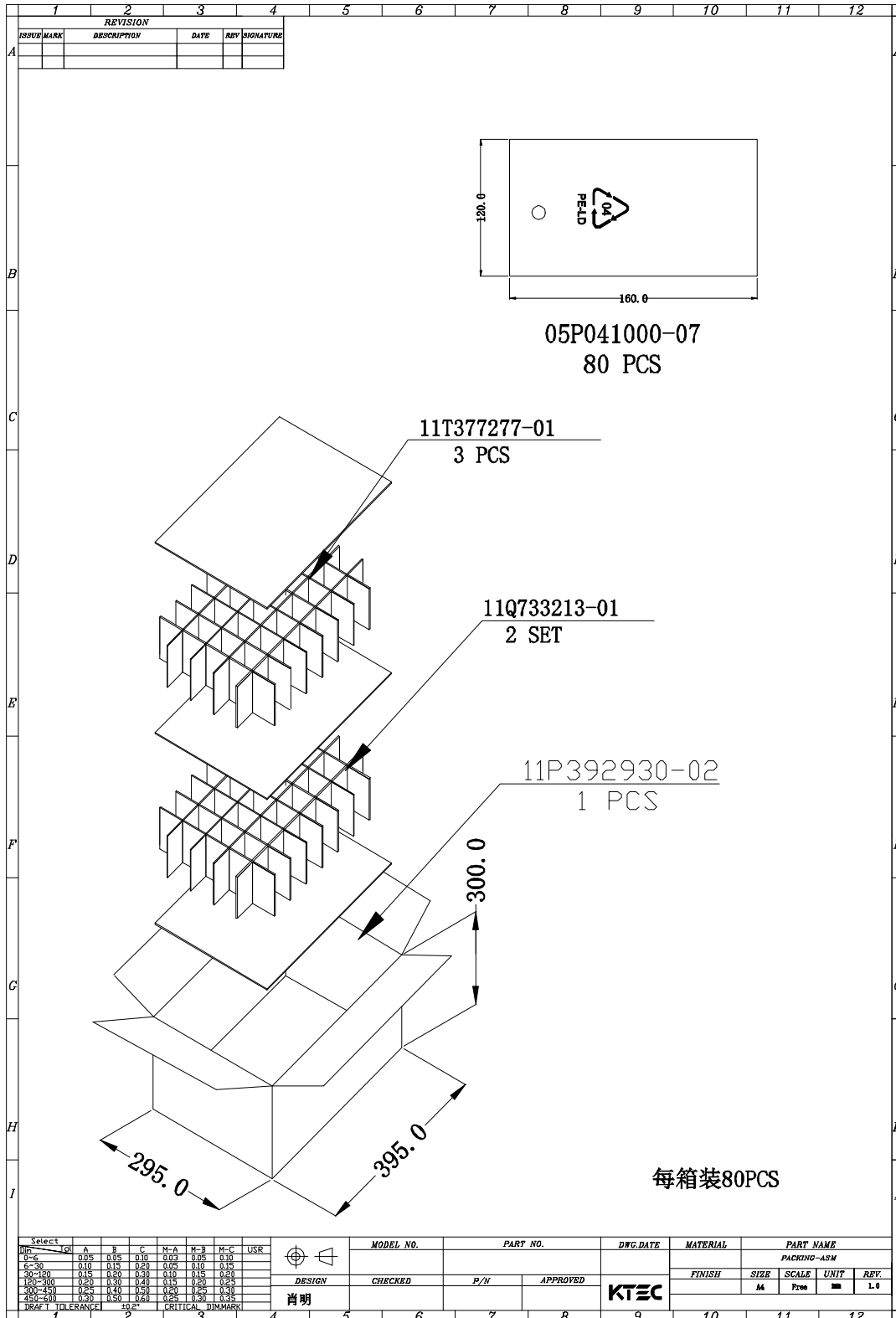
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10 PACKING(UNIT: MM)



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2024-04-03

MR. Dietsch Lan  
KUANTECH CO., LTD.  
11th Fl 868-3 Zhongzheng Rd  
Zhonghe District  
New Taipei, 235, TW

Notice of Completion (NoC) and authorization to apply the UL Mark

Your reference:

Our reference: File E343720, Volume X2

Order: 15068418

Project: 4791096898

Project scope: [Kuantech]UL/CUL 60601-1Ed.3.2: Adapter: KSM-18W series: New request with single construction with output Rating\*2 for E343720

Dear Mr. Dietsch Lan:

We appreciate that you have a choice of certification providers and thank you for choosing UL Solutions. We have completed the investigation under the above project and confirmed compliance of your product(s) with UL Mark requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at the factory location(s) identified on the Authorization Page of UL Solutions File E343720, Volume X2. You are required to send a copy of this letter to all manufacturing locations authorized under UL Solutions File E343720, Volume X2.

The Follow-Up Services Procedure covering your product(s) will typically be provided by UL Solutions within 10 business days. Any information and documentation provided to you involving the UL Mark services are provided on behalf of UL LLC or any authorized licensee. The UL Solutions certification directory is updated with active certifications shortly after projects are reviewed and completed. Please visit <https://productiq.ulprospector.com/> to search for the certification.

Products that bear the UL Mark must be identical to those submitted to UL for evaluation and certification and must comply with the Follow-Up Services Procedure covering your product(s). Additional requirements related to the responsibilities of the Applicant and Manufacturer can be found under **Customer Requirements documents** at [www.ul.com/fus](http://www.ul.com/fus).

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If you have any questions, please contact me or any of our customer service representatives at [www.ul.com/contact-us](http://www.ul.com/contact-us).

Sincerely,

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