



SPECIFICATION FOR APPROVAL

www.twktec.com

KSM-60W-240270B3

SWITCH MODE POWER SUPPLY

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KSM-60W-240270B3 Manufacturer Part No.: KS240374



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1. INPUT REQUIREMENTS

1.1 Highlight & Features

- Simple design philosophy.
- Reliability level of 50K 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

1.2 General Description

This specification defines the performance characteristics for a class I adapter, single-phase 64.8 watts. Single output level power supply.

1.3 Chemical Substance Control Laws

PAHS 6P NP REACH ROHS NOP PROP65

1.4 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	1.5A maximum
Power consumption(no-loading)	0.21W maximum
Primary current protection	An adequate internal fuse on the AC input line is provided.
Input Configuration	3 Conductor

1.5 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.

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2. OUTPUT REQUIREMENTS

2.1	Nominal DC output voltage	+24.0V
2.2	Minimum load current	0.0A
2.3	Rating load current	2.7A
2.4	Peak load current	/
2.5	Rating output power	64.8W
2.6	Line regulation	The line regulation is less than $\pm 5\%$ while measuring at rated load and $\pm 10\%$ of input voltage changing.
2.7	Load regulation	The load regulation for +24.0V is less than $\pm 5\%$, at measured output load from 10% to 100% rated load.
2.8	Ripple and noise	240mVp-p maximum
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
2.10	Average efficiency	88.00% minimum 115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
2.11	Turn on delay time	1500ms at 115V nominal input AC voltage and full load.
2.12	Rise time	The supply shall have a start-up rise time of less than 50ms to rise to within regulation limits for all DC outputs.
2.13	Hold up time	10ms minimum at nominal input 100Vac minimum voltage and full load.
2.14	Output over-shoot	Less than 10% of nominal voltage value.
2.15	LED indication function	/
2.16	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 105%-160% of all rated DC output.

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3. MECHANICAL

3.1 Enclosure and Layout

Plastic case	UL94V-0
Weight	/ g (Max.)
Dimensions	125*55*31.5mm
Color	Black

3.2 Input and Output Configuration

Input pin	3Pin(C14 inlet)
Output connector	DC plug type: 5.5*2.1*11mm(FORK)
Polarity	Center “+”
Cable	1.5M VW-1 80℃ 300V 1185 18AWG 3.5Q Black

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4. REGULATORY COMPLIANCE

4.1 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's equipment in order to get the best EMC solution.

4.1.1 Radiated and Conducted Emission

FCC part 18 , IEC60601-1-2

4.2 Immunity

4.2.1 Electrostatic Discharge Immunity

IEC60601-1-2, EN 61000-4-2

Air Discharge: $\pm 15\text{kv}$

Contact Discharge: $\pm 8\text{kv}$

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 330 Ω) 15kv air discharge, 8kv contact discharge.

4.2.2 Radiated Field Immunity

IEC60601-1-2, EN 61000-4-3

Frequency Range: 80MHz -2.7GHz

Field Strength: 3V/m with 80% amplitude modulation of 1kHz

Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80MHz -2.7GHz, 3V/m, 80%AM(1KHz).

4.2.3 Fast Transient Immunity

IEC60601-1-2, EN 61000-4-4

Power line: 2kv

Performance Criteria B

4.2.4 Surge Immunity

IEC60601-1-2, EN 61000-4-5

Line to line: $\pm 1\text{kv}$

Line to earth: $\pm 2\text{kv}$

+ 90°/-270°

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

4.3 Safety Requirements and Certification

4.3.1 Regulatory Standard

The power supply shall comply with the following international regulatory standards:

for short	Country	Certified Status	Standard
UL	USA	Meet	ANSI/AAMI ES 60601-1
D-Mark	Europe	Meet	EN60601

4.3.2 Additional Safety Requirements

- © Dielectric Withstand Voltage, Primary (input AC short)-to-Secondary (output DC short): 2000Vac, 10mA, 1minute.
- © 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.

5. ENVIRONMENTAL REQUIREMENTS

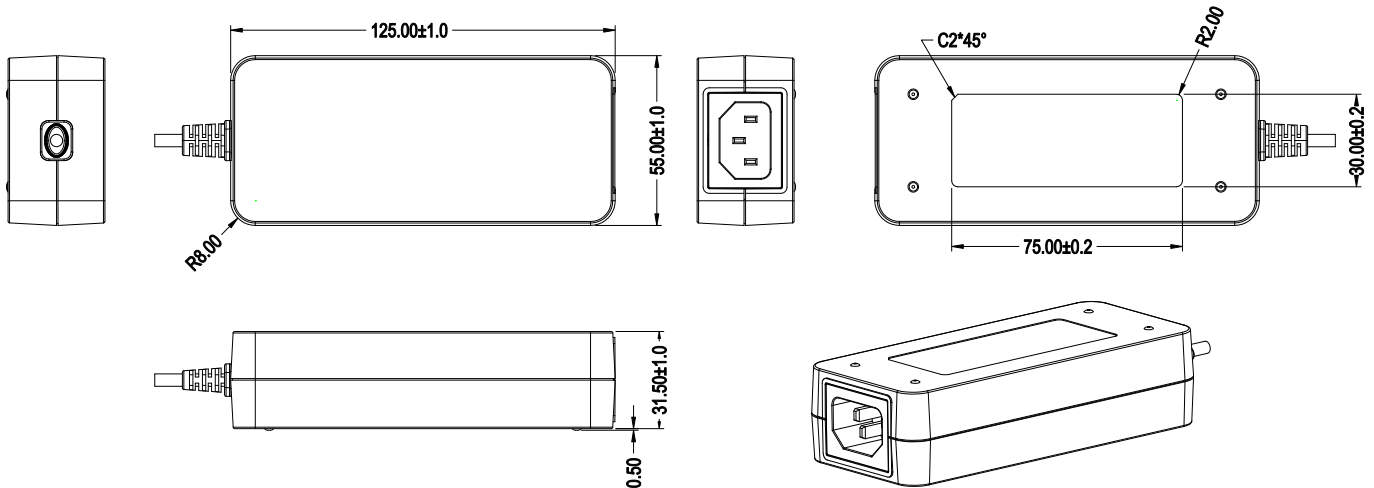
Temperature	Operating	0°C +50°C
	Non-Operating	-20°C +70°C
Humidity	Operating	10%~90% (Non Condensing)
	Non-Operating	10%~90% (Non Condensing)
Altitude	Sea level to 4000m	

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6. APPEARANCE DRAWING: (UNIT: MM)



NOTE:

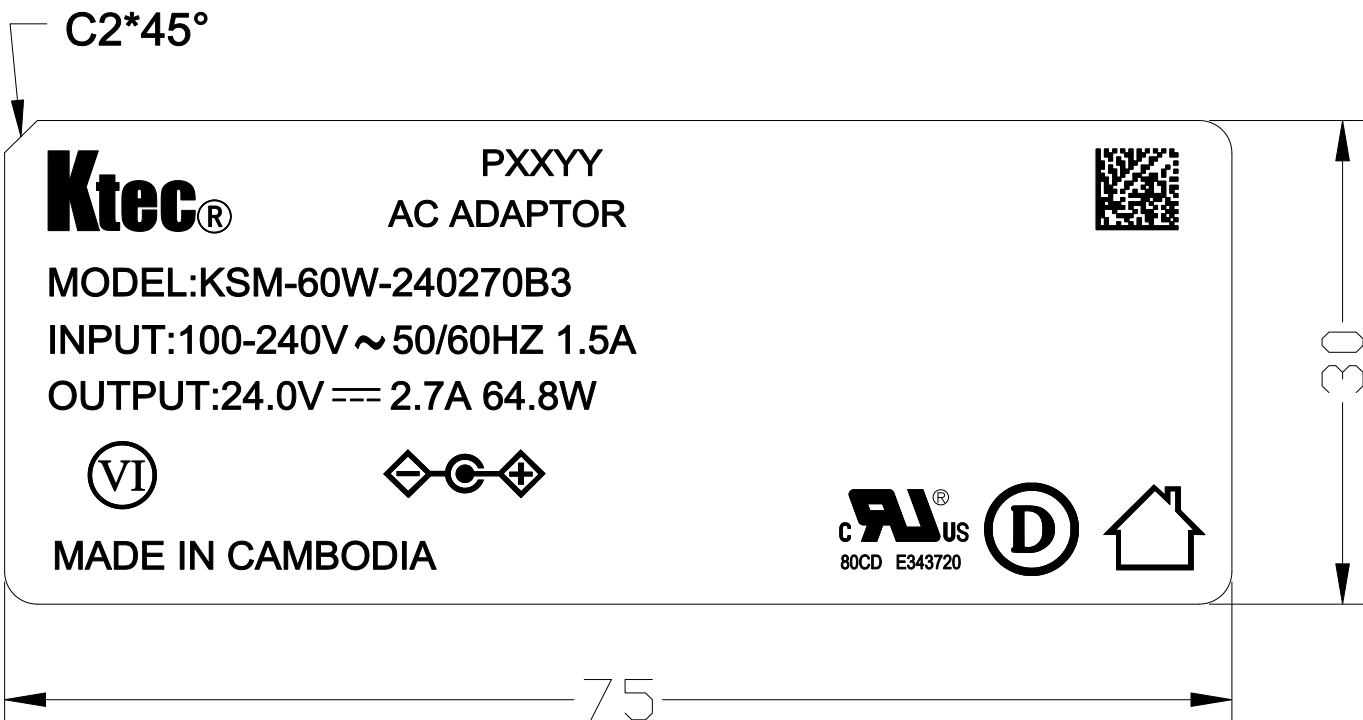
1. Case cover & chassis material: PC BLACK (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS 6P NP REACH ROHS NOP PROP65
4. Satin Finish
5. Top mold : MSS023020; Bottom mold : MSS023021

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7. NAME PLATE



Note: Laser

PXXYY (P=PAHS, 6P, NP XX=Week, YY=Year), use the actual production date.

SN (Data Matrix Code size: 5*5mm):

First code G (Ktec) + Production part number (Product code) + Ten yards of flow code SSSSSSSSS (decimal) Total 19 codes

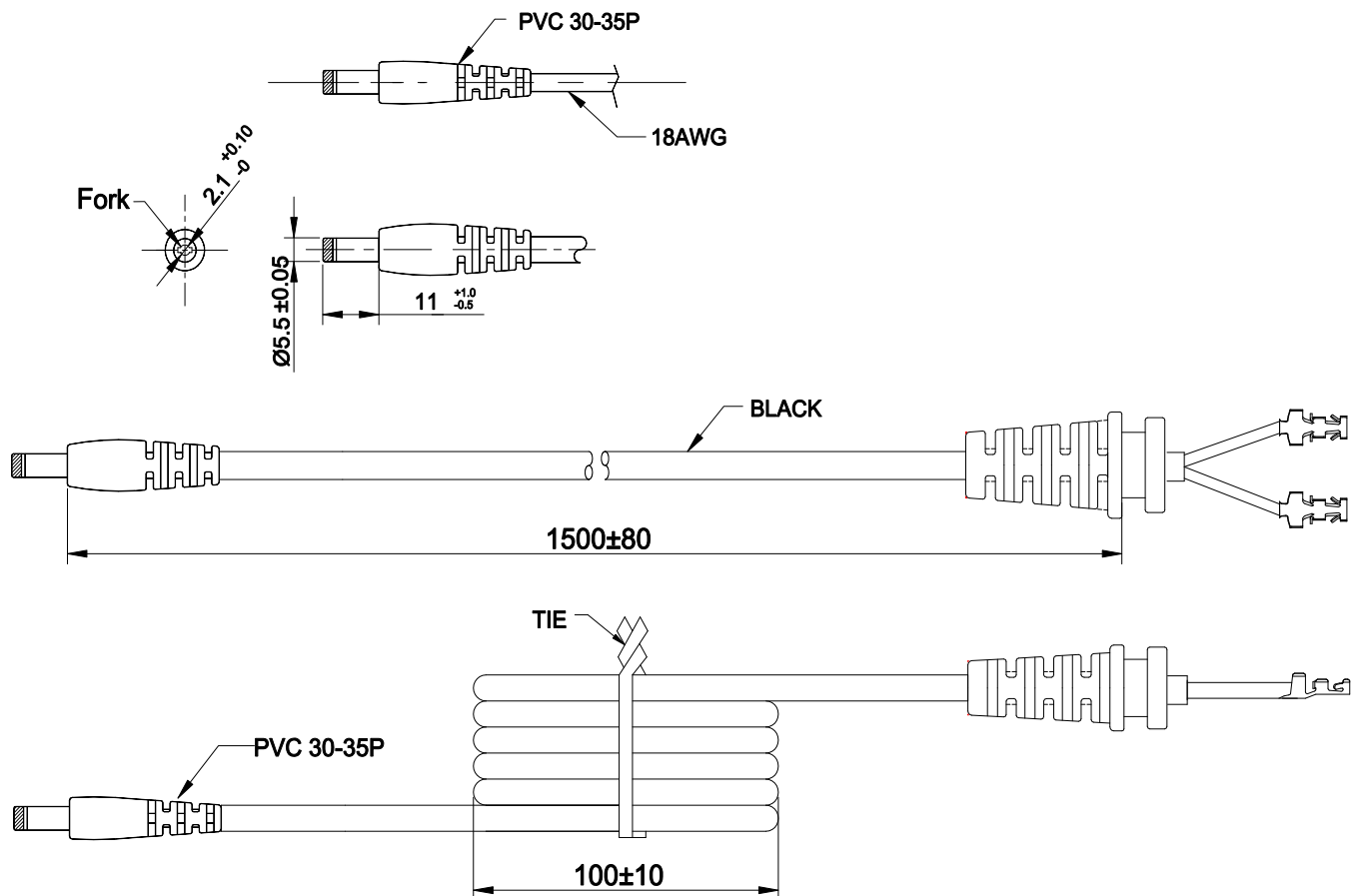
Example:GKS2403740000000001, GKS2403740000000002...GKS24037499999999.

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KTEC

8. DIMENSION OF OUTPUT PLUG & DC CORD (UNIT: MM)



NOTE: (unit:mm)

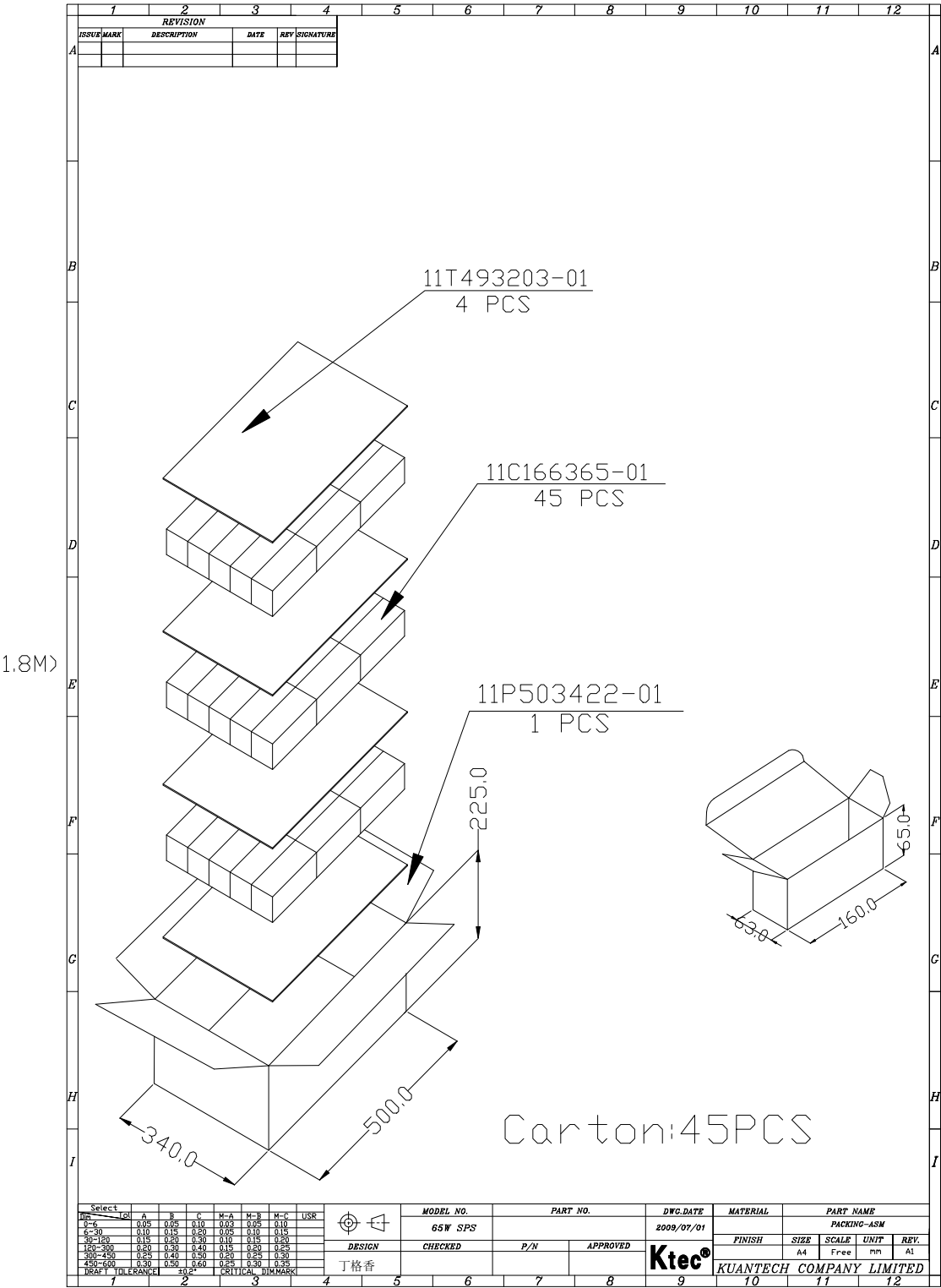
- 1). WIRE TYPE: L=1500mm 18AWG 3.5Ø 1185 BLACK
- 2). THE POLARITY: 
- 3). PAHS 6P NP REACH ROHS NOP PROP65
- 4). SR MOLD: 40-120W (ML00512)

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9. PACKING (UNIT: MM)



2024-02-26

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

Your reference:

Our reference: File E343720 , Volume X2

Order: 15051016

Project: 4791081484

SR: 4791081484

Project scope: UL/CUL60601-1 Ed.3.2: Adapter: KSM-60W series with Class I & II 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.

A UL Solutions certification is a valuable marketing tool meaning your product or company has successfully met stringent requirements. We encourage you to use your UL Mark and certification in your marketing activities. We are happy to provide guidance on how best to promote your UL certification. Our [Certification Achievement Kit](#) demonstrates marketing and promotional concepts to help you best represent your UL certification.

UL Solutions is committed to providing you with an exceptional customer experience. You may receive an email from ULSurvey@feedback.ul.com inviting you to provide feedback. Your survey rankings and comments regarding the experience are important to us. We are always seeking ways to improve in any areas we can, and your feedback and comments are vital to this process.

If you have any questions, please contact me or any of our customer service representatives at www.ul.com/contact-us.

Sincerely,

Chu Zhen Zhuang
Engineering Associate
UL Solutions
ChuZhen.Zhuang@ul.com

David Piecuch
UL Mark Certification Program Manager
UL LLC
David.Piecuch@ul.com

931e14778860475ea370cf34e66a1c50

DEMKO CERTIFICATE

Certificate No.	D-10368
Page	1/4
Date of Issue	2024-02-21
Certificate Holder	KUANTECH CO., LTD. 11TH FL 868-3 ZHONGZHENG RD ZHONGHE DISTRICT NEW TAIPEI 235 TAIWAN
Production site	KUANTECH (CAMBODIA) INTERNATIONAL CO.,LTD PHUM CHORMPUL, KHUM P'PEL SROK TRAMKORK, TAKEO PROVINCE, CAMBODIA
Certified Product	AC ADAPTOR
Model	KSM-60W-xxxxyyyB3, KSM-60W-xxxxyyyM3 See page 2 for additional Information
Trademark	Ktec
Ratings	Input: 100-240VAC or 100-120VAC or 200-240VAC, 50/60Hz, 1.5A Output: 9.0-24.0VDC, 0.01-6.00A. Class I
Tested according to	EN 60601-1:2006, EN 60601-1:2006/A1:2013, EN 60601-1:2006/A12:2014, EN 60601-1:2006/A2:2021
Test Report No.	231107001 issued on 2024-01-31
Additional	The risk management requirements of the standard were not addressed
Expire date	2034-02-20

Certification Manager
Thomas Wilson

This is to certify that representative sample(s) of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the D-Mark Requirements. As specified in the respective appendix below the Designated Certificate holder is entitled to use the D-Mark, or its alternative for cables, for the Certified Product manufactured at the production site(s) identified above, in accordance with the D-Mark Service Agreement, including without limitation the D-Mark Testing and Certification Services Service Terms. Only those Products bearing the D-Mark should be considered as being covered by UL's D-Mark Service. This Certificate shall remain valid through the expiration date, unless terminated earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior the expiration date.

Certification Body

UL International Demko A/S, Borupvang 5A, DK-2750
Ballerup, Denmark, Tel. +45 44 85 65 65,
info.dk@ul.com
www.UL.com



Appendix DEMKO CERTIFICATE

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Additional Model(s):

Series: KSM-60W-xxxyyyB3, KSM-60W-xxxyyyM3,

xxx=090-240, indicates the output voltage range 9.0-24VDC, with step 0.1VDC, yyy=001-600, indicates rated output current range 0.01-6.00A, with step 0.01A, B3 means AC inlet C14, M3 means AC inlet C6

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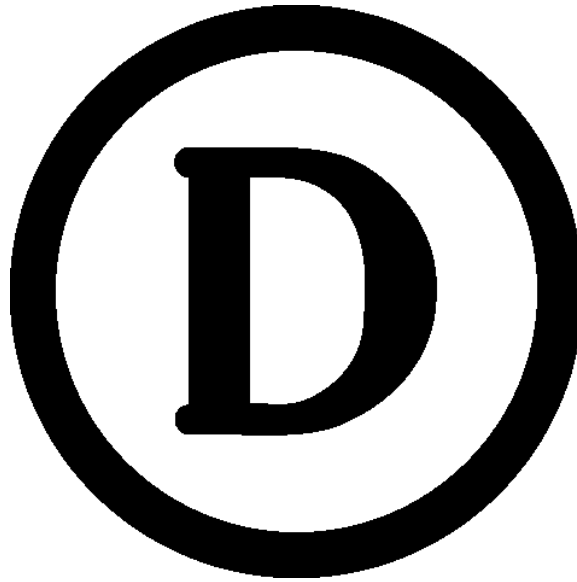


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Certification Mark D-Mark

The D-Mark, as displayed below, shall appear on certified products only. Except as specified below the Mark shall be legible and no Minimum size is specified.



The size of the Mark may be reduced or enlarged on the condition that it remains readable and that the proportions of width and height are kept. The use of dark text for the D-Mark on light backgrounds and light text on dark backgrounds is permitted.

The D-Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Certificate Manufacturer's name or trademark and model number shall also appear elsewhere on the product

When putting the product on the EU market, the manufacturer's name, trademark or mark of origin must be affixed in a clearly visible location and position on the product, on the package and in the user manual. It can be affixed by label, be directly imprinted, or cast or molded into the product.

Where the size of the product does not allow the Mark, the manufacturer's name, trademark, mark of origin and model number to be legible, and appearance on a label is not desired, it is allowed to cast, stamp or mold the Mark into the product, in a size which is not visible to the naked eye, provided the legible Mark, the manufacturer's name, trademark or mark of origin and model number appears on the package and in the user manual

Certification Body

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Alternate certification Mark for cables

As an alternative to the D-Mark specified above the alternate D-Mark, displayed below, can appear on certified cables only. Minimum size is not specified, as long as the mark is legible.

<DEMKO>

The alternate D-Mark may be cast, stamped or molded into the cable and continue throughout the length of the cable as specified in the applicable cable standard.

All content shall be in accordance with the details provided on this D-Mark Certificate.

Certification Body

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