



SPECIFICATION FOR APPROVAL

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KSA-180A-210858M3

SWITCH MODE POWER SUPPLY

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KSA-180A-210858M3

Manufacturer Part No.: KS240395

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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 IEC62368-1.
- Cooling: natural convection

1.2 General Description

This specification defines the performance characteristics for a class I adapter, single-phase 180.18 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	2.5A Max.@ 100Vac
Power consumption(no-loading)	0.21W maximum
Primary current protection	An adequate internal fuse on the AC input line is provided.
Input Configuration	<u> 3 </u> 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	+21.0V
2.2	Minimum load current	0.0A
2.3	Rating load current	8.58A
2.4	Peak load current	/
2.5	Rating output power	180.18W
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 +21.0V is less than $\pm 5\%$, at measured output load from 10% to 100% rated load.
2.8	Ripple and noise	350mVp-p
		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	3000ms maximum at 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	150% of rated voltage, latch-off 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	160% of rated current, hiccup mode protection until fault is removed.

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3. MECHANICAL

3.1 Enclosure and Layout

Plastic case	UL94V-0
Weight	/ g (Max.)
Dimensions	148*75*23.5mm
Color	WT-07

3.2 Input and Output Configuration

Input pin	MINI 3PIN
Output connector	DC plug type: 7.4*5.1*0.6*12.5mm
Polarity	/
Cable	1.5M VW-1 80°C 300V 2464 5.5Q 2C 16AWG Black(core)

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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 15: Class B for radiated and conducted emissions.

EN55032, Class B for radiated and conducted emissions.

4.2 Immunity

4.2.1 Electrostatic Discharge Immunity

EN 55035, EN 61000-4-2

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

Contact Discharge: $\pm 4\text{kv}$

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) 8kv air discharge, 4kv contact discharge.

4.2.2 Radiated Field Immunity

EN 55035, EN 61000-4-3

Frequency Range: 80-1000MHz, still need test singly 1800MHz, 2600MHz, 3500MHz, 5000MHz

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

Radio-frequency electromagnetic field susceptibility test, RS 80-1000MHz, 3V/m, 80%AM(1KHz).

4.2.3 Conducted Field Immunity

EN 55035, EN 61000-4-6

Frequency Range: 0.15-80MHz(0,15 to 10 MHz,3V;10 to 30 MHz,3-1V;30 to 80 MHz $\cdot$ 1V)

Field Strength: 3A/m with 80% amplitude modulation of 1KHz

Performance Criteria A

4.2.4 Fast Transient Immunity

EN 55035, EN 61000-4-4

Power line: 1kv

Signal line: 0.5kV

Performance Criteria B

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4.2.5 Surge Immunity

EN 55035, EN 61000-4-5

Line to line: $\pm 1\text{kv}$ Line to earth: $\pm 2\text{kv}$ $+ 90^\circ$ - 270°

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	UL 62368-1
CUL	Canada	Meet	CSA C22.2 NO.62368-1
CE	Europe	Meet	EN 62368-1
UKCA	Britain	Meet	BS EN62368-1

4.3.2 Additional Safety Requirements

- © Dielectric Withstand Voltage, Primary (input AC short)-to-Secondary (output DC short): 3000Vac, 10mA, 1minute.
Dielectric Withstand Voltage, Primary(input AC short)-to-Ground: 1500 Vac, 10m A, 1 minute.
- © Insulation Resistance, Input to output: 10M Ω (MIN.) at 500 VDC.
- © Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- © The leakage current shall not exceed 0.75mA.

5. ENVIRONMENTAL REQUIREMENTS

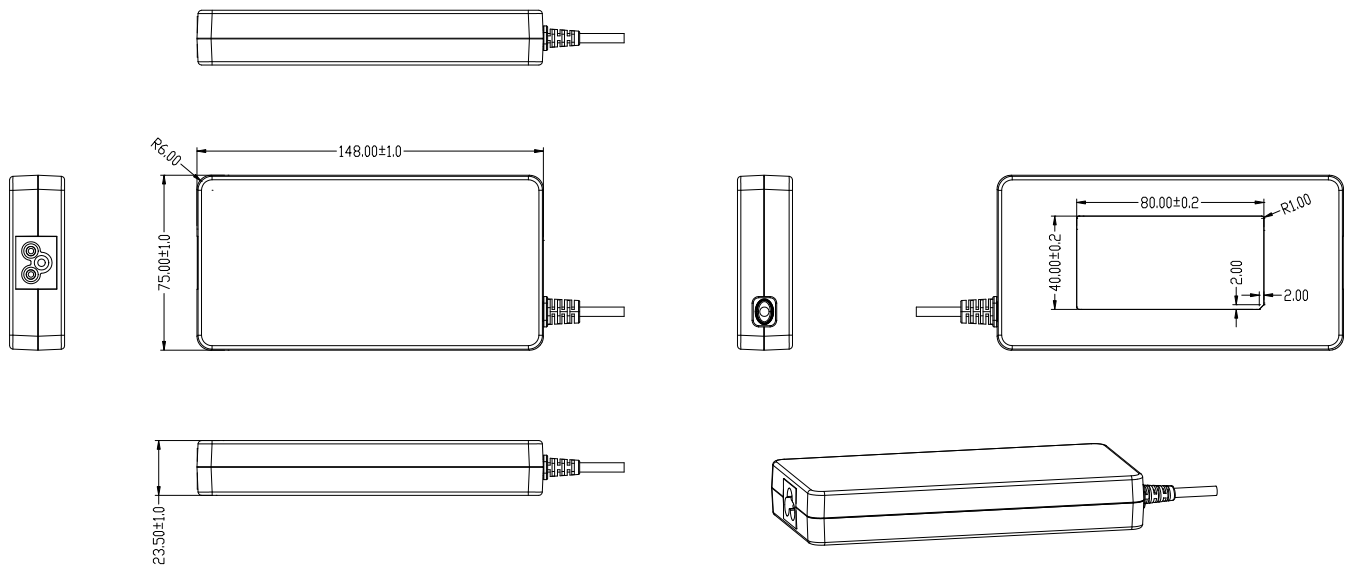
Temperature	Operating	0°C +40°C
	Non-Operating	-20°C +80°C
Humidity	Operating	10%~90% (Non Condensing)
	Non-Operating	10%~90% (Non Condensing)
Altitude	Sea level to 2000m	

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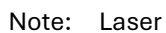
6. APPEARANCE DRAWING: (UNIT: MM)



NOTE:

1. Case cover & chassis material: PC WT-07 (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS 6P NP REACH ROHS NOP PROP65
4. Satin Finish
5. Top mold: MSS023046 Bottom mold: MSS023047

7. NAME PLATE

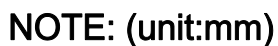


SN (Data Matrix Code size: 5*5mm):

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

Example : GKS2403950000000001, GKS2403950000000002...GKS2403959999999999.

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



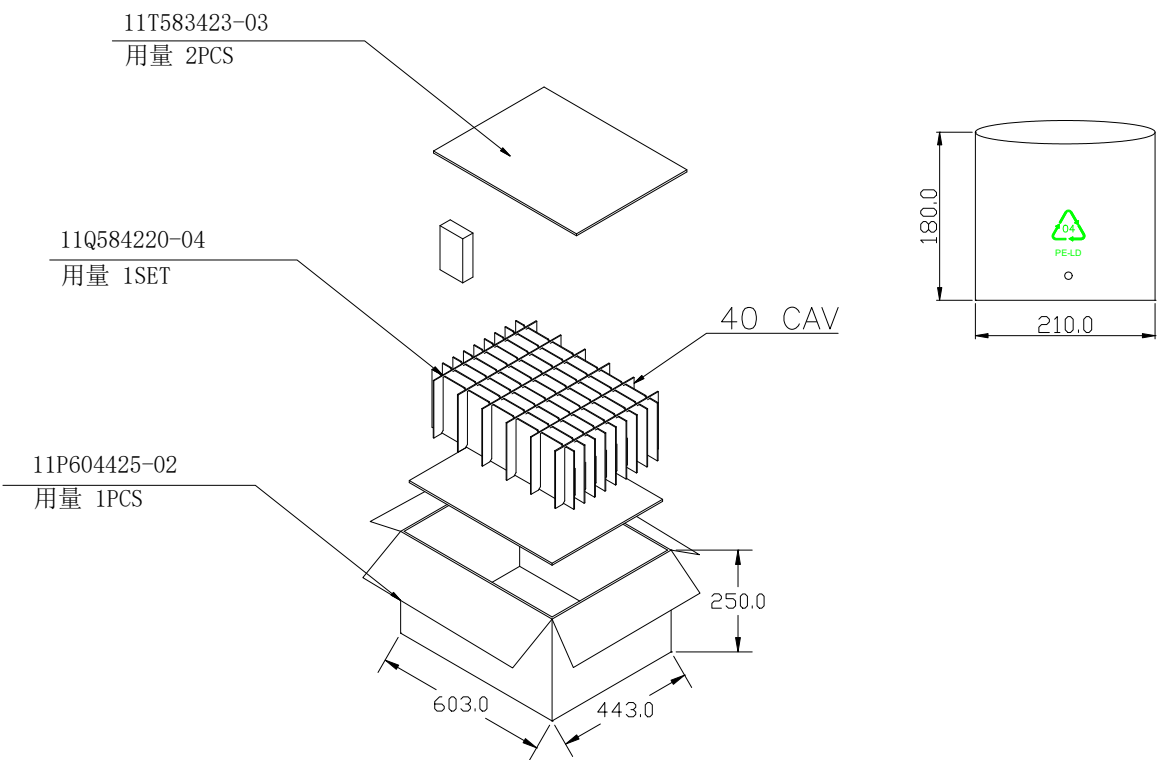
- 1).WIRE TYPE:VW-1 80°C 300V L=1500mm 2464 Ø5.5 16AWG WHITE(WT-07)
2).THE POLARITY: 
3).PAHS 6P NP REACH ROHS NOP PROP65
4).DC PLUG MOLD:ML00535 SR MOLD:ML00513

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9. PACKING (UNIT: MM)



2024-08-29

Nick Cao
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 E215890, Volume X9

Order: 15124388

Project: 4791151327

Project scope: [Kuantech]USL/CNL Investigation of SWITCH MODE POWER SUPPLY: KSA-180A-xxxxyyM3 (xxx=190-210, stands for the rated output voltage range 19.0-21.0VDC in step of 0.1V. yyy=001-858, stands for the rated output current range 0.01-8.58A in step of 0.01A.), UL report Ref# E215890-A6059-UL.

Dear Nick Cao:

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 E215890, Volume X9. You are required to send a copy of this letter to all manufacturing locations authorized under UL Solutions File E215890, Volume X9.

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,

Lyne Wang
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Lyne.Wang@ul.com

David Piecuch
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UL LLC
David.Piecuch@ul.com

65206de6fd3f43378475493ed33cc74d

Verification of Conformity

No. ESTS-P24060515 (UKCA)

The following products have been tested by us with the listed standards and found in compliance with the Electrical Equipment (Safety) Regulations 2016. It is possible to use UKCA marking to demonstrative for the compliance with this regulation.

Applicant : KUANTECH CO., LTD.

Address : 11th FI 868-3 Zhongzheng Rd, Zhonghe District 235 New Taipei
TAIWAN

Product : SWITCH MODE POWER SUPPLY

Trade Mark : Ktec

Model No. : KSA-180A-xxxxyyM3 (xxx and yyy are variable, see test report for details)

Test Standards:	
EN 62368-1:2014+A11:2017 BS EN 62368-1:2014+A11:2017	Audio/video, information and communication technology equipment Part 1: Safety requirements

**UK
CA**


John Lan
Manager

Date: Oct. 17, 2024

EST Technology Co., Ltd.

Http://www.gdest.cn; Tel: +86 769-83081888

Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

The statement is based on a single evaluation of one sample of above mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab's logo.

Verification of Conformity

No. ESTS-P24060515 (CE)

The following products have been tested by us with the listed standards and found in compliance with the council Low Voltage Directive 2014/35/EU. It is possible to use CE marking to demonstrative for the compliance with this Directive.

Applicant : KUANTECH CO., LTD.
Address : 11th Fl 868-3 Zhongzheng Rd, Zhonghe District 235 New Taipei TAIWAN
Product : SWITCH MODE POWER SUPPLY
Trade Name : Ktec
Model No. : KSA-180A-xxxyyyM3 (xxx and yyy are variable, see test report for details)

Test Standards:	
EN 62368-1:2014+A11:2017	Audio/video, information and communication technology equipment Part 1: Safety requirements




John Lan
Manager
Date: Oct. 17, 2024

EST Technology Co., Ltd.

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Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

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