

Delivering leading edge, innovative power solutions for more than 30 years....

Model:GTM96180-18VV-T3

April 9, 2020

## Desktop External Power Supply, 18W, Available with 5-48VDC outputs, DOE EPS 2.0 Level VI rated, with ITE 60950 and IEC 62368-1, Medical IEC 60601-1-2 4th edition certifications

### Information

**Model Number**

GTM96180-18VV-T3

**Description**

GTM96180-18VV-T3, ITE / Medical Power Supply/Class 2/Household Power Supply, 60601-1-4th Ed. , Desktop/External, Regulated Switchmode AC-DC Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground, Output Rating: 18 Watts, Power rating with convection cooling (W) , 5-48V in 0.1V increments, Approvals: Taiwan BSMI; IP42; CB 62368; CB 60950; Class I; 230V CoC Tier 2; cULus (9V only); Korea (12V Only); EAC; Morocco; NOM (9V only); S-Mark 60950; ETL; CCC; CE; IRAM; CB 60335; cETLus UL1310; Fuse 60335; Fuse 60335; CE; China RoHS; Level VI; LPS 60950; RoHS;Ukraine; VCCI; WEEE; PSE; PSE; FCC; CAN ICES-3; cETLus; cETLus 60601-1 3rd; CB 60601-1; RCM;

**Model Picture**

**Agency Documents**
<http://www.globtek.info/certs/GTM96180-TZ/>
**CE EC-Declaration**
[https://www.globtek.com/pdf/ec\\_declaration/a0Oa000000MmbDvEAJ](https://www.globtek.com/pdf/ec_declaration/a0Oa000000MmbDvEAJ)
**RoHS/RoHS2 Declaration**
[https://www.globtek.com/pdf/rohs\\_cert/a0Oa000000MmbDvEAJ](https://www.globtek.com/pdf/rohs_cert/a0Oa000000MmbDvEAJ)
**REACH Declaration**
[https://www.globtek.com/pdf/iso\\_certificates/REACH.pdf](https://www.globtek.com/pdf/iso_certificates/REACH.pdf)
**Conflict Minerals Declaration**
<https://www.globtek.com/pdf/conflict-minerals.pdf>

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**MODEL PARAMETERS**

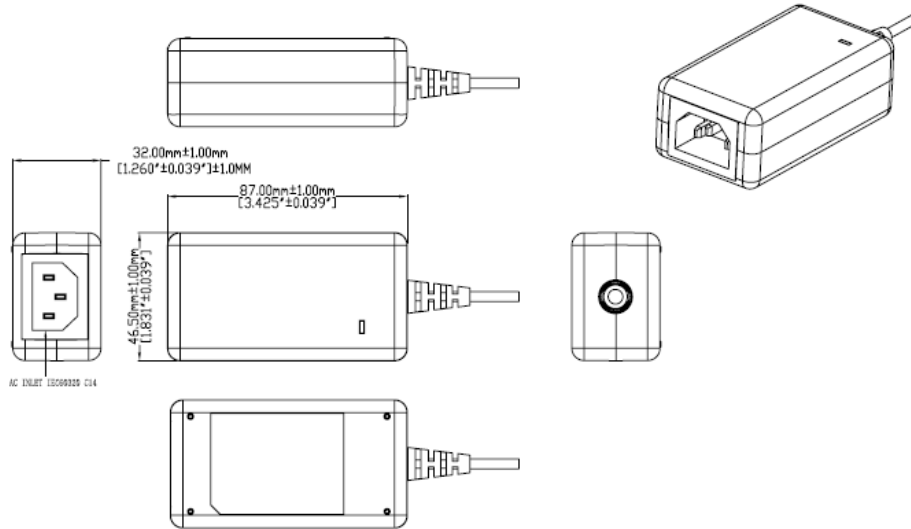
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ITE / Medical Power Supply/Class 2/Household Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	0.6 A
Wattage (W)	18.0
Vout Range (V)	5-48
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP42
Size (mm)	(L)87x(W)47x(H)32mm

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# ENCLOSURE



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**RATING TABLE**

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96180-1607-2.0-T3	5 V	3.2	16.00	<a href="#">RFQ</a>
GTM96180-1807-2.0-T3	5 V	3.6	18.00	<a href="#">RFQ</a>
GTM96180-1507-2.0-T3-CF	5 V	3	15.00	<a href="#">RFQ</a>
GTM96180-1807-1.05-T3	5.95 V	3	17.85	<a href="#">RFQ</a>
GTM96180-1807-T3	7 V	2.57	17.99	<a href="#">RFQ</a>
GTM96180-1511-3.5-T3-CF	7.5 V	2	15.00	<a href="#">RFQ</a>
GTM96180-1511-2.0-T3-CF	9 V	1.66	14.94	<a href="#">RFQ</a>
GTM96180-1811-2.0-T3	9 V	2	18.00	<a href="#">RFQ</a>
GTM96180-1817.9-7.9-T3	10 V	1.8	18.00	<a href="#">RFQ</a>
GTM96180-1517.9-5.9-T3-CF	12 V	1.25	15.00	<a href="#">RFQ</a>
GTM96180-1817.9-5.9-T3	12 V	1.5	18.00	<a href="#">RFQ</a>
GTM96180-1517.9-2.9-T3-CF	15 V	1	15.00	<a href="#">RFQ</a>
GTM96180-1817.9-2.9-T3	15 V	1.2	18.00	<a href="#">RFQ</a>
GTM96180-1530-12.0-T3-CF	18 V	0.83	14.94	<a href="#">RFQ</a>
GTM96180-1830-12.0-T3	18 V	1	18.00	<a href="#">RFQ</a>
GTM96180-1830-11.0-T3	19 V	0.95	18.05	<a href="#">RFQ</a>
GTM96180-1830-10.0-T3	20 V	0.9	18.00	<a href="#">RFQ</a>
GTM96180-1530-6.0-T3	24 V	0.625	15.00	<a href="#">RFQ</a>
GTM96180-1830-6.0-T3	24 V	0.75	18.00	<a href="#">RFQ</a>
GTM961600P16026-T3-CF	26 V	6.15	159.90	<a href="#">RFQ</a>
GTM96180-1830-T3	30 V	0.6	18.00	<a href="#">RFQ</a>
GTM96180-1848-T3	48 V	0.375	18.00	<a href="#">RFQ</a>

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<http://en.globtek.com/datasheet/id/a0Oa000000MmbDy>

## SPECIFICATIONS

### A) ELECTRICAL SPECIFICATIONS:

01. Input Voltage: Specified 90-264 Vac, Nameplate rated: 100-240Vac
  - 90-264 Vac range @ 100% of rated load current
  - 85-264 Vac range @ 85% of rated load current
  - 110-370 VDC range @ 100% of rated load current
02. Input Frequency: Specified 47-63 Hz, Nameplate rated 50-60Hz
03. Output Regulation: +/- 5% measured at the output connector
04. Line Voltage Regulation: +/- 0.5% typical measured at full load
05. Green Power On Indicator LED
06. Output Ripple (Vp-p): 1% or 100 mV whichever is greater, measured at 20 MHz bandwidth with 0.1 uf ceramic capacitor in parallel with a low impedance 47 uf electrolytic capacitor connected at the end of the output connector
07. Turn-ON/OFF Overshoot: 5% maximum, 1 mS typical recovery time for 40% to 70% step load
08. Turn-ON Delay: 1 second maximum @ full load, nominal line
09. Hold-Up Time: 8 mS typical @ nominal input voltage and full load
10. Inrush Current: 30A/60A maximum cold start @ 115/230Vac input
11. Efficiency: Compliant with Efficiency Level VI and CoC Tier 2 standards
12. No Load Standby Power: <0.075 W @ 230Vac

### B) PROTECTION

01. Input Protection: Input line fusing and 300Vac MOV
02. Short Circuit/ Overload: Electronically Protected unit will auto recover upon removal of fault
  - Output Current Limit: 110% to 160% of rated output current
  - (upper end of current limit range is determined by normal output power rating, not derated output power level)
03. Output Over-Voltage: 110% to 130% of nominal output voltage

### C) SAFETY

01. Dielectric Withstand Voltage: 4000Vac or 5656Vdc from input to output, On Class I models, 3000Vac or 4242Vdc from input to earth
02. Earth Leakage Current: Class I models < 300uA, N/A for Class II models
03. Touch Current: Class I models < 20uA, Class II models < 75uA
04. Output Floating or Earthed option for Class I desktop models.
  - See Output Isolation Options for details
05. Earth Continuity Test: < 0.1 Ohm between Earth Pin at AC input and PCB termination point (Class I models only)
06. Means of Protection: 2 x MOPP
07. Compliant Standards: See listings at end of this drawing for specifics

### D) EMC

- EN 60601-1-2, 4th edition
- Emissions, per EN 55032, EN 61000-6-3, EN 61000-6-4
- Conducted Emissions: Class B, FCC Part 15, Class B
  - Radiated Emissions: Class B, FCC Part 15, Class B
- Line Frequency Harmonics EN61000-3-2, Class A
- Voltage Fluctuations/Flicker EN61000-3-3

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Immunity, per EN 55024, EN 61000-6-1, EN 61000-6-2  
Static Discharge Immunity EN61000-4-2, 10kV Contact Discharge, 20kV air discharge  
Radiated RF Immunity EN61000-4-3, 10V/m 80-1000MHz, 3V/m 1-2.7GHz, 80% 1KHz AM.  
EFT/Burst Immunity EN61000-4-4, 4kV/100kHz.  
Line Surge Immunity EN61000-4-5, 2kV differential, 4kV common-mode  
Conducted RF Immunity EN61000-4-6, 3Vrms, 80% 1KHz AM  
Power Frequency Magnetic Field Immunity EN61000-4-8, 3A/m  
Voltage Dip Immunity EN61000-4-11, Criteria

## E) OTHER:

01. MTBF: 1,000,000 Hours @ 40°C ambient temperature, Full load
02. GTM96180 Family: -20°C to 40°C ambient temperature, Full load  
Regarding Operating Temperature,
  - a- See below derating table for output power capability at alternate temperature
  - b- Extended low end temperature range available as custom option
03. Operating Humidity: 0% to 95% relative humidity, non-condensing
04. Storage Temperature: -30°C to 80°C
05. Operating Altitude: 5000 Meters
06. Ingress Protection: IP40 standard, IP52 available as special option
07. ROHS: Compliant with latest regulations, see approvals section below

## F) ENCLOSURE

01. Housing: High impact plastic, 94V0 polycarbonate, non-vented
02. Markings: Label or Laser Printed
03. AC Input mechanical options: Class II Wall Plug-in, Changeable Blades  
Desktop Option, extended housing: C6, C8, C14 or C18 IEC Inlet.

## G) SPECIAL OPTIONS

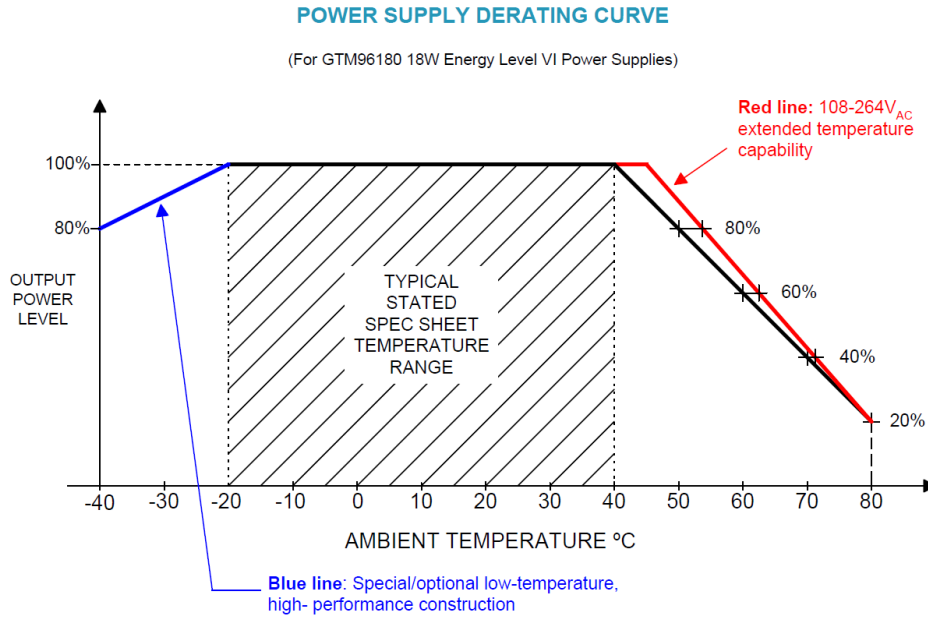
01. Cost reduction, removal of LED
  02. Custom Cordsets, various cordage types, and connector types\*
  03. Custom Markings
  04. Short term Output Surge Capability
  05. Reduced Leakage Current versions (10uA max), for CF medical applications, and AC noise sensitive equipment, 15W or less, 5V to 24V output voltage range.
  06. Tightened output voltage tolerance
  07. Reduced output ripple level
  08. Reduced output power rating marking
  09. High Rel PCB laminate with Plated through Holes for IPC610 Class 2 Compliance
  10. Special Housing Colors and Cordset Colors
  11. Quasi Constant Current Output, for Lead-Acid Battery Charger Applications
- \* 5Vdc USB output connector power supplies, which use the Micro-B or C-type style connector, have a max output voltage regulation specification of +/-8% (4.6V to 5.4V range).

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# DERATING CURVE



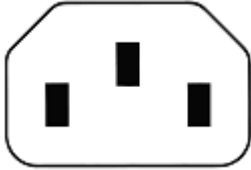
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**INPUT CONFIGURATION**

Description IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground



Mates with IEC 60320/C13 Plug

Optional Locking IEC60320 Receptacle and cord option available on some models by request.:


[Standard International IEC 320/C13 Cordsets](#)

Below are standard cordsets which are "not included" (unless stated above); these can be purchased separately or packaged with the power supply. Contact your Sales Engineer if the style required is not shown below. Many more available in different lengths, colors or cable material.

**Stock Power Supply Cords**

Part Number/ Link	Country	Plug	Termination	Length (mm)	(Ft)
<a href="#">3021457F701(R)</a>	N. American (Type B)	NEMA 5-15P	IEC 320/C13	2150	7
<a href="#">1191068F0701(R)</a>	N. American (Type B)	NEMA 5-15P Hospital	IEC 320/C13	2459	8
<a href="#">2194272M5701-T(R)</a>	Argentina (Type I)	IRAM 2073	IEC 320/C13	2500	8
<a href="#">5502022M5701A(R)</a>	Australian (Type I)	AS3112 / 3 PRONG	IEC 320/C13	2500	8
<a href="#">204B4272M5701(R)</a>	Brazil (Type N)	BRAZIL	IEC 320/C13	2500	8
<a href="#">6023602M5701(R)</a>	China (Type I)	CCC GR2099	IEC 320/C13	2500	8
<a href="#">G8014272M5701(R)</a>	Danish (Type K)	AFSNIT SECTION 107-2-D1	IEC 320/C13	2500	8
<a href="#">23144272M5701-T(R)</a>	Europe (Type E)	CEE 7/7	IEC 320/C13	2500	8
<a href="#">205IN4272M5701(R)</a>	India (Type D)	India IS 1293 (also known as IA16A3 or BS546)	IEC 320/C13	2500	8
<a href="#">208IN4272M5701(R)</a>	India (Type M)	India IS 1293 (also known as IA16A3 or BS546)	IEC320/C13	2500	8
<a href="#">377C4272M5701(R)</a>	Israel (Type H)	ISL 377C	IEC 320/C13	2500	8
<a href="#">23024272M5701(R)</a>	Italy (Type L)	CEI 23-16/VII	IEC 320/C13	2500	8
<a href="#">3003339F701(R)</a> [3x1.25mm2]	Japan (Type B)	JIS 8303 / 3 PINS	IEC 320/C13	2500	8

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<a href="#">3003068F2701-HK(R)</a> [3 x 2.0mm2]					
<a href="#">302J115J6F0701J(R)</a>	Japan / North America (Type B – 12A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">302J104J6F0701J(R)</a>	Japan / North America (Type B – 15A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">2313K3432M5701(R)</a>	Korea (Type F)	KS C 8305	IEC 320/C13	2500	8
<a href="#">5804272M5701(R)</a>	Russia (Type F)	GOST 7396	IEC 320/C13	2500	8
<a href="#">2084272M5701(R)</a>	South Africa (Type M)	South Africa SABS164-1 (16A type)	IEC 320/C13	2500	8
<a href="#">23214272M5701(R)</a>	Switzerland (Type J)	SEV 1011	IEC 320/C13	2500	8
<a href="#">3003322M5701(R)</a>	Taiwan (Type B)	BSMI	IEC 320/C13	2500	8
<a href="#">PZ0800100-2M5BK13H(R)</a>	UK, Hong Kong, Singapore, Gulf States (Type G)	BS 1363A	IEC 320/C13	2500	8
<a href="#">7055002M5701A(R)</a>	International	IEC 320 C14-C13	IEC 320/C13	2500	8

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**OUTPUT CONFIGURATION**

Common output connector options:


 L Type (Coaxial  
5.5x2.5mm plug)

 C Type (Coaxial  
5.5x2.1mm plug)

 K Type (Coaxial  
3.5x1.3mm plug)

 LL Type (5.5x2.5mm  
Locking 760k type)

 CL Type (5.5x2.1mm  
Locking S761k type)

 ML2 Type (Molex  
housing 43025-0200)

 YL3 Type  
(KPPX-3P)


YL4 Type (KPPX-4P)


 EJ1/2/3/4/5 (EIAJ  
RC-5320A type  
connectors)

 MSB Type (Micro  
USB)

 USBC Type (USB  
Type C)

 Inquire for custom  
design



 For a comprehensive list of options, [click here](#)

Contact GlobTek for your specific requirements or custom solutions.

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## Approvals

Logo	Description
No Logo Applicable	EU 230V CoC Tier 2, 278/2009, Mar 2014
	Book 60335 up to 36 Volts
 R32282 RoHS(Pb)	BSMI Taiwan GTM96180-18VV-T3(A) (5V, 6V, 7.5, 9V, 12, 15V, 18, 19V, 20V, 24V, 30, 48V) CN13438, CN14336 <a href="http://www.bsmi.gov.tw/wSite/ct?xItem=4072&amp;ctNode=8167=2">http://www.bsmi.gov.tw/wSite/ct?xItem=4072&amp;ctNode=8167=2</a>
No Logo Applicable	IEC 60601-1:2005 (Third Edition) + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1 (2012 reprint) (Ed 3.1)
No Logo Applicable	CB for IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
	CCC to GB4943. 1-2011; GB9254-2008; GB17625. 1-2012 with Tropical and Altitude up to 5000 m approval.
No Logo Applicable	IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
	CE Mark: tested to comply with EN 55032:2012+AC:2013, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55024:2010, EN 60601-1-2:2015
	CE Certification CE Mark: tested to comply with EN 55032.2012+AC.2013 EN 61000-3-2.2014 EN 61000-3-3.2013 EN 60601-1-2.2015 EN 55024.2010
	Information Technology Equipment Safety Part 1: General Requirements (UL 60950-1 Issued: 2007/03/27, Ed: 2 Rev: 2014/10/14)

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	Information Technology Equipment Safety Part 1: General Requirements (CSA C22.2 No. 60950-1 Issued: 2007/03/27 Ed: 2 (R2012) Amd.
Conforms to ANSI/UL Std. 60950-1 Cert. to CAN/CSA Std. C22.2 NO. 60950-1	Conforms to ANSI/UL Std. 60950-1 2nd Edition Cert. to CAN/CSA Std.C22.2 NO.60950-1 2nd Edition
 Class 2 Power Unit	cETLus-Cert 4007497 UL1310 Recognized Component up to 36 volts
	AAMI ES60601-1 Issued: 2012/08/20 Medical Electrical Equipment - Part 1: CAN/CSA-C22.2 No.60601-1:14, Third Edition Issued: 2014/03/01 - Medical Electrical Equipment - Part 1: IEC 60601-1-11 Issued: 2015/01/20 Ed. 2 Medical Elec. Equip.- Part 1-11:
	CHINA SJ/T 11364-2014, China RoHS Chart: <a href="http://en.globtek.com/globtek-rohs.php">http://en.globtek.com/globtek-rohs.php</a>
	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements) 9V only
	Certification # TC RU AR46.B.69004 Custom Union of Russia, Belarus and Kazakhstan
	Compliance of this power supply with FCC Part 15, Class B has been demonstrated with a standard output load. The FCC law stipulates that system-level testing is required to demonstrate compliance with the FCC emission limits with the actual system load.
	Fuse 60335 T1.6A 250VAC Up to 36 volts
CAN ICES-3(B)/NMB-3(B)	Compliance of this PSU with Industry Canada, Class B demonstrated with a standard output load. The ICES law stipulates that system-level testing is required to demonstrate compliance with the ICES-3 emission limits with the actual system load.

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	Indoor Use Only - Mark is on the label or Molded in the case
IP42	Ingress Protection: ?IP42 to IEC60529:2001 Protection against granular foreign bodies - Protected against direct sprays up to 15o from the vertical Optional
 DC-E-G71-002.7 PRECAUCION: PARA USO EN EQUIPOS ELECTRONICOS SOLAMENTE	IRAM certificate DC-E-G71-002.8 to IEC 60950-1:2005 + A1:2009 +A2:2013 for 5-48V
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50314327, to J60950-1(H26) , J55022(H22),J3000(H25)[15V or less]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50314327, to J60950-1(H26) , J55022(H22),J3000(H25)[DC15?30V]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
	Korea KET KC Mark GTM96180-1817.9-5.9-T3 HU10499-18036A (12V)
EFFICIENCY LEVEL 	Efficiency: complies to section 301 of Energy Independence and Security Act (EISA) complies with Energy Star tier 2 (North America), ECP tier 2 (China), MEPS tier 2 (Australia), Code of Conduct (Europe)
LPS	Limited Power Source 60950
	Morocco SDoC declaration <a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>

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	NOM (Mexico) to NOM-001-SCFI-1993 GTM96180-1811-2.0-T3 for 9V
	RCM certificate SAA-161679-EA; Australia and New Zealand Regulatory Compliance, Mark ( <a href="http://rcm.standards.org.au/rcmfaq/rcmfaq.htm">http://rcm.standards.org.au/rcmfaq/rcmfaq.htm</a> )
RoHS	Specifications of directive 2011/65/EU Annex VI (ROHS-2) with amendment 2015/863-EU (ROHS-3) <a href="http://www.ce-mark.com/Rohs%20final.pdf">http://www.ce-mark.com/Rohs%20final.pdf</a>
	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 ( <a href="http://www.intertek.com/marks/s/">http://www.intertek.com/marks/s/</a> )
 10276	Ukraine UKRSepr (Document: <a href="http://www.globtek.com/html/iso_certificates/GT_Ukraine.pdf">www.globtek.com/html/iso_certificates/GT_Ukraine.pdf</a> )
	Japan: Voluntary Control Council for Interference (VCCI)
	WEEE: Complies with EU 2012/19/EU ( <a href="http://ec.europa.eu/environment/waste/weee/index_en.htm">http://ec.europa.eu/environment/waste/weee/index_en.htm</a> ) Mark is on the label or Molded in the case