

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

Model:GTM96900P90VV.V-T2

July 24, 2021

90W Desktop Power Supply Adapter offering IEC60950, 60601, 62368, UL1310, IEC60335 Certifications and DOE EPS 2.0 Level VI compliant, Class II

Information

Model Number GTM96900P90VV.V-T2

Description The 90W Desktop Power Supply family also serves as an LED Driver which meets 61000-3-2 Class C Harmonics and has IEC61347, LPS, and UL1310 (Class 2 Transformer) certification, Class II.



Agency Documents <http://www.globtek.info/certs/GTM96900P90VV.V/>

CE EC-Declaration https://www.globtek.com/pdf/ec_declaration/a0Oa000000MigSZEAZ

RoHS/RoHS2 Declaration https://www.globtek.com/pdf/rohs_cert/a0Oa000000MigSZEAZ

REACH Declaration 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

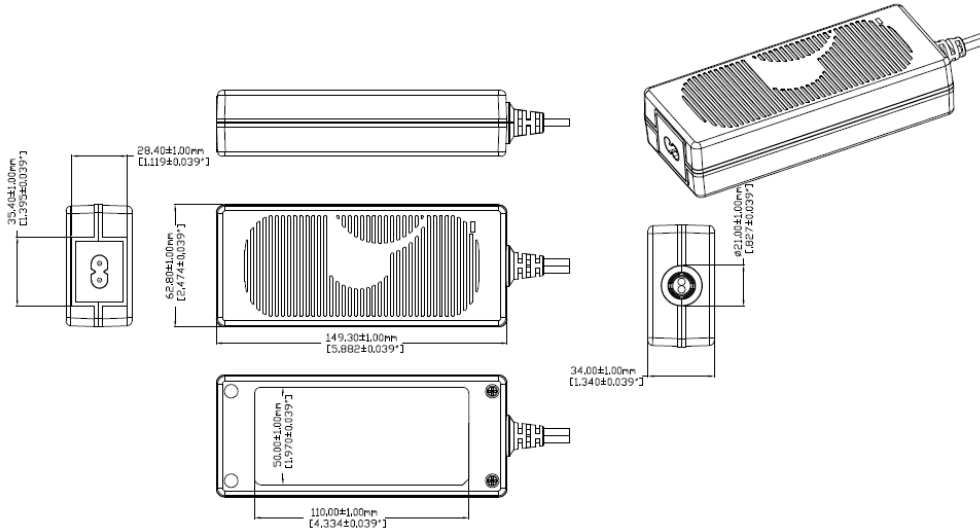
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ICT / ITE / Medical Power Supply/Class 2/Household Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	1.5A
Wattage (W)	90.0
Vout Range (V)	12-54
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP41
Size (mm)	149.38 x 62.6 x 33.5 +/-1.0

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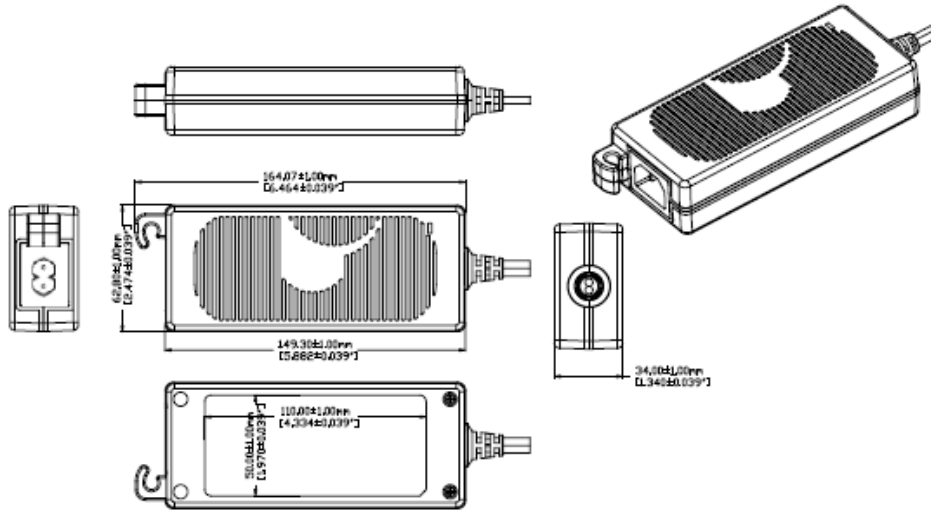
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ENCLOSURE



Alternative housing with input cord clamp to prevent accidental removal of the power cord. Product PN# ends with suffix "CL"



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RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96900P8512-T2	12 V	7.1	85.20	RFQ
GTM96900P8512-T2Z	12 V	7.1	85.20	RFQ
GTM96900P9015-T2Z	15 V	6	90.00	RFQ
GTM96900P9015-T2	15 V	6	90.00	RFQ
GTM96900P9019-T2Z	19 V	4.73	89.87	RFQ
GTM96900P9019-T2	19 V	4.73	89.87	RFQ
GTM96900P9022-T2Z	22.0 V	4.09	89.98	RFQ
GTM96900P9024-T2Z	24 V	3.75	90.00	RFQ
GTM96900P9024-T2	24 V	3.75	90.00	RFQ
GTM96900P9030-T2Z	30 V	3	90.00	RFQ
GTM96900P9030-T2	30 V	3	90.00	RFQ
GTM96900P9036-T2	36 V	2.5	90.00	RFQ
GTM96900P9036-T2Z	36 V	2.5	90.00	RFQ
GTM96900P9048-T2Z	48 V	1.875	90.00	RFQ
GTM96900P9048-T2	48 V	1.875	90.00	RFQ
GTM96900P9054-T2Z	54 V	1.66	89.64	RFQ
GTM96900P9054-T2	54 V	1.66	89.64	RFQ

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SPECIFICATIONS

Input

Input Voltage:	Specified: 90-264VAC, Nameplate: 100-240VAC 100% rated load current for 90-264VAC 90% rated load current for 85-264VAC 100% rated load current for 90-370VDC
Input Frequency:	Specified: 47-63Hz, Nameplate: 50-60Hz
Power Factor:	0.90 min. @ 230VAC, 0.97 min. @ 115VAC
No Load Input Power:	< 150mW @ 115/230VAC
Inrush Current:	< 65A @ 115VAC, < 130A @ 230VAC (cold start)
Efficiency:	DoE Level VI and EU CoC Tier 2 compliant

Output

Turn-on Delay:	1 second typ.
Output Regulation:	± 4% (measured at output connector)
Line Regulation:	± 0.5% typ. (measured at output connector, full load)
Ripple:	1% or 200mV, whichever is greater (using a 47µF low-ESR cap + 0.1µF ceramic capacitor, measured @ 20MHz BW, at output connector)
Startup Overshoot:	5% max.
Transient Response:	5% max. deviation, 1ms typ. recovery time (with 25% to 50% load step)
Hold-up Time:	20ms min.
Power Indicator:	Green LED
Switching Frequency:	Variable, 25KHz - 125KHz, depending on load
Output Type:	Z-suffix only: IEC62368-1 Limited Power Source (LPS), 8A and 100W max.

Protections

Input Protection:	300VAC MOV transient suppressor, input line fusing
Over-Current Protection (Non-LPS Version):	110 - 160% of rated output current, auto-restart
Over-Current Protection: (LPS "Z" Version)	Overload limited to less than 8A and less than 100W, auto-restart
Short-Circuit Protection:	Auto-restart
Over-Voltage Protection:	110 - 135% (60V max for models rated 45 - 54V), full load condition, latched off, cycle AC to reset
Over-Temperature Protection	On-chip temperature sensor (integrated in primary-side switching controller), shut down at Tj = ~150°C, restart at Tj = ~140°C

Environmental

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MTBF:	1,500,000 hours @ 25°C ambient, full load (Telcordia SR-332, Issue 3)
Operating Temperature:	-10°C to 40°C (full load)
Storage Temperature:	-30°C to 80°C
Humidity:	0% to 95% relative humidity, non-condensing
Altitude:	5000m
Cooling:	Convection
RoHS:	Complies with EU 2011/65/EU and China SJ/T 11363-2006
Note 1:	Regarding operating temperature a. See below de-rating table for output power capability at alternate temperature b. Extended low-end temperature range available as a custom option

Safety

Dielectric Withstand Voltage:	4000VAC or 5656VDC from input to output 3000VAC or 4242VDC from input to earth (Class I models only)
Touch Current:	Class I: 20µA max. Class II: 70µA max.
Earth Leakage Current	Class I: 300µA max. Class II: N/A
Means of Protection:	2 x MOPP
Output Isolation Options:	Class I: C6 or C14 inlet (output negative tied to Earth contact) Class II: C8 or C18 inlet Class II FE: C6 or C14 inlet (output isolated from Earth contact) Review isolation options by reading our white paper PSU Isolation and Identity .
Primary-to-Secondary Bridging Capacitors:	Two IEC60384-14 Class Y1 capacitors
Earth Continuity Test:	< 0.1Ω between earth pin (on AC inlet) and PCB termination point (Class I models only)
Compliant Standards:	See listing at end of this datasheet for specific standards

EMC

Applicable Standards:	Medical: EN60601-1-2, 4th edition Emissions: EN55032, EN61000-6-3, EN61000-6-4, CISPR11, CISPR22 Immunity: EN55024, EN61000-6-1, EN61000-6-2
Conducted Emissions:	Class B, FCC Part 15, Class B (with resistive load)
Radiated Emissions:	Class B, FCC Part 15, Class B (with resistive load)
Harmonic Current Voltage Distortion:	EN61000-3-2, Class A
Voltage Fluctuations/Flicker:	EN61000-3-3
Electrostatic Discharge (ESD) Immunity:	EN61000-4-2, 10KV contact discharge, 18KV 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

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Voltage Dip Immunity:	EN61000-4-11
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Enclosure

Housing:	High impact plastic, 94V0 polycarbonate, non-vented
Size:	149.4 * 62.6 * 33.5mm, ± 1.0mm
AC Input Mechanical Options:	C6, C8, C14, or C18 IEC inlet
Markings:	Label and/or pad printed and/or laser-etched into case

Special Options

1. IEC62368-1 Limited Power Source (LPS) version (add Z suffix)
2. Reduced leakage current to meet IEC60601-1 Type-CF limits
3. Improved EN61000-4-5 line surge immunity (3KV differential, 5KV common-mode)
4. Reduced harmonic current levels for LED lighting (EN61000-3-2 Class C), available in three load ranges: 27-50W, 40-65W, and 57-90W
5. Ruggedized construction with improved shock and vibration resistance
6. Compliance to IPC-600, IPC-610, IPC-6012 Class 2 or 3
7. Short term output surge capability for motors or other high peak current loads (non-LPS version only)
8. Custom cordsets, special cordage and connector types
9. Custom housing markings
10. Custom housing/cordage colors
11. Tightened output voltage tolerance
12. Reduced output ripple level
13. Reduced output power rating
14. Low temperature option, down to -40°C
15. Epoxy potted version "P2" or "P3" suffix, with flying wires or custom cables
16. "Back EMF" upgrade, for motor loads and other high inductance applications with reverse energy flow requirements
17. Improved ingress protection (IP) rating

Output Connectors

- Several output connector options are available with various output current ratings. GlobTek can supply 10A rated 2.1mm and 2.5mm style DC Power Jacks, to complement our 10A output rated 2.1mm and 2.5mm DC power plugs used on our output cordsets.
- Please visit our real-time listing of mating connector product offering:
<https://en.globtek.com/news/high-current-coaxial-barrel-plug-jacks-for-high-wattage-power-supplies>

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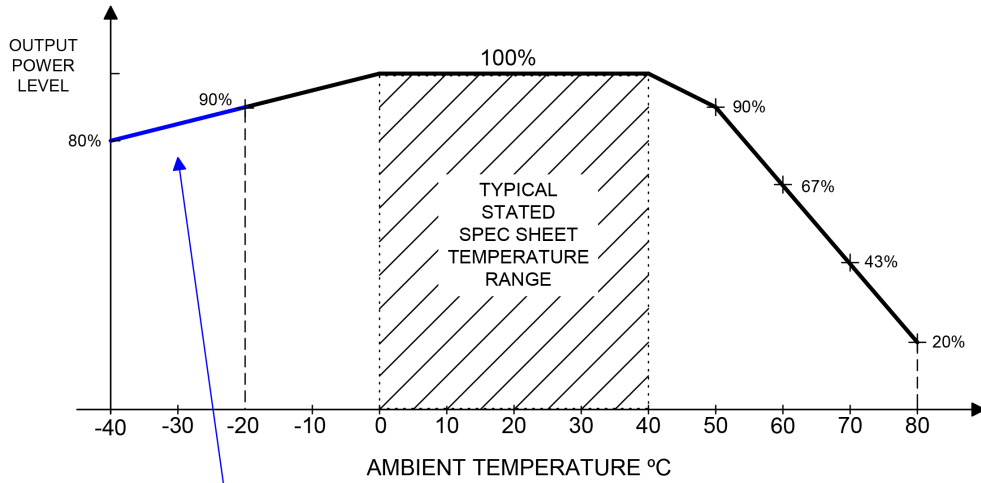
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DERATING CURVE

TYPICAL EXTERNAL POWER SUPPLY DERATING CURVE

(GTM96900 LPS PRODUCTS)



Blue Line represents special/optional Low Temperature, High Performance Construction

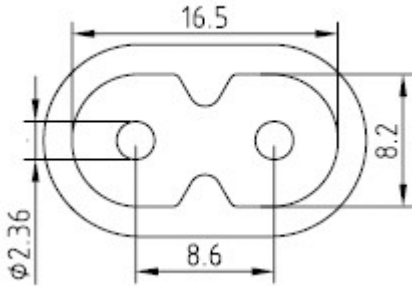
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INPUT CONFIGURATION

Description IEC 60320/C8 AC Inlet connector, Class II, Non-Earth Ground (aka "Figure-8")



Mates with IEC 60320/C7 Plug

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

[Standard International IEC 320/C7 Cordsets](#)

Part Number	Type	Standard	Connector	Length (mm)	Length (feet)
2094112M703(R)	Argentina (Type I)	IRAM 2063	IEC 320/C7	2000	7
5014112M703A(R)	Australian (Type I)	AS 3112	IEC 320/C7	2000	7
207B4111M8703(R)	Brazil (Type N)	NBR14136	IEC 320/C7	1800	6
4533501M8703(R)	China (Type A)	GB 2099.1	IEC 320/C7	1830	6
2074112M703A(R)	European (Type C)	CEE 7/16	IEC 320/C7	2000	7
2084111M8703B(R)	India (Type D)	IS 1293	IEC 320/C7	1800	6
451J3401M8703(R)	Japan (Type A)	JIS 8303	IEC 320/C7	1830	6
2044112M703A(R)	Korea (Type C)	KS C8305	IEC 320/C7	2000	7
4511116F703A(R)	North America (Type A)	NEMA 1-15P	IEC 320/C7	1830	6
	South Africa (Type				

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2084111M8703(R)	M)	BS 546	IEC320/C7	1830	6
4033401M8703A(R)	Taiwan (Type A)	CNS690	IEC 320/C7	1830	6
6104112M703A(R)	UK, Hong Kong, Singapore, Gulf States (Type G)	BS1363	IEC 320/C7	2000	7
451G1116F703A(R)	Gulf States (Kuwait, Bahrain, Oman, Qatar, Saudi Arabia, Yemen and the United Arab Emirates (UAE)(Type A)	Nema 1-15P	IEC320/C7	1830	6

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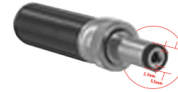
OUTPUT CONFIGURATION

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
	Book 60335 up to 36 Volts
No Logo Applicable	CB for IEC 60601-1:2006/A1:2013+A12:2014 IEC 60601-1-11:2015
No Logo Applicable	CB for IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
No Logo Applicable	CB for IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
No Logo Applicable	CB for IEC61347-1:2015 + A1:2017 IEC61347-2-13:2014, A1:2016
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
	CCC Altitude up to 5000 m GB17625.1-2012, GB4943.1-2011, GB/T9254-2008
	Test standard: EN 55032: 2012+AC: 2013 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 EN 60601-1-2:2015
	Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements [UL 62368-1:2014 Ed.2] Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements [CSA C22.2#62368-1:2014 Ed.2]
	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php

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Conforms to AAMI STD.ES60601-1,IEC 60601-1-11 Certified to CAN/CSA STD.C22.2 NO.60601-1	Conforms to AAMI STD.ES60601-1,IEC 60601-1-11 Certified to CAN/CSA STD.C22.2 NO.60601-1
Conforms to UL STD. 1310 Certified to CSA STD. C22.2 NO.223	Conforms to UL STD. 1310 Certified to CSA STD. C22.2 NO.223
Conforms to UL STD. 60950-1 Certified to CSA STD C22.2 NO.60950-1	Conforms to UL STD. 60950-1 Certified to CSA STD C22.2 NO.60950-1
Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1	Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1
	
	Declaration ДС № EAЭC N RU Д-US.KA01.B.10453_19 Custom Union of Russia, Belarus and Kazakhstan http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration
	Medical Electrical Equipment - Part 1: General Requirements For Basic Safety And Essential Performance (R2012) [AAMI ES60601-1:2005 +C1;A2] [CSA C22.2#60601-1:2014 Ed.3] [AAMI HA60601-1-11:2015 Ed.2]
	Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]
 Class 2 Power Unit	Class 2 Power Units [UL 1310:2011 Ed.6 +R:12Dec2014] up to 5A Power Supplies With Extra-Low Voltage Class 2 Outputs [CSA C22.2 No.223:2015 Ed.3]
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
IP41	Ingress Protection: ?IP41 to IEC60529:2001 Protection against granular foreign bodies - Protected against vertically falling drops of water
 DC-E-G71-005.2 PRECAUCION: PARA USO EN EQUIPOS ELECTRONICOS SOLAMENTE	IRAM certificateDC-E-G71-005.1 to IEC 62368-1:2014
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50313287, to J60950-1(H26) , J55022(H22),J3000(H25)[DC15?30V]. Please reference the following website for guidelines on PSE regulations: http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50313287, to J60950-1(H26) , J55022(H22),J3000(H25)[DC30?60V]. Please reference the following website for guidelines on PSE regulations: http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50469658, to J62368-1(H30) , J55032(H29),J3000(H25)[15V or less]. Please reference the following website for guidelines on PSE regulations: http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/
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 if Z suffix on model number
LPS	Limited Power Source if Z suffix on model number 62368
No Logo	Malaysia ST Release Letter GTM41133 GTM96900P; GTM961200P T2 T3(A) IEC60950-1(Ed.2): 2005 + A1:2009 + A2:2013 No logo

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	Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/
Patent pending	Patent pending
	RCM certificate SAA-170646-EA; Australia and New Zealand Regulatory Compliance, Mark (http://rcm.standards.org.au/rcmfaq/rcmfaq.htm)
RoHS	Specifications of directive 2011/65/EU Annex VI (ROHS-2) with amendment 2015/863-EU (ROHS-3) http://www.ce-mark.com/Rohs%20final.pdf
	S-Mark Certificate EN 60601-1:2006 + A1:2013 + A12:2014 EN 60601-1-11:2015 http://www.intertek.com/marks/s/
	S-Mark Certificate EN 62368-1:2014 + A11 (http://www.intertek.com/marks/s/)
	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 (http://www.intertek.com/marks/s/)
	UKCA Certification
 10276	Ukraine UKRSepr (Document: www.globtek.com/html/iso_certificates/GT_Ukraine.pdf)
DO NOT REMOVE THE TAG WARNING/ADVERTISEMENT RISK OF ELECTRIC SHOCK DRY LOCATION USE ONLY FOR INDOOR USE ONLY Risque de choc électrique Utilisation endroit sec Pour une utilisation en intérieur See instructions if the input plug does not fit the power outlet	UL1310 Warning Label Up To 36 Volts with plugs

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	Japan: Voluntary Control Council for Interference (VCCI)
	WEEE: Complies with EU 2012/19/EU (http://ec.europa.eu/environment/waste/weee/index_en.htm) Mark is on the label or Molded in the case