

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

Model:GTM961600PWWWVV.V-T2

June 1, 2020

GTM961600PWWWVV.V-T2

Information

Model Number

GTM961600PWWWVV.V-T2

Description

GTM961600PWWWVV.V-T2, Medical/ITE/Household use 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/C8 AC Inlet connector, Class II, Non-Earth Ground (aka "Figure-8"), Output Rating: 160 Watts, Power rating with convection cooling (W) , 12-36V in 0.1V increments, Approvals: cETLus; CB 60601-1-11; CB 60601-1; S-Mark IEC/EN 60601-1; cETLus; CB 60950; VCCI; WEEE; China RoHS; RoHS; PSE; CE; Level VI; EAC; Double Insulation; CB 60335; cETLus 60601-1 3rd; CCC; CB 62368; S-Mark 60950; ETL 62368; Morocco;

Model Picture



Agency Documents

<http://www.globtek.info/certs/GTM961800P/>

CE EC-Declaration

https://www.globtek.com/pdf/ec_declaration/a000c00000Old6mEAB

RoHS/RoHS2 Declaration

https://www.globtek.com/pdf/rohs_cert/a000c00000Old6mEAB

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

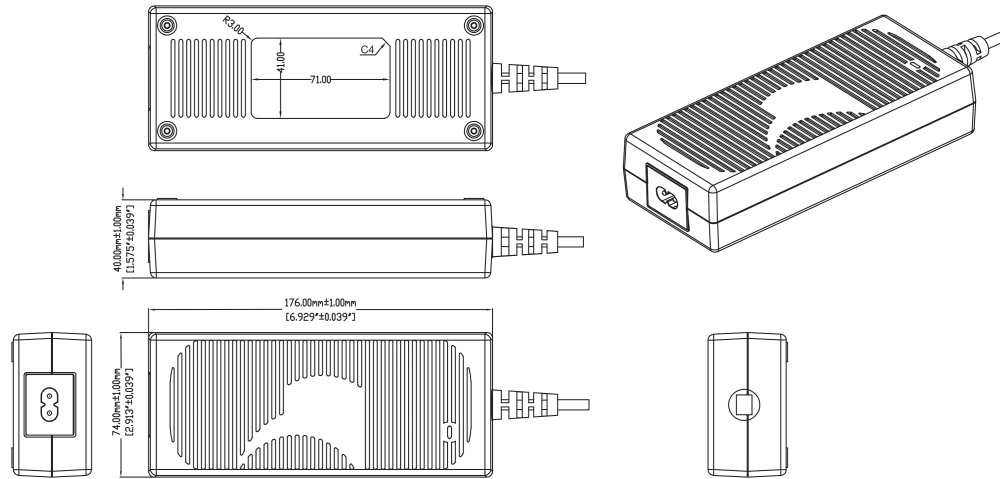
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	Medical/ITE/Household use Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	2.2A
Wattage (W)	160.0
Vout Range (V)	12-36
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP41
Size (mm)	176.5*74*40

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ENCLOSURE



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RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM961600P12512-T2	12 V	10.42	125.04	RFQ
GTM961600P15015-T2	15 V	10	150.00	RFQ
GTM961600P15018-T2	18 V	8.333	149.99	RFQ
GTM961600P16019-T2	19 V	8.42	159.98	RFQ
GTM961600P16024-T2	24 V	6.66	159.84	RFQ
GTM961600P16028-T2	28 V	5.714	159.99	RFQ
GTM961600P16036-T2	36 V	4.444	159.98	RFQ

SPECIFICATIONS

A) ELECTRICAL SPECIFICATIONS:

01. Input Voltage: Specified 90-264 Vac, Nameplate rated: 100-240Vac
90-264Vac range @ 100% of rated load current
85-264 Vac range @ 90% of rated load current
02. Input Frequency: Specified 47-63 Hz, Nameplate rated 50/60Hz
03. Power Factor: 0.90 minimum @ 230Vac, 0.97 minimum @ 115Vac
04. Output Regulation: +/- 4% max measured at the output connector
05. Line Voltage Regulation: +/- 0.5% typical measured at full load
06. Green Power On Indicator LED
07. Output Ripple (Vp-p): 1% or 200 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 at nominal line
08. Turn-ON/OFF Overshoot: 5% maximum, 1 mS typical recovery time for 25% to 50% step load
09. Turn-ON Delay: 1 second typical
10. Hold-Up Time: 20 mS minimum
11. Inrush Current: 30A maximum at 115Vac input and 60A maximum at 230Vac input
12. Switching Frequency: Varies from 25KHz to 125KHz
13. Efficiency: Compliant with DoE Efficiency Level VI standard and CoC Tier 2
14. No Load Standby Power: <0.15 W @ 230Vac

B) PROTECTION

01. Input Protection: Input line fusing and 300Vac rated MOV
02. Short Circuit/ Overload: Electronically Protected unit will auto recover upon removal of fault
Output Current Limit: Current limited to less than 240W / Vnom and 18A for low voltage models
(Vnom = nominal rated output voltage)
03. Over-Temperature: Latching Electronic Overtemperature protection. Cycle AC OFF to reset.
04. Output Over-Voltage: 110% to 135% of nominal output voltage under full load condition, and less than 60V max. Latching protection, cycle AC OFF to reset.

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 < 70uA
04. Output Isolation Options:
 - a) C8 or C18 Inlet, Class II
 - b) C6 or C14 Inlet, Class II FE, Output Isolated from Earth contact
 - c) C6 or C14 Inlet, Class I, Output negative directly attached to Earth contact
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. Primary to Secondary Bridging Capacitance: Two IEC60384-14 certified Y1 type capacitors in series
08. 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, CISPR11 and CISPR22

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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

Immunity, per EN 55024, EN 61000-6-1, EN 61000-6-2

Static Discharge Immunity EN61000-4-2, 10kV Contact Discharge, 18kV air discharge

Radiated RF Immunity EN61000-4-3, 10V/m 80-2.7GHz, 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. Operating Temperature: -10°C to 40°C ambient temperature with full load

Regarding Operating Temperature,

a- See below derating table for output power capability at alternate temperature

b- Extended low end temperature range down to -40°C available as a custom option

03. Humidity: 0% to 95% relative humidity, non-condensing

04. Storage Temperature: -30°C to 80°C

05. Cooling: Convection

06. ROHS: Compliant with latest regulations, see approvals section below

07. Operational Altitude: 5000M

F) DESKTOP STYLE ENCLOSURE

01. Housing: High impact plastic, 94V0 polycarbonate, non-vented

02. Size: 176.5 x 74 x 40 +/-1.0 mm

03. Markings: Label or Laser printed

04. AC Input mechanical options: Desktop C6, C8, C14 or C18 IEC Inlet.

G) SPECIAL OPTIONS

01. Custom Cordsets, various cordage types, and connector types

02. Custom Markings

03. Short term Output Surge Power Capability, for motor applications, and short term intermittent high power need applications. 300W for 1 second is available, as a special design variant.

04. Reduced Leakage Current version, medical CF leakage current compliance

05. Tightened output voltage tolerance

06. Reduced Output Ripple Level

08. Reduced output power marking/rating

09. High Rel PCB laminate with Plated through Holes for IPC610 Class 2 Compliance

10. Special Housing Colors and Cordset Colors

11. LED Lighting Applications, Class C Line Harmonics

12. Constant Current output, for Vnom to 0.75xVnom. Add "-CC" suffix to model number. Current level is custom selectable.

13. Back EMF applications, custom solutions. For unusual motor load apps and other high inductance reverse energy flow requirements

14. Improved Ingress Protection Rating

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H) 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 <https://en.globtek.com/news/high-current-coaxial-barrel-plug-jacks-for-high-wattage-power-supplies> for a real time product offering of mating connectors.

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DERATING CURVE



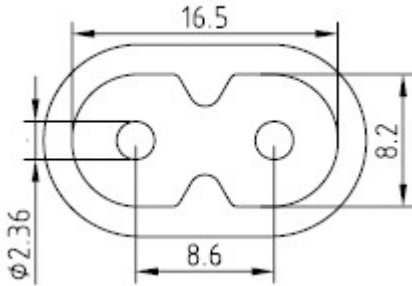
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INPUT CONFIGURATION

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

2094112M703(R)	Argentina (Type I)	IRAM 2063	IEC 320/C7 ²⁰⁰⁰⁷
5014112M703A(R)	Australian (Type I)	AS 3112	IEC 320/C7 ²⁰⁰⁰⁷
207B4111M8703(R)	Brazil (Type N)	NBR14136	IEC 320/C7 ¹⁸⁰⁰⁶
4533501M8703(R)	China (Type A)	GB 2099.1	IEC 320/C7 ¹⁸³⁰⁶
2074112M703A(R)	European (Type C)	CEE 7/16	IEC 320/C7 ²⁰⁰⁰⁷
2084111M8703(R)	India (Type M)	BS 546	IEC 320/C7 ¹⁸⁰⁰⁶
451J3401M8703(R)	Japan (Type A)	JIS 8303	IEC 320/C7 ¹⁸³⁰⁶
2044112M703A(R)	Korea (Type C)	KS C8305	IEC 320/C7 ²⁰⁰⁰⁷
4511116F703A(R)	N. American (Type A)	NEMA 1-15P	IEC 320/C7 ¹⁸³⁰⁶
4033401M8703A(R)	Taiwan (Type A)	CNS690	IEC 320/C7 ¹⁸³⁰⁶
6104112M703A(R)	UK, Hong Kong, Singapore, Gulf States (Type G)	BS1363	IEC 320/C7 ²⁰⁰⁰⁷

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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	IEC 60601-1-11:2015
No Logo Applicable	IEC 60601-1: 2005 + C1 + C2 + A1
No Logo Applicable	CB for IEC 60335-1:2010/COR1:2010/COR2:2010 /AMD1:2013/COR1:2014/AMD2:2016/COR1:2016
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 Altitude up to 5000 m GB17625.1-2012, GB4943.1-2011, GB/T9254-2008
	CE Certification
	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]
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
	cETLus-Cert-4007497 ANSI/AAMI ES60601-1:2005 with AMD C1: 2009, AMD C2: 2010 and CAN/CSA-C22.2 No. 60601-1 2008 with COR 2:2011+ANSI/AAMI HA60601-1-11 Ed:1

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	cETLus-Cert-60950-1 4007497 Listed
	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php
	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
	Indoor Use Only - Mark is on the label or Molded in the case
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)
	Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/
 GlobTek, Inc.	JAPAN TUV Rheinland-PSE GlobTek Inc to J60950-1(H26) , J55022(H22),J3000(H25).Please follow the procedure listed in the following link for proper import to Japan: http://en.globtek.com/importing-to-japan.php .
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
	EN 60601-1:2006 + A1:2013 + A12:2014 EN 60601-1-11:2015
	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 http://www.intertek.com/marks/s/

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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