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Model:GTM96605-GEN2-T2

July 16, 2019

Adaptive USB Power Supply/Quick Charger for Medical and ITE applications for USB PD2.0/3.0 Applications

Information

Model Number GTM96605-GEN2-T2

Description GTM96605-GEN2-T2, USB Adaptive Power Source ITE/Medical Power supply, 60601-1-4th Ed. , Desktop/External, USB Adaptive Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60Hz, IEC 60320/C8 AC Inlet connector, Class II, Non-Earth Ground (aka "Figure-8"), Output Rating: 60 Watts, Power rating with convection cooling (W) , 3.6-20V in 0.1V increments, Approvals: RCM; CE; PSE; WEEE; VCCI; RoHS; China RoHS; Level VI; Double Insulation; EAC; Ukraine; CB 60601-1 2MOPP; CB 60950; CB 62368; CCC; ETL 62368; ETL; cETLus 60601-1 3rd; cETLus 60601; UL 1310; RCM; S-Mark 60950; S-Mark IEC/EN 60601-1;

Model Picture



Agency Documents <http://www.globtek.info/certs/GTM96605-GEN2/>
CE https://www.globtek.com/pdf/ec_declaration/a000c00000PGI8DEAX
EC-Declaration https://www.globtek.com/pdf/rohs_cert/a000c00000PGI8DEAX
RoHS/RoHS2 Declaration https://www.globtek.com/pdf/iso_certificates/REACH.pdf
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

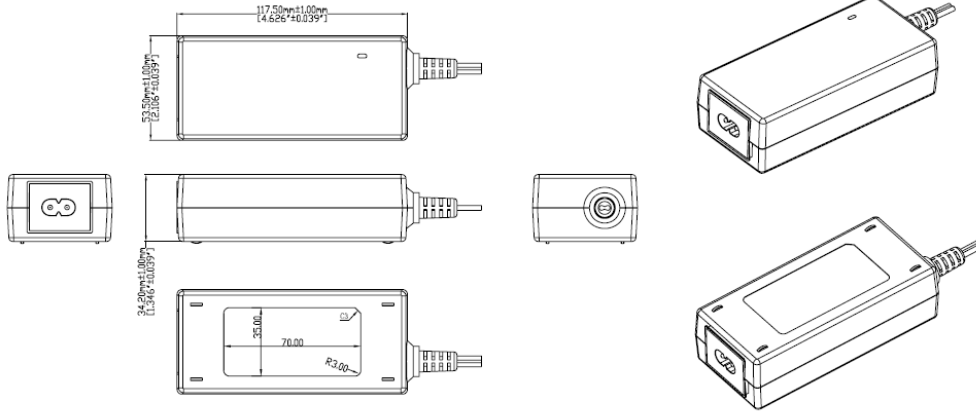
Type	Desktop/External
Technology	USB Adaptive Power Supply AC Adaptor
Category	USB Adaptive Power Source ITE/Medical Power supply
Input Voltage	100-240V~, 50-60Hz
I/P Amps (A)	1.5A
Wattage (W)	60.0
Vout Range (V)	3.6-20
Efficiency Level	VI
Ingress Protection	
Size (mm)	

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ENCLOSURE



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RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96605-GEN2-A1-T2V				RFQ
GTM96605-GEN2-A2-T2V				RFQ

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SPECIFICATIONS**OUTPUT CAPABILITIES**

The following communication formats are supported: USB PD 2.0/3.0, QC 2.0/3.0, QC 4.0/4.0+

Output Parameters (for USB PD 2.0/3.0 applications):

Communications: Using CC1 pin on USB Type-C connector

Initial Output State: 5V/2A

Advertised USB PD Power Data Objects (PDOs):

A1 Option: 5V/4.6A, 5.8V/4.6A, 9V/4.4A, 12V/4A, 15V/3.6A and 20V/3A

A2 Option: 5V/3A, 5.8V/3A, 9V/3A, 12V/3A, 15V/3A and 20V/3A

A1 Option (standard configuration): Permanently attached (captive) output cable: 1.5m Length, 20AWG, shielded, 5A rated Type-C connector

A2 Option (non-standard configuration): Detachable output cable. Contact GlobTek for availability.

Note 1: Custom PDOs available upon request. PDO1 must be 5V. PDO2 through PDO7 may be set to any custom voltage from 3.6V to 20V, with a step size of 100mV.

Note 2: For medical applications (etc.) requiring power supply authentication, USB PD Vendor Defined Messages (VDMs) may be implemented to prevent system usage with non-certified power sources. Contact GlobTek for details and for notes on system implementation.

Output Parameters (for QC2.0/3.0 applications):

Communications: Using D+ and D- pins on the USB Type-C connector

Initial Output State: 5V/2A

HVDCP Class B Output Voltages/Currents rating:

D+	D-	Output
0.6V	GND	5V/4.6A
3.3V	0.6V	9V/4.4A
0.6V	0.6V	12V/4A
3.3V	3.3V	20V/3A
0.6V	3.3V	Continuous Mode, adjusts from 3.6V to 20V in 200mV steps

Permanently attached (captive) output cable: 1.5m Length, 20 AWG, shielded

A) GENERAL 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: +/- 4% 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):100 mV, 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) PROTECTIONS

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 135% of rated output current
03. Output Over-Voltage: 25Vdc max

C) SAFETY

01. Dielectric Withstand Voltage: 4000Vac or 5656Vdc from input to output,
02. Earth Leakage Current: 3 conductor AC input models < 300uA, N/A for 2 conductor input models
03. Touch Current: 3 conductor AC input models < 20uA, 2 conductor input models < 65uA
04. Output Isolation Options:
 - a) C8 Inlet, Class II (Standard)
 - b) C6 or C14 Inlet, Class II FE, Output Isolated from Earth contact (Standard)
 - c) C6 or C14 Inlet, Class I, Output directly attached to Earth contact
05. Means of Protection: 2 x MOPP
06. 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

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: 300,000 Hours @ 25°C ambient temperature

02. Operating Temperature:

-10°C to 40°C ambient temperature at full load

-10°C to 50°C ambient temperature with derating to 80% load

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

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

05. Operating Altitude: 5000m

06. ROHS 2: Complies with EU 2011/65/EU and China SJ/T 11363-2006

F) ENCLOSURE

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

02. Markings: Label or Laser Printed

03. AC Input mechanical options:

Desktop C6, C8, C14 or C18 IEC Inlet.

Hybrid option (Desktop or Wall Plug-in) Class I or Class II input

G) SPECIAL OPTIONS

Non-standard - Contact GlobTek for details

01. Detachable USB-C output cordset

02. Special fixed output cord length, 1m, 2m or 3m lengths

03. Custom markings, and marking methods

04. Special housing colors and cordset colors

05. USB Micro-B connector at end of cordset for QC2.0/3.0 applications.

06. Tighter output voltage tolerance

07. Custom PD3.0 PDOs: Output voltages selectable between 3.6V and 20V

08. Constant current/ constant voltage (CC/CV) battery charging, with max charge duration timer

09. USB PD Vendor Defined Messages (VDMs) for power source authentication

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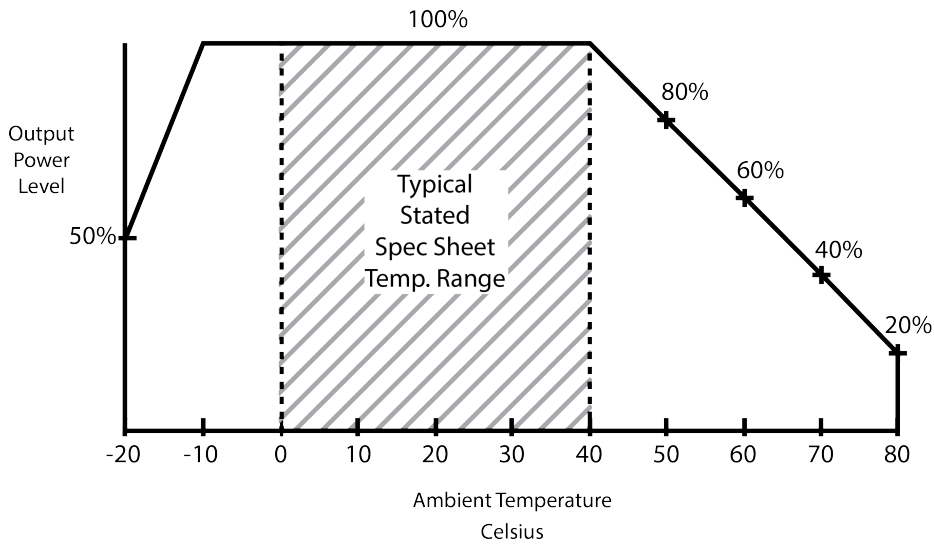
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DERATING CURVE

**Typical External
Power Supply Derating Curve**

(For Efficiency Level V and Efficiency Level VI Products)



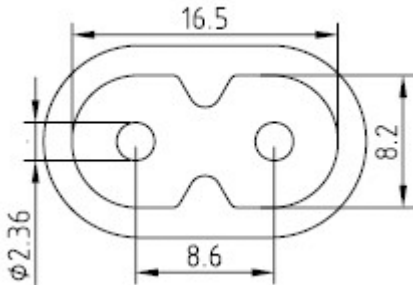
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Input Configuration

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 No Logo	CB report IEC60601-1 2005 A1+C1+C2 2016-2-4 and or EN 60601-1:2006 3.1rd Edition 2xMOPP CB Report IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 (GTM96605-GEN2-XX)
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
 仅适用于海拔2000m以下地区使用	CCC to GB4943.1-2011 GB9254-2008 GB17625.1-2012
	CE Certification
 Intertek	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]
 Intertek	Information Technology Equipment Safety Part 1: General Requirements (UL 60950-1 Issued: 2007/03/27, Ed: 2 Rev: 2014/10/14) Information Technology Equipment Safety Part 1: General Requirements (CSA C22.2 No. 60950-1 Issued: 2007/03/27 Ed: 2 (R2012) Amd.
 Intertek 4867497	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:
 Conforms to AAMI STD.ES60601-1,IEC 60601-1-11 Certified to CAN/CSA STD.C22.2 NO.60601-1	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php
Conforms to UL STD. 1310 Certified to CSA STD. C22.2 NO.223	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
	Declaration # EAЭC N RU Д-US.AД75.B.01052 Custom Union of Russia, Belarus and Kazakhstan http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50313285, 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/
EFFICIENCY LEVEL VI 	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) Australian EMC

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	<p>Australia and New Zealand Regulatory Compliance, Mark (http://rcm.standards.org.au/rcmfaq/rcmfaq.htm</p>
<p>RoHS</p>	<p>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</p>
	<p>S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013</p>
	<p>http://www.intertek.com/marks/s/</p>
	<p>Semko S-Mark-Cert-EN60601-1 3.1rd Edition (http://www.intertek.com/marks/s/)</p>
	<p>Ukraine UKRSepr (Document: www.globtek.com/html/iso_certificates/GT_Ukraine.pdf)</p>
<p>10276</p>	<p>Japan: Voluntary Control Council for Interference (VCCI)</p>
	<p>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</p>
