

Model:GTM96605-G2-R2

May 2, 2024

Adaptive USB Power Delivery (PD) Power Supply/ Quick Charge Charger for Medical Grade and ITE/ICT applications for USB PD 2.0 and USB PD 3.0 Applications R2

Information

| | |
|-------------------------------|--|
| Model Number | GTM96605-G2-R2 |
| Description | Communication formats supported: USB Power Delivery (PD) 2.0/3.0, Quick Charge™ 2.0/3.0, Quick Charge™ 4.0/4.0+ with up to 7 voltages and VDM options available. Fully globally certified for Medical 60601-1, ICT 62368 |
| Model Picture |  |
| Agency Documents | http://www.globtek.info/certs/GTM96605-GEN2/ |
| CE EC-Declaration | https://www.globtek.com/pdf/ec_declaration/a000c00000PIBy9EAH |
| RoHS/RoHS2 Declaration | https://www.globtek.com/pdf/rohs_cert/a000c00000PIBy9EAH |
| 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

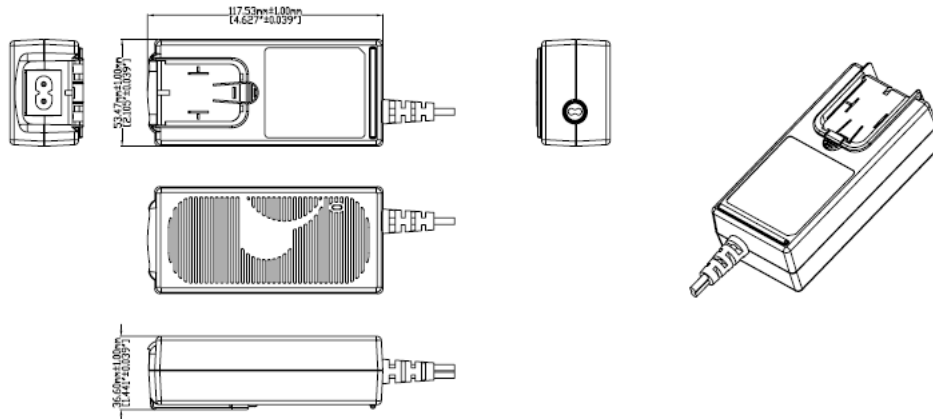
| | |
|--------------------|---|
| Type | Wall Plug-in+Desktop Combination |
| Technology | USB Adaptive Power Supply AC Adaptor |
| Category | USB Power Delivery (PD) Source, ICT/ITE/Medical |
| Input Voltage | 100-240V~, 50-60Hz |
| I/P Amps (A) | 1.5A |
| Wattage (W) | 60.0 |
| Vout Range (V) | 3.6-20 |
| Efficiency Level | USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782 |
| Ingress Protection | |
| Size (mm) | |

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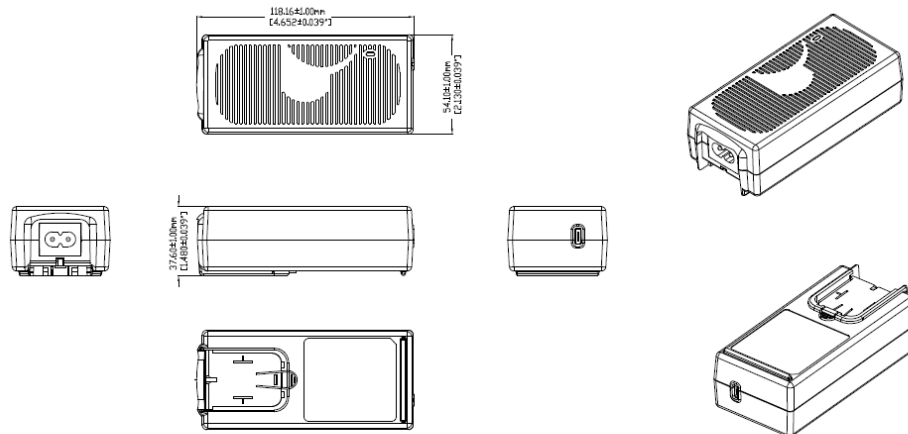
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ENCLOSURE



Drawing above is model with output cord

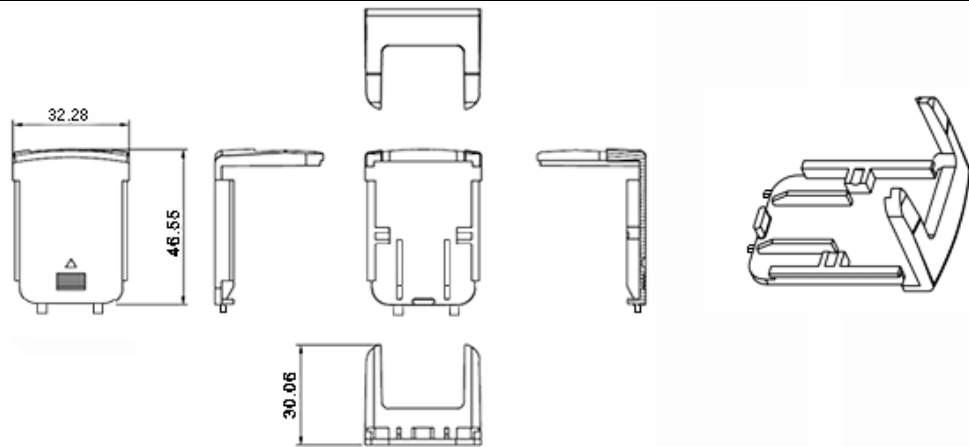


Drawing above is model with integrated USB-C connector (suffix -RA)

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Unit shipped without an installed input plug.
"Desktop insert" installed.

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RATING TABLE

| Model Number | Voltage | Amps(A) | Watts(W) | RFQ |
|--------------------------|---------|---------|----------|---------------------|
| GTM96605-G2A1-R2 | V | | | RFQ |
| GTM96605-G2A1-R2-RA | V | | | RFQ |
| GTM96605-G2A1-R2(PPS) | V | | | RFQ |
| GTM96605-G2A1-R2-RA(PPS) | V | | | RFQ |

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SPECIFICATIONS

USB Power Delivery Capabilities

| | |
|---------------------------------------|--|
| Protocols supported: | USB Power Delivery (PD) 2.0/3.0 + PPS |
| Default Output State: | 5V/2.0A |
| Advertised Power Data Objects (PDOs): | Standard option: 5V, 5.8V, 9V, 12V, 15V, 15.1V [†] , 20V PPS option: 5V, 9V, 15V, 20V, PPS (3.6-11V), PPS (3.6-16V), PPS (3.6-20V) |
| Output Current: | Refer to the 'Rating Table' for output current capability for each USB PD PDO. Models with -RA suffix have a female USB Type-C connector for use with a detachable USB Type-C cable. If no E-marked cable is detected, the maximum current is limited to 3A. Models without a suffix have a captive 5A rated cable and can always deliver the full current per the 'Rating Table'. |
| Note 1: | Custom fixed 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: | In critical applications, the use of a non-authorized USB PD power adapter may pose a substantial risk. The power adapter's identity may be checked and validated prior to PD contract negotiation by using USB PD Vendor Defined Messages (VDMs). Please see our article Product Security and Risk Mitigation for USB Power Delivery (PD) Based Systems for additional information. |

Qualcomm Quick Charge™ Capabilities

| | | | |
|-------------------------|--|------|--|
| Protocols supported: | Quick Charge™ 2.0/3.0 | | |
| Default Output State: | 5V/2.0A | | |
| HVDCP Class B Profiles: | D+ | D- | Output |
| | 0.6V | GND | 5.0V/4.6A |
| | 3.3V | 0.6V | 9.0V/4.4A |
| | 0.6V | 0.6V | 12V/4.0A |
| | 3.3V | 3.3V | 20V/3.0A |
| | 0.6V | 3.3V | Continuous mode. Adjust from 3.6V to 20V in 200mV steps. |
| Output Current: | Models with -RA suffix are limited to 3A, as Quick Charge does not support USB PD E-marked cables. | | |
| | Models without a suffix can deliver full rated Quick Charge current. | | |

Input

Specified: 90-264VAC, Nameplate: 100-240VAC

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| | |
|----------------------|---|
| Input Voltage: | 100% rated load current for 90-264VAC 85% rated load current for 85-264VAC 100% rated load current for 110-370VDC |
| Input Frequency: | Specified: 47-63Hz, Nameplate: 50-60Hz |
| No Load Input Power: | < 75mW @ 230VAC (EU CoC Tier 2 compliant) |
| Inrush Current: | < 30A @ 115VAC, < 60A @ 230VAC (cold start) |
| Efficiency: | DoE Efficiency Level VI and CoC Tier 2 compliant (tested according to DoE 10 CFR Part 430, Subpart B, Appendix Z) |

Output

| | |
|---------------------|--|
| Turn-on Delay: | < 1 second (full load, 115VAC) |
| Output Regulation | ± 4% max. (measured at the end of output cord) |
| Line Regulation: | ± 0.5% typ. (measured at the end of output cord) |
| Ripple: | 100mV max. (using a 47µF low-ESR electrolytic cap + 0.1µF ceramic cap, measured @ 20MHz BW, at the output connector) |
| Transient Response: | 5% max. deviation, 1ms max. recovery time (with 40 to 70% load step), |
| Hold-up Time: | 8ms typ. (full load, nominal line voltage) |
| Power Indicator: | Green LED |

Protections

| | |
|------------------------------|---|
| Input Protection: | MOV transient suppressor, input line fusing |
| Over-Voltage Protection: | Level 1: 110-130%, Auto-recovery, adaptive to selected PDO/QC profile Level 2: 25V (max), Latched off, cycle AC to reset |
| Over-Current Protection: | 110-140%, Auto-recovery, adaptive to selected PDO/QC profile |
| Short-Circuit Protection: | Auto-recovery |
| Over-Temperature Protection: | Auto-recovery |

Environmental

| | |
|------------------------|---|
| MTBF: | 1,500,000 hours @ 25°C ambient, full load (Telcordia SR-332, Issue 3) |
| Operating Temperature: | -10°C to 40°C (full load) -10°C to 50°C (80% 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 |

Safety

| | |
|-------------------------------|---|
| Dielectric Withstand Voltage: | 4000VAC or 5656VDC from input to output |
|-------------------------------|---|

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| | |
|---------------------------|--|
| Touch Current: | 3-conductor models: 20µA max. 2-conductor models: 65µA max. |
| Earth Leakage Current | 300µA max. NC/SFC (N/A for 2-conductor input models) |
| Means of Protection: | 2 x MOPP |
| Output Isolation Options: | -T2/R2 suffix: Class II 2-conductor (C8/C18 inlet or interchangeable blades) -T3/R3 suffix: Class II, with functional earth (FE) (C6/C14 inlet or interchangeable blades) Class I, earth wire connected directly to output negative (C6/C14 inlet or interchangeable blades) |
| Note 3: | Review output isolation options with our article: PSU Isolation and Identify |

EMC

| | |
|--|---|
| Applicable Standards: | Medical: EN 60601-1-2 (4e) Emissions: EN55032, EN61000-6-3, EN61000-6-4 Immunity: EN55024, EN61000-6-1 (4e), EN61000-6-2 (4e) |
| 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, Criterion A |
| Radiated RF Immunity: | EN61000-4-3, 10V/m @ 80-1000MHz, 3V/m @ 1-2.7GHz, 80% 1KHz AM, Criterion A |
| EFT/Burst Immunity: | EN61000-4-4, 2KV/100KHz., Criterion A; 4KV/100KHz, Criterion B |
| Line Surge Immunity: | EN61000-4-5, 2KV differential, 2KV common-mode, Criterion A; 4KV common-mode, Criterion B |
| Conducted RF Immunity: | EN61000-4-6, 3VRMS, 80% 1KHz AM, Criterion A |
| Power Frequency Magnetic Field Immunity: | EN61000-4-8, 30A/m, Criterion A |
| Voltage Dip Immunity: | EN61000-4-11, Criterion B |

Enclosure

| | |
|-----------|--|
| Housing: | High impact plastic, 94V0 polycarbonate, non-vented Desktop T2/T3: C6, C8, C14, or C18 IEC inlet Hybrid (desktop or wall plug-in): Class I or Class II input |
| Markings: | No suffix: Captive 1.5m shielded USB Type-C cable -RA suffix: Female USB Type-C connector integrated into housing Adhesive backed label or laser engraving |

Prevention of Unauthorized Use

In critical applications, the use of a non-authorized USB PD power adapter may pose a substantial risk to system safety or performance.

The power adapter's identity may be checked and validated prior to PD contract

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| | |
|---------------------|---|
| USB Power Delivery: | negotiation by use of USB PD Vendor Defined Messages (VDMs). The power adapter will respond to a USB PD "Discover Identity" VDM with 0x4754 in the "ProductID" field. |
| | Additionally, non-standard 5.8V and 15.1V PDOs are included. Host systems may be designed to reject a power adapter which does not contain one of these PDOs. |
| Note 4: | These measures do not guarantee a secure implementation, and are only suggested as a method of risk mitigation. |
| Note 5: | Please see our article Product Security and Risk Mitigation for USB Power Delivery (PD) Based Systems for additional information. |

Special Options

Non-standard - Contact GlobTek

1. Custom housing and output cord colors
2. Custom fixed output cord length, for applicable models (1m, 2m, 3m lengths,etc.)
3. Custom markings and marking methods
4. Custom USB PD PDOs: Output voltages selectable between 5V and 20V, in 100mV increments
5. USB Micro-B connector for Quick Charge™-only applications
6. Quick Charge™ 4.0/4.0+ support

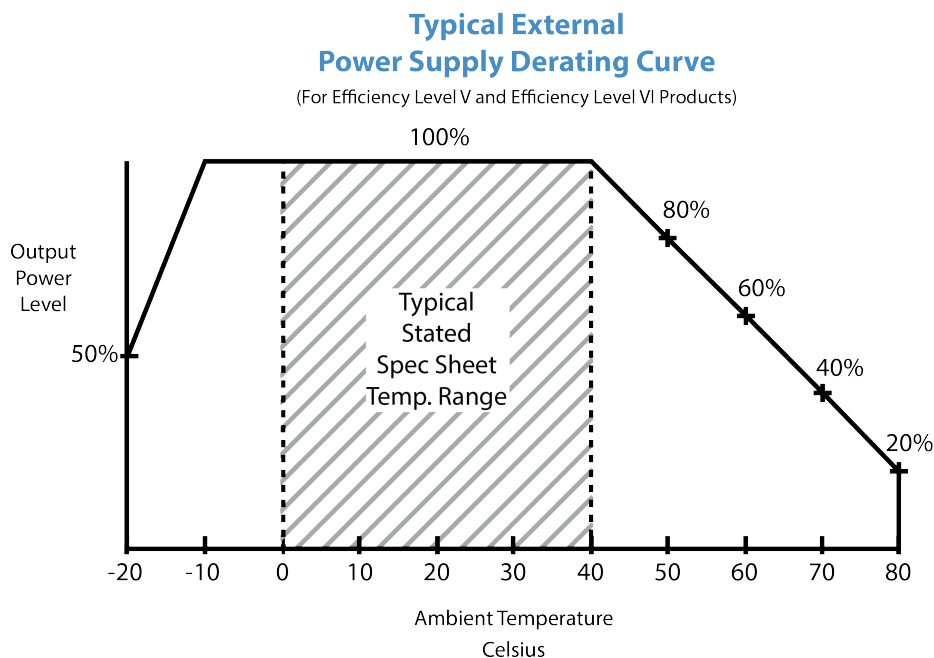
† 15.1V PDO is standard on units with date codes after Sept-10-2019.

†† VDM functionality is standard on units with date codes after Sept-10-2019.

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DERATING CURVE

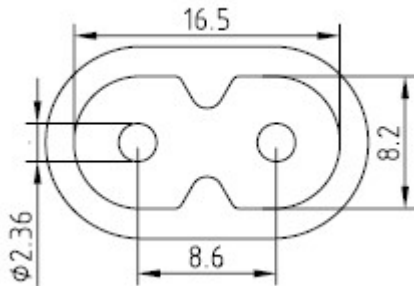


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INPUT CONFIGURATION

Description IEC 60320/C8 AC Inlet connector

[Blade Insertion Instructions](#)
[R-Blade Style Instruction Video](#)


Mates with IEC 60320/C8 Plug

This series of Interchangeable Blade products may be used with Proprietary Interchangeable Blades as described below or with standard international power cords.

Optional INPUT BLADES: R-Socket: below are available blades configurations which are "not included" (unless stated above); may be purchased separately, packaged with power supply, or as a separate "R-KIT" if specified

| # Part Number | Main Country/Region | Plug | IECEE Type |
|-----------------------------------|------------------------|--|------------|
| 1 R-NA-2(R) | North America, Japan | Nema 1-15P | Type A |
| 2 R-SAA-2(R) | Australia/New Zealand | AS/NZ 3112 | Type I |
| 3 R-UK-2(R) | United Kingdom/Ireland | UK, Hong Kong, Singapore, Gulf States | Type G |
| 4 R-EU-2(R) | Europe | CEE 7/16 | Type C |
| 5 R-CN-2(R) | China | GB 2099 | Type A |
| 6 461-03030003(R) | N/A | R-DI(R) Desktop Insert for use with a cord | N/A |
| 7 R-KIT-2(R) | prepackaged kit | 1,2,3,4 above | N/A |
| 8 R-KIT-2-INTL(R) | prepackaged kit | 2,3,4 above | N/A |

PROPRIETARY INFORMATION

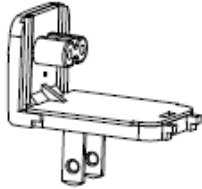
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<https://www.globtek.com/ds/LFz6GPrjWup/5WGSKosHpsh.html>

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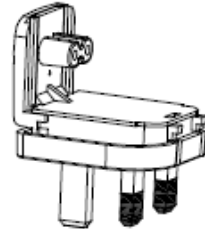
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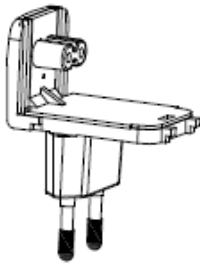
UL 2P

P/N: R-NA-2(R)
NORTH AMERICA
JAPAN


AUS 2P

P/N: R-SAA-2(R)
AUSTRALIA


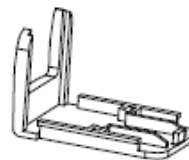
UK 2P

P/N: R-UK-2(R)
UNITED KINGDOM
HONG KONG
SINGAPORE


EU 2P

P/N: R-EU-2(R)
EUROPE
SOUTH AMERICA


CN 2P

P/N: R-CN-2(R)
CHINA


R-DI

P/N: R-DI
DESKTOP INSERT

Standard Cordsets

Below are standard cordsets which are "not included" (unless stated above); these may 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.

Standard International IEC 320/C7 Cordsets

| Part Number | Country | Plug | 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 |

PROPRIETARY INFORMATION

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| | | | | | |
|----------------------------------|--|------------|------------|------|---|
| 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 |
| 2084111M8703(R) | South Africa (Type M) | BS 546 | IEC 320/C7 | 1800 | 6 |
| 2084111M8703B(R) | India (Type D) | ISI:1293 | IEC 320/C7 | 1800 | 6 |
| 2714111M8703A(R) | India (Type C) | ISI: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) | N. American (Type A) | NEMA 1-15P | IEC 320/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 |

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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 | CB report IEC60601-1 2005 A1+C1+C2 2016-2-4 and or EN 60601-1:2006 3.1rd Edition 2xMOPP (6W max) |
| No Logo | CB Report IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 (GTM96605-G2-XX) |
| No Logo Applicable | CB for IEC 62368-1:2014 (Second Edition) |
|  5000 | 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] |
|  | 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. |
|  | 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: http://www.globtek.com/pdf/F-GT-DJD-8.4.1-006%20China%20RoHS%20Declaration%205-20-22.pdf |
| | |

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| | |
|--|--|
| Conforms to AAMI STD. ES60601-1 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. 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 |
|  | Indoor Use Only - Mark is on the label or Molded in the case |
|  GlobTek, Inc. | JAPAN TUV R-PSE, Cert. No. JD50473430 , to J62368-1(H30) , J55032(H29),J3000(H25)[DC15? 30V]. Please reference the following website for guidelines on PSE regulations: https://www.globtek.com/r2/Szj4Vb |
| 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) |
| LPS | Limited Power Source 60950 |
|  | Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/ |
| | Australian EMC |
|  | Australia and New Zealand Regulatory Compliance, Mark (http://rcm.standards.org.au/rcmfag/rcmfag.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 |

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| | |
|--|---|
|  | S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 (http://www.intertek.com/marks/s/) |
|  | UKCA Certification |
|  | Ukraine UKRSePro (Document: www.globtek.com/html/iso_certificates/GT_Ukraine.pdf) |
|  | 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 |