

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

Model:GTM46161-16V.V-USBC

April 15, 2021

GTM46161-16V.V-USBC

Information

Model Number	GTM46161-16V.V-USBC
Description	GTM46161-16V.V-USBC, Medical Power Supply, 60601-1-4th Ed. , Wall Plug-in, Regulated Switchmode AC-DC Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, Blade Options for Q Series Wall Plug-in Power Supplies, Output Rating: 16 Watts, Power rating with convection cooling (W) , 5-5.5V in 0.1V increments, Approvals: PSE; CB 60950; CB 62368; CCC; CE; China RoHS; Double Insulation; EAC; LPS 62368; Morocco; LVD 60335; CB 60601-1; ETL;

Model Picture



Agency Documents	http://www.globtek.info/certs/GTM46161%20-1A,2A,C/
CE EC-Declaration	https://www.globtek.com/pdf/ec_declaration/a000c000000lb2rEAB
RoHS/RoHS2 Declaration	https://www.globtek.com/pdf/rohs_cert/a000c000000lb2rEAB
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
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	Medical Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	0.45A
Wattage (W)	16.0
Vout Range (V)	5-5.5
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	Indoor Use
Size (mm)	41.0 x 70.0 x 35.1

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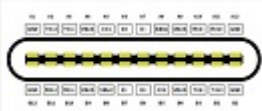
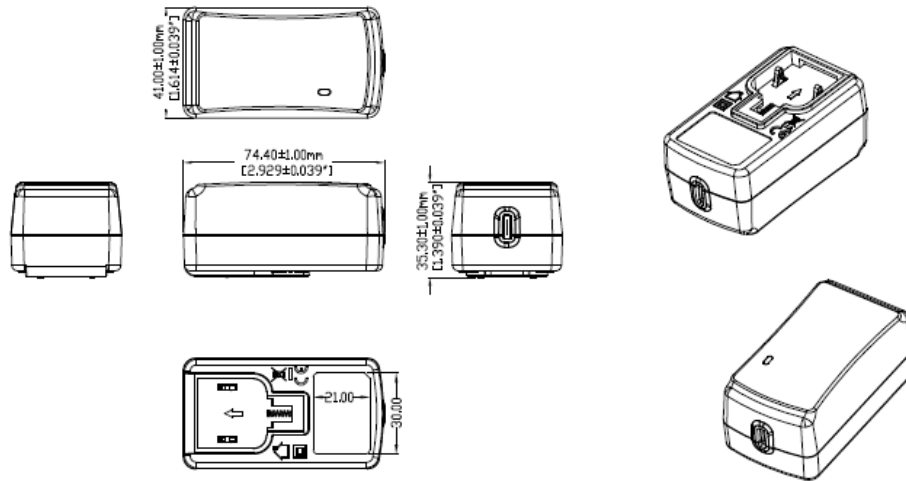
<https://en.globtek.com/datasheet/id/a000c000000lb2r>

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ENCLOSURE



10K resistor between CC1 (A5) and VCC (A4)

Link to Globtek USB-C Adaptive Power Delivery White Paper

<http://en.globtek.com/technical-articles/usb-type-c-connectors-and-adaptive-power-delivery-white-paper>

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RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM46161-155.0-USBC	5 V	3	15.00	RFQ
GTM46161-165.0-USBC	5 V	3.2	16.00	RFQ
GTM46161-155.2-USBC	5.2 V	2.88	14.98	RFQ

SPECIFICATIONS

A) ELECTRICAL SPECIFICATIONS:

1. Input Voltage: Specified 90-264 V_{AC}, Nameplate rated 100-240 V_{AC}
2. Input Frequency: Specified 47-63 Hz, Nameplate rated 50-60 Hz
3. Output Regulation: $\pm 5\%$ measured at the end of a 1.2 meter USB cordset employing 20AWG conductors (RFP RFI-50856)
4. Line Voltage Regulation: $\pm 3\%$ (typical)
5. Output Ripple (V_{p-p}): 150mV, measured with a 47 μ F electrolytic capacitor in parallel with a 0.1 μ F ceramic capacitor across the output, and 20MHz bandwidth limiting
6. Turn-On/Turn-Off Overshoot: 5% maximum, 500 μ s maximum recovery time for 25% step load.
7. Turn-On Delay: 3000ms (max.) @ 115V_{AC} and full load
8. Hold-Up Time: 8ms (min.) @ 100V_{AC} and full load
9. Inrush Current: No damage when switching on/off repeatedly under any condition
10. Switching Frequency: 66.5 KHz (typical)
11. Average Efficiency: 78.7% (min.) (CEC&DOE Level VI Compliant), 79.0% (min.) (ErP **European** Commission's Ecodesign Directive (2005/32/EC) / CoC Tier 2 Compliant)
12. No-Load Input Power: < 0.1W < 0.1W, < 0.075W (ErP **European** Commission's Ecodesign Directive (2005/32/EC) / CoC Tier 2 Compliant)

B) PROTECTION

1. Over-Voltage: Output shut down and auto restart
2. Over Temperature Protection: Output shut down and auto restart
3. Short Circuit Protection Output shut down and auto restart
4. Over Load Protection Output shut down and auto restart
5. Input Protection: Input line fusing
6. ESD: 8 kV Contact/20kV Air Discharge

C) SAFETY

1. Dielectric Withstand Voltage: 4000V_{AC} or 5656V_{DC} 10mA 1 minute
2. Earth Leakage Current: N/A for Class II units. Since there is no PE ground pin, earth leakage current is not measured
3. Touch Current: Maximum allowed values: 100 μ A NC(Normal Condition) 500 μ A SFC(Single Fault Condition)
4. Means of Protection: 2 x MOPP
5. ROHS 2: Complies with EU 2011/65/EU and China SJ/T 11363-2006

D) EMC

1. Emissions, per EN 55032, EN 61000-6-3, EN 61000-6-4 (See Note.)

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Conducted Emissions: Class B, FCC Part 15, Class B

Radiated Emissions: Class B, FCC Part 15, Class B

2. Line Frequency Harmonics EN61000-3-2, Class A

3. Voltage Fluctuations/Flicker EN61000-3-3

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

Static Discharge Immunity EN61000-4-2, 8KV Contact Discharge, 15KV air discharge

Radiated RF Immunity EN61000-4-3, 3V/m 80-2700MHz, 80% 1KHz AM.

EFT/Burst Immunity EN61000-4-4, 2KV/100kHz.

Line Surge Immunity EN61000-4-5, 1KV differential, 2KV common-mode

Conducted RF Immunity EN61000-4-6, 3V_{RMS}, 80% 1KHz AM

Power Frequency Magnetic Field Immunity EN61000-4-8, NA

Voltage Dip Immunity EN61000-4-11, Criteria

Note: When a Class II power supply is connected to an earth-referenced system, conducted/radiated EMI levels tend to increase since the earth connection creates a return path for common-mode currents.

This model includes an output common-mode choke to help alleviate system-level EMI issues. This choke can also be removed to lower product cost .

E) OTHER:

1. USB2.0 , BC1.2 compliant

2. MTBF: 200,000 hours @ 25°C ambient temperature

3. Operating Temperature: 0°C to 40°C ambient temperature

4. Humidity: 0% to 95% relative humidity

5. Storage Temperature: -40°C to 80°C

F) ENCLOSURE

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

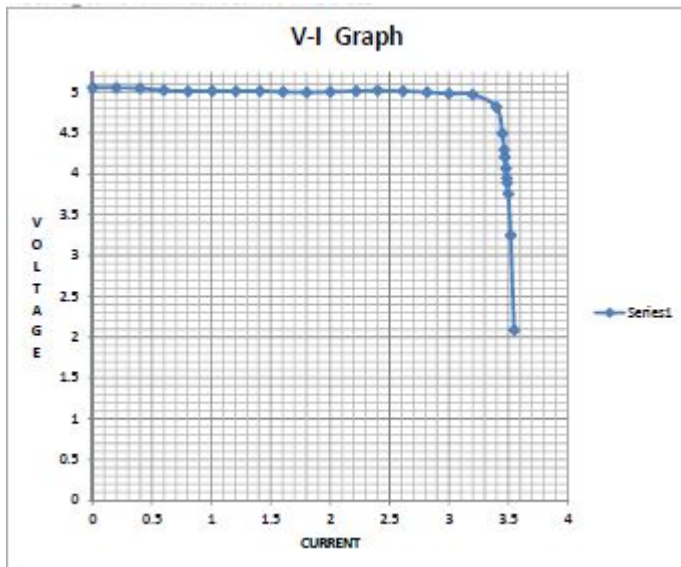
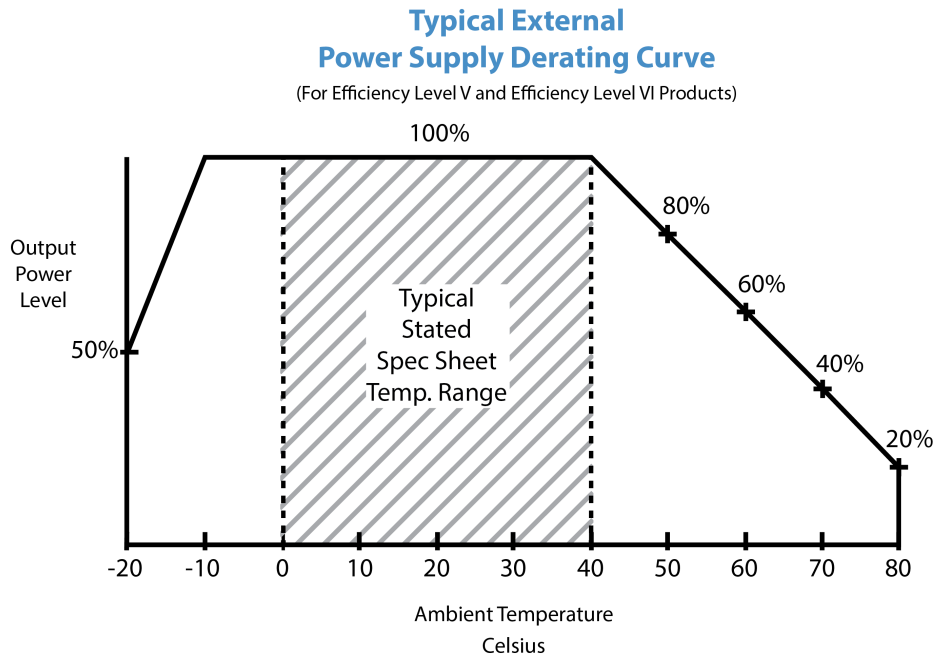
2. Markings: Label and/or Pad Printed and/or Molded in the case

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DERATING CURVE



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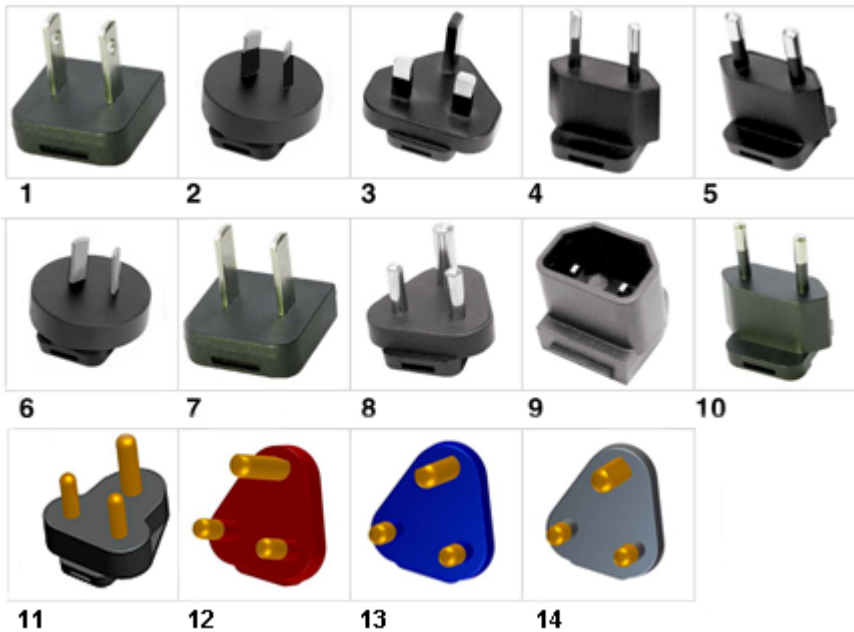
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INPUT CONFIGURATION

Description Blade Options for Q Series Wall Plug-in Power Supplies

 Data Sheet: <http://en.globtek.com/interchangeable-blades.php>

 Insertion Instructions: <http://www.globtek.com/pdf/Instructions-Interchangeable-Blades.pdf>

 Video: [Q-Blade Style Instruction Video](#)


INPUT CONNECTOR: Q-Socket (below are available blades configurations which are "not included" (unless stated above); can be purchased separately, package with power supply or as a separate "Q-KIT" if specified

01. United States / Canada / Japan NEMA 1-15P/ IEC PLUG Type A [WORKS IN PLUG B] configuration: NA 2 blades, Class II; US/CA/JP P/N: Q-NA(R)
02. Australian AS 3112 configuration: SAA 2 blade/ IEC TYPE I, Class II; AU P/N: Q-SAA(R)
03. UK BS 1363 configuration: UK 3 blade with dummy Ground/ IEC TYPE G, Class II; GB P/N: Q-UK(R)
04. European CEE 7/16 configuration: Europlug 2 pins/ IEC TYPE C [WORKS IN TYPE E&F], Class II; EU P/N: Q-EU(R)
05. Korean KS C8305 configuration: 2 pins/SIMILAR TO IEC TYPE C, Class II; KR P/N: Q-KR(R)
06. Argentina IRAM 2073 configuration: 2 blades/SIMILAR TO IEC TYPE I; AR P/N: Class II Q-AR(R)
07. China GB 2099 configuration: 2 blades/SIMILAR TO TYPE A, Class II; CN P/N:Q-CN(R)
08. India IS 1293 6A/BS546 configuration: 5A, 3 pins with Dummy Ground, Class II/IEC TYPE D; IN P/N: Q-IN(R)
09. IEC60320/C18 Inlet, Class II; P/N: Q-C18(R)
10. Brazilian NBR6147 configuration: 2 pins, Class II;SIMILAR TO IEC TYPE C BR P/N: Q-BR(R)
11. South Africa SABS164-1, 3 round prongs, Class II + dummy ground, IEC TYPE M P/N: Q-SANS164-1-16A(R)
12. South Africa SABS164-4, 3 round prongs with a notched prong @ 0°, Class II + dummy ground, IEC TYPE M Red, P/N: Q-SANS164-4L-16A(R)
13. South Africa SABS164-4, 3 round prongs with a notched prong @ -53°, Class II + dummy ground, Blue, IEC TYPE M,

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P/N:
Q-SANS164-4C-16A(R)
14. South Africa SABS164-4, 3 round prongs with a notched prong @ +53°, Class II + dummy ground, Black,IEC TYPE M
P/N:
Q-SANS164-4R-16A(R)

Kits

01. Q-KIT: 1,2,3,4 above
02. Q-KIT-INTL: 2,3,4 above
03. Q-KIT-6: 1,2,3,4,5,6 above
04. Q-KIT-7: 1,2,3,4,5,6,7 above
05. Q-KIT-8: 1,2,3,4,5,6,7,8 above

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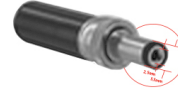
OUTPUT CONFIGURATION

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	CB Report IEC 60601-1:2005 (Third Edition) + CORR. 1:2006 + CORR. 2:2007 + A1:2012
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
No Logo	CB Report IEC60950-1:2005 (2nd Edition), Am 1: 2009 + Am 2:2013
	CCC to GB4943.1-2011 GB9254-2008 GB17625.1-2012 with Non-Tropical and Altitude above 2000m approval
No Logo Applicable	IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013 + A2:2016
	CE Mark: tested to comply with EN60601-1-2:2013 (4th Ed), EN61000-3-2, EN61000-3-3, EN50082-1, including EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN61000-1-2-2001 EMI: EN55011 CLASS B and FCC Part 15 B
	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php
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 Elec. Equip.- Part 1-11: Gen. Req. For Basic Safety & Essential Perf.- Collateral Standard - Req. For Medical Elec. Equip. & Medical Elec. Systems Used In The Home Healthcare Environment [IEC 60601-1-11:2015 Ed.2]

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 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50471561, to J62368-1(H30) , J55032(H29), J3000(H25) ,[15V or less]. Please reference the following website for PSE regulations: http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/
LPS	Limited Power Source 62368
	Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/