

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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; 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

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

Model:GTM46161-16V.V-USBC

June 2, 2020

MODEL PARAMETERS

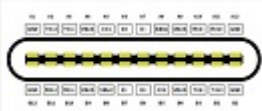
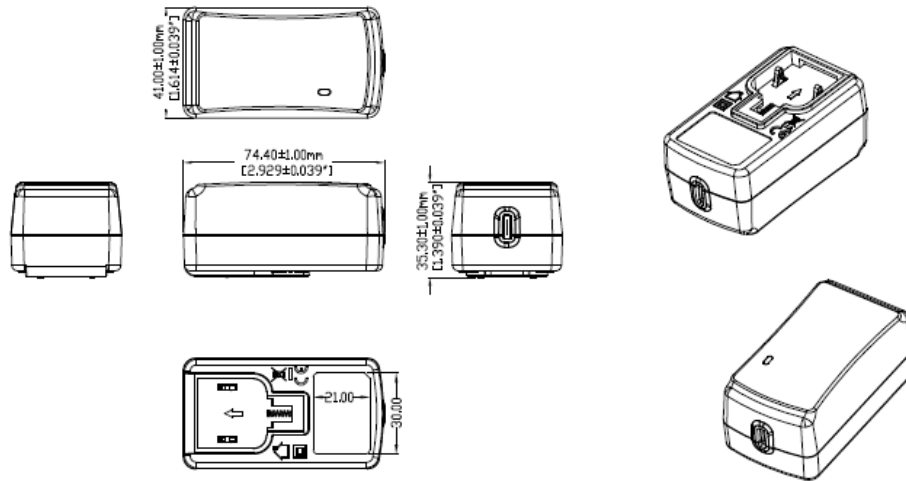
Type	Wall Plug-in
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	Medical Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	0.45A
Wattage (W)	16.0
Vout Range (V)	5-5.5
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	Indoor Use
Size (mm)	41.0 x 70.0 x 35.1

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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>

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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)
The longest recommended output cordset length is 1.2 meters. Use GlobTek PNs USBA1M2MICROB20(R) or USBC1M0USBA(R) for best voltage regulation performance. (RFP RFI-20435-3)
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

Model:GTM46161-16V.V-USBC

June 2, 2020

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

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. MTBF: 200,000 hours @ 25°C ambient temperature****2. Operating Temperature: 0°C to 40°C ambient temperature****3. Humidity: 0% to 95% relative humidity****4. 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**

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

Model:GTM46161-16V.V-USBC

June 2, 2020

DERATING CURVE



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

Model:GTM46161-16V.V-USBC

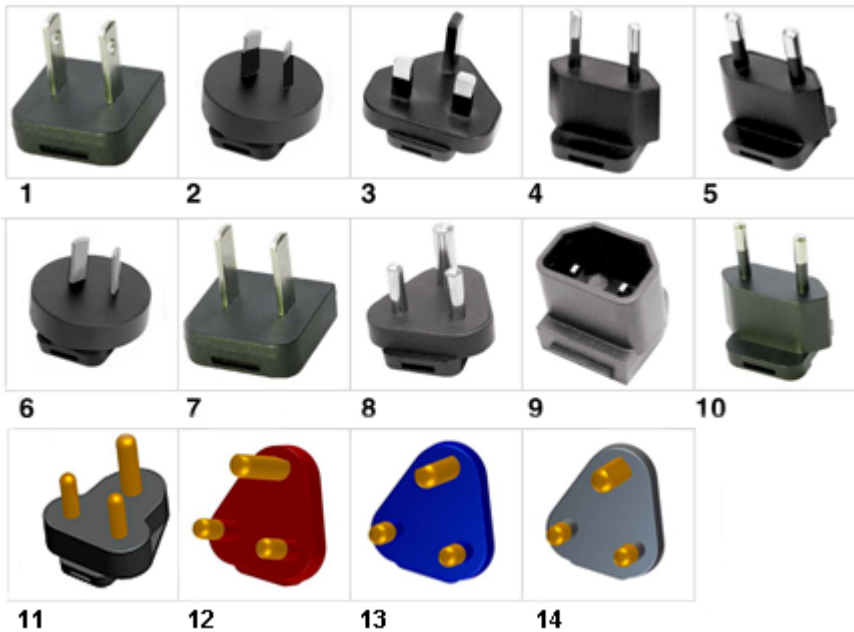
June 2, 2020

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 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. IEC320/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,

PROPRIETARY INFORMATION

PROPRIETARY OF GLOBTEK, INC. ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING, IN WHOLE OR IN PART, IS HEREBY PROHIBITED EXCEPT AS SPECIFIED IN WRITING BY GLOBTEK, INC.

<http://en.globtek.com/datasheet/id/a000c00000lb2r>

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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.

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

Model:GTM46161-16V.V-USBC

June 2, 2020

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
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
	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]
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50316221, to J60950-1(H26) , J55022(H22), [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/
LPS	Limited Power Source 62368

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

Model:GTM46161-16V.V-USBC

June 2, 2020



Morocco SDoC declaration

<http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/>