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Model:GTM96181-WWPD-T3

May 30, 2020

## GTM96181-WWPD-T3

### Information

Model Number	GTM96181-WWPD-T3
Description	GTM96181-WWPD-T3, USB Adaptive Power Source ITE/Medical Power supply, Desktop/External, USB Adaptive Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground, Output Rating: 36 Watts, Power rating with convection cooling (W) , 3.6-20V in 0.1V increments, Approvals:

### Model Picture



### Agency Documents

CE EC-Declaration	<a href="https://www.globtek.com/pdf/ec_declaration/a0O3a00000M3yuUEAR">https://www.globtek.com/pdf/ec_declaration/a0O3a00000M3yuUEAR</a>
RoHS/RoHS2 Declaration	<a href="https://www.globtek.com/pdf/rohs_cert/a0O3a00000M3yuUEAR">https://www.globtek.com/pdf/rohs_cert/a0O3a00000M3yuUEAR</a>
REACH Declaration	<a href="https://www.globtek.com/pdf/iso_certificates/REACH.pdf">https://www.globtek.com/pdf/iso_certificates/REACH.pdf</a>
Conflict Minerals Declaration	<a href="https://www.globtek.com/pdf/conflict-minerals.pdf">https://www.globtek.com/pdf/conflict-minerals.pdf</a>

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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~, 50-60 Hz
I/P Amps (A)	1.2A
Wattage (W)	36.0
Vout Range (V)	3.6-20
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP42
Size (mm)	(L)87x(W)47x(H)32mm

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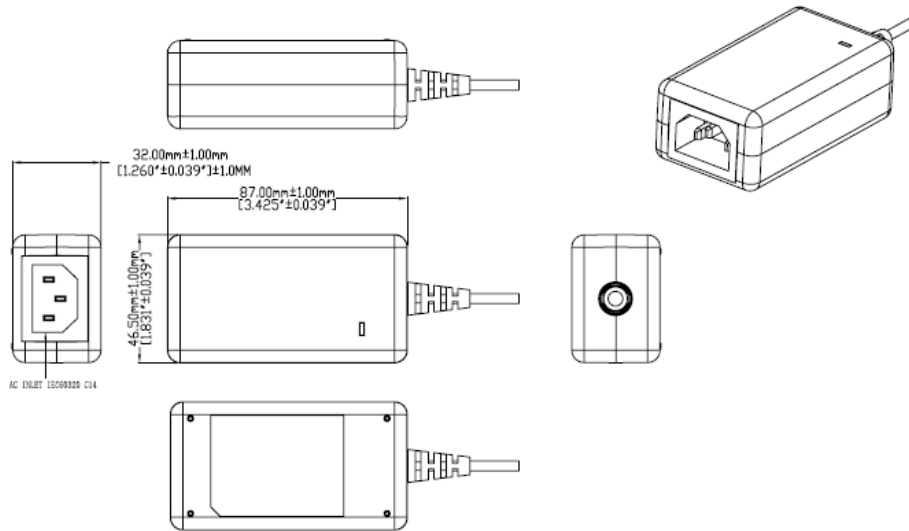
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# ENCLOSURE



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## RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96181-36PD-T3	20 V	1.8	36.00	<a href="#">RFQ</a>
GTM96181-18PD-T3	20 V	0.9	18.00	<a href="#">RFQ</a>

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## SPECIFICATIONS

### USB Power Delivery Capabilities

Protocol supported:	USB Power Delivery (PD) 2.0/3.0 + PPS
Advertised Power Data Objects (PDOs):	Standard option: 5V, 5.8V, 9V, 12V, 15V, 15.1V, 20V PPS option: 5V, 5.8V, 9V, 12V, 15V, 20V, PPS (5-20V)
Note 1:	Custom fixed PDOs available upon request. PDO1 must be 5V. PDO2 through PDO7 may be set to any custom voltage from 5V to 20V, with a step size of 100mV.
Note 2:	For mission critical applications requiring power supply authentication, USB PD Vendor Defined Messages (VDMs) may be implemented to prevent system usage with non-certified power sources. Please see our article <a href="#">Product Security and Risk Mitigation for USB Power Delivery (PD) Based Systems</a> for additional information.

### Input

Input Voltage:	Specified: 90-264VAC, Nameplate: 100-240VAC 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 @ 115VAC and full load
Output Regulation	± 4% max. (measured at the end of a 1m long output cord)
Line Regulation:	± 0.5% typ. (measured at the end of a 1m long 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 25% load step),
Hold-up Time:	8ms min. (100VAC and full load)
Power Indicator:	Green LED

### Protections

Input Protection:	MOV transient suppressor, input line fusing
Over-Voltage Protection:	24-28V, Latched off, cycle AC to reset
Over-Current Protection:	110-130%, Auto-recovery

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Short-Circuit Protection:	Auto-recovery
<b>Environmental</b>	
MTBF:	1,000,000 hours @ 40°C ambient, full load (Telcordia SR-332, Issue 3)
Operating Temperature:	-10°C to 40°C (full load)
Storage Temperature:	-40°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
<b>Safety</b>	
Dielectric Withstand Voltage:	4000VAC or 5656VDC from input to output 10mA, 1 minute
Touch Current:	NC: 80µA max. SFC: 400µA max.
Earth Leakage Current	300µA max. (N/A for 2-conductor input models)
Means of Protection:	2 x MOPP
Output Isolation Options:	-Q suffix: Class II 2-conductor (interchangeable blades) -T2 suffix: Class II 2-conductor -T3 suffix: Class II, with functional earth (FE) Class I, earth wire connected directly to output negative
Note 3:	Review output isolation options with our article: <a href="#">PSU Isolation and Identify</a>
<b>EMC</b>	
Applicable Standards:	Medical: EN 60601-1-2, 4th edition Emissions: EN55032, EN61000-6-3, EN61000-6-4 Immunity: EN55024, EN61000-6-1, EN61000-6-2
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
Line Surge Immunity:	EN61000-4-5, 1KV differential, 2KV common-mode, Criterion A
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/C
	When a Class II power supply is connected to an earth-referenced system,

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Note 4: conducted/radiated EMI levels tend to increase since the distant earth connection creates a long return path for common-mode currents. This model includes an output common-mode choke to help alleviate system-level EMI issues. This choke can be removed, if low cost is a priority.

## Enclosure

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

Markings: Adhesive backed label or laser engraving

## Security

Two non-standard voltage profiles are included: 5.8V and 15.1V\*. System designers may use these non-standard profiles to prevent system operation with non-GlobTek power supplies. 12.0V is technically not standard, but is often included in other power supplies.

USB Power Delivery: \*15.1V profile is removed for the PPS option.

The power supply will respond to a USB PD "Discover Identity" VDM with 0x4754 in the "ProductID" field. USB PD host systems may check this value before initiating/allowing power negotiation.

Note 5: These measures do not guarantee a secure implementation, and are only suggested as a method of risk mitigation.

Note 6: 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

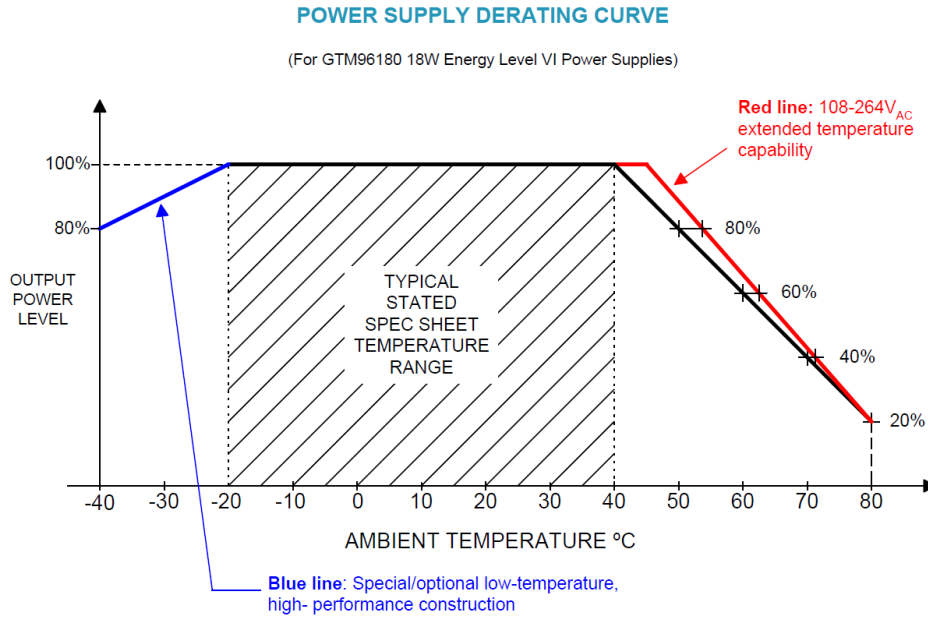
1. Custom housing and output cord colors
2. Custom fixed output cord length, for applicable models (1m, 2m, 3m lengths)
3. Custom markings and marking methods
4. Custom USB PD PDOs: Output voltages selectable between 5V and 20V, in 100mV increments

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# DERATING CURVE





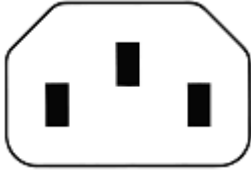
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**INPUT CONFIGURATION**

Description IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground



Mates with IEC 60320/C13 Plug

Optional Locking IEC60320 Receptacle and cord option available on some models by request.:


[Standard International IEC 320/C13 Cordsets](#)

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

**Stock Power Supply Cords**

Part Number/ Link	Country	Plug	Termination	Length (mm)	(Ft)
<a href="#">3021457F701(R)</a>	N. American (Type B)	NEMA 5-15P	IEC 320/C13	2150	7
<a href="#">1191068F0701(R)</a>	N. American (Type B)	NEMA 5-15P Hospital	IEC 320/C13	2459	8
<a href="#">2194272M5701-T(R)</a>	Argentina (Type I)	IRAM 2073	IEC 320/C13	2500	8
<a href="#">5502022M5701A(R)</a>	Australian (Type I)	AS3112 / 3 PRONG	IEC 320/C13	2500	8
<a href="#">204B4272M5701(R)</a>	Brazil (Type N)	BRAZIL	IEC 320/C13	2500	8
<a href="#">6023602M5701(R)</a>	China (Type I)	CCC GR2099	IEC 320/C13	2500	8
<a href="#">G8014272M5701(R)</a>	Danish (Type K)	AFSNIT SECTION 107-2-D1	IEC 320/C13	2500	8
<a href="#">23144272M5701-T(R)</a>	Europe (Type E)	CEE 7/7	IEC 320/C13	2500	8
<a href="#">205IN4272M5701(R)</a>	India (Type D)	India IS 1293 (also known as IA16A3 or BS546)	IEC 320/C13	2500	8
<a href="#">208IN4272M5701(R)</a>	India (Type M)	India IS 1293 (also known as IA16A3 or BS546)	IEC320/C13	2500	8
<a href="#">377C4272M5701(R)</a>	Israel (Type H)	ISL 377C	IEC 320/C13	2500	8
<a href="#">23024272M5701(R)</a>	Italy (Type L)	CEI 23-16/VII	IEC 320/C13	2500	8
<a href="#">3003339F701(R)</a> [3x1.25mm2]	Japan (Type B)	JIS 8303 / 3 PINS	IEC 320/C13	2500	8

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<a href="#">3003068F2701-HK(R)</a> [3 x 2.0mm2]					
<a href="#">302J115J6F0701J(R)</a>	Japan / North America (Type B – 12A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">302J104J6F0701J(R)</a>	Japan / North America (Type B – 15A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">2313K3432M5701(R)</a>	Korea (Type F)	KS C 8305	IEC 320/C13	2500	8
<a href="#">5804272M5701(R)</a>	Russia (Type F)	GOST 7396	IEC 320/C13	2500	8
<a href="#">2084272M5701(R)</a>	South Africa (Type M)	South Africa SABS164-1 (16A type)	IEC 320/C13	2500	8
<a href="#">23214272M5701(R)</a>	Switzerland (Type J)	SEV 1011	IEC 320/C13	2500	8
<a href="#">3003322M5701(R)</a>	Taiwan (Type B)	BSMI	IEC 320/C13	2500	8
<a href="#">PZ0800100-2M5BK13H(R)</a>	UK, Hong Kong, Singapore, Gulf States (Type G)	BS 1363A	IEC 320/C13	2500	8
<a href="#">7055002M5701A(R)</a>	International	IEC 320 C14-C13	IEC 320/C13	2500	8

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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
	Morocco SDoC declaration <a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>