

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

Model:GTM96900P90VV.V-T3A

June 1, 2020

Medical, ITE, Household Power supply offers up to 50 Deg Operating Temp, an LPS option, and DOE EPS 2.0 Level VI compliance with IEC60320/C5 Input plug

Information

Model Number	GTM96900P90VV.V-T3A
Description	GTM96900P90VV.V-T3A, ITE / Medical Power Supply/Class 2/Household Power Supply, 60601-1-4th Ed. , Desktop/External, Regulated Switchmode AC-DC Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60Hz, IEC 60320/C6 AC Inlet Connector, Class I, Earth Ground (aka "Mickey Mouse"), Output Rating: 90 Watts, Power rating with convection cooling (W) , 12-54V in 0.1V increments, Approvals: CAN ICES-3; Ukraine; CB 61347; RCM; CCC; Patent US9838207B2; EAC; ETL 62368; LPS 62368; S-Mark 60950; CB 60950; ETL; ETL; CB 60335; CB 62368; ETL; CB 60601-1; S-Mark; CE; China RoHS; Class I; IP41; Level VI; LPS 60950; RoHS; VCCI; WEEE; PSE; PSE; PSE;
Model Picture	
Agency Documents	http://www.globtek.info/certs/GTM96900P90VV.V/
CE EC-Declaration	https://www.globtek.com/pdf/ec_declaration/a0Oa000000MigV4EAJ
RoHS/RoHS2 Declaration	https://www.globtek.com/pdf/rohs_cert/a0Oa000000MigV4EAJ
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

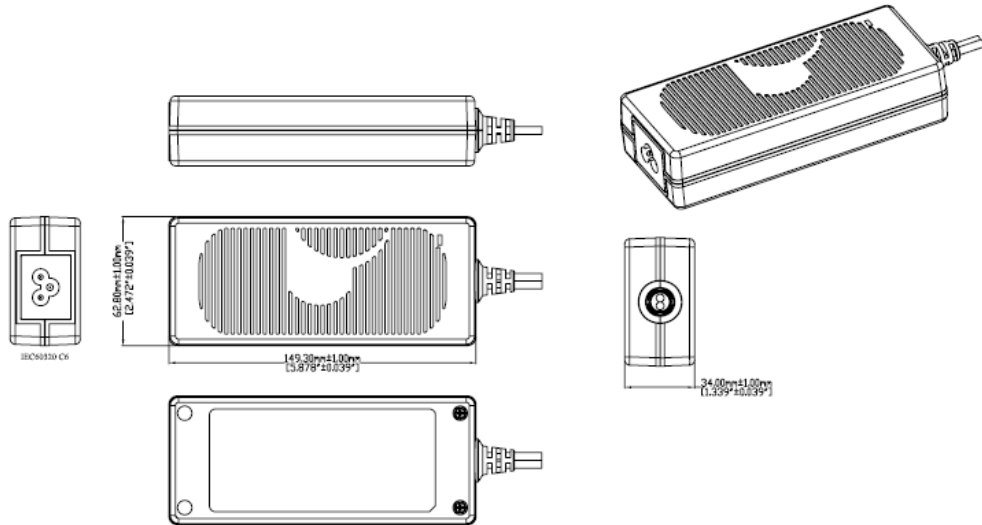
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ITE / Medical Power Supply/Class 2/Household Power Supply
Input Voltage	100-240V~, 50-60Hz
I/P Amps (A)	1.5A
Wattage (W)	90.0
Vout Range (V)	12-54
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP41
Size (mm)	149.38 x 62.6 x 33.5 +/-1.0 mm

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ENCLOSURE



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RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96900P8512-T3A	12 V	7.1	85.20	RFQ
GTM96900P8512-T3AZ	12 V	7.1	85.20	RFQ
GTM96900P9015-T3A	15 V	6	90.00	RFQ
GTM96900P9015-T3AZ	15 V	6	90.00	RFQ
GTM96900P9019-T3A	19 V	4.73	89.87	RFQ
GTM96900P9024-T3AZ	24 V	3.75	90.00	RFQ
GTM96900P9024-T3A	24 V	3.75	90.00	RFQ
GTM96900P9030-T3AZ	30 V	3	90.00	RFQ
GTM96900P9030-T3A	30 V	3	90.00	RFQ
GTM96900P9036-T3A	36 V	2.5	90.00	RFQ
GTM96900P9036-T3AZ	36 V	2.5	90.00	RFQ
GTM96900P9048-T3AZ	48 V	1.875	90.00	RFQ
GTM96900P9048-T3A	48 V	1.875	90.00	RFQ
GTM96900P9054-T3AZ	54 V	1.66	89.64	RFQ
GTM96900P9054-T3A	54 V	1.66	89.64	RFQ

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SPECIFICATIONS

A) ELECTRICAL SPECIFICATIONS:

01. Input Voltage: Specified 90-264 Vac, Nameplate rated: 100-240Vac
 - 90-264Vac range @ 100% of rated load current
 - 85-264 Vac range @ 90% of rated load current
 - 90-370 VDC range @ 100% of rated load current
02. Input Frequency: Specified 47-63 Hz, Nameplate rated 50/60Hz
03. Power Factor: 0.90 minimum @ 230Vac, 0.97 minimum @ 115Vac
04. Output Type: LPS (Limited Power Source), limited to less than 8A and 100W
04. Output Regulation: +/- 4% measured at the output connector
05. Line Voltage Regulation: +/- 0.5% typical measured at full load
06. Green Power On Indicator LED
07. Output Ripple (Vp-p): 1% or 200 mV whichever is greater, 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 at nominal line
08. Turn-ON/OFF Overshoot: 5% maximum, 1 mS typical recovery time for 25% to 50% step load
09. Turn-ON Delay: 1 second typical
10. Hold-Up Time: 20 mS minimum
11. Inrush Current: 30A maximum at 115Vac input and 60A maximum at 230 Vac input
12. Switching Frequency: Varies from 25KHz to 125KHz
13. Efficiency: Compliant with Efficiency Level VI Standard and 230 CoC Tier 2 Limits
14. No Load Standby Power: <0.15 W @ 230Vac

B) PROTECTION

01. Input Protection: Input line fusing and 300Vac rated MOV
02. Non-LPS version: Current Limited to 110% to 160% of rated output current
03. LPS version: Short Circuit/Overload limited to less than 8A and 100W (add Z suffix in model #)
04. Over-Temperature : Inherently protected against continuous overload at high temperature
05. Output Over-Voltage: 110% to 135% of nominal output voltage under full load condition, and less than 60V max. Latching protection, cycle AC OFF to reset.

C) SAFETY

01. Dielectric Withstand Voltage: 4000Vac or 5656Vdc from input to output, On Class I models, 3000Vac or 4242Vdc from input to earth
02. Earth Leakage Current: Class I models < 300uA, N/A for Class II models
03. Touch Current: Class I models < 20uA, Class II models < 70uA
04. Output Isolation Options:
 - a) C8 or C18 Inlet, Class II
 - b) C6 or C14 Inlet, Class II FE, Output Isolated from Earth contact
 - c) C6 or C14 Inlet, Class I, Output negative directly attached to Earth contact
05. Earth Continuity Test: < 0.1 Ohm between Earth Pin at AC input and PCB termination point (Class I models only)
06. Means of Protection: 2 x MOPP
07. Primary to Secondary Bridging Capacitance: Two IEC60384-14 certified Y1 type capacitors in series
08. Compliant Standards: See listings at end of this drawing for specifics

D) EMC

EN 60601-1-2, 4th edition

PROPRIETARY INFORMATION

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<http://en.globtek.com/datasheet/id/a0Oa000000MigV4>

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Emissions, per EN 55032, EN 61000-6-3, EN 61000-6-4, CISPR11 and CISPR22

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, 18kV 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: 1,000,000 Hours @ 40°C ambient temperature, Full Load

02. Operating Temperature:

GTM96900P Family: 0°C to 50°C ambient temperature with full load

Regarding Operating Temperature,

a- See below derating table for output power capability at alternate temperature

b- Extended low end temperature range available as custom option

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

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

05. Cooling: Convection

06. ROHS: Compliant with latest regulations, see approvals section below

07. Operational Altitude: 5000M

F) DESKTOP STYLE ENCLOSURE

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

02. Size: 149.4 x 62.6 x 33.5 +/-1.0 mm

03. Markings: Label or Laser printed

04. AC Input mechanical options: Desktop C6, C8, C14 or C18 IEC Inlet.

G) SPECIAL OPTIONS

01. LPS or non-LPS versions (Z suffix for LPS model)

02. Custom Cordsets, various cordage types, and connector types

03. Custom Markings

04. Short term Output Surge Capability, as a non-LPS version

05. Reduced Leakage Current version, medical CF leakage current compliance

06. Tightened output voltage tolerance

07. Reduced Output Ripple Level

08. Reduced output power Marking/Rating

09. LED Lighting, Class C Line Harmonics per 61000-3-2

Three Power Ranges available: 27-51W, 40-65W and 57-90W

10. High Rel PCB laminate with Plated through Holes for IPC610 Class 2 Compliance

11. Low Temperature operation, down to -40°C

12. Special Housing Colors and Cordset Colors

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- 13. Epoxy Potted Version, "P2" or "P3" suffix, with flying wires
- 14. Back EMF applications, custom solutions. For unusual motor load aps and other high inductance reverse energy flow requirements
- 15. Improved Ingress Protection Rating

H) OUTPUT CONNECTORS

Several output connector options are available with various output current ratings.

GlobTek can supply 10A rated 2.1mm and 2.5mm style DC Power Jacks, to complement our

10A output rated 2.1mm and 2.5mm DC power plugs used on our output cordsets.

Please visit <https://en.globtek.com/news/high-current-coaxial-barrel-plug-jacks-for-high-wattage-power-supplies> for a real time product offering of mating connectors.

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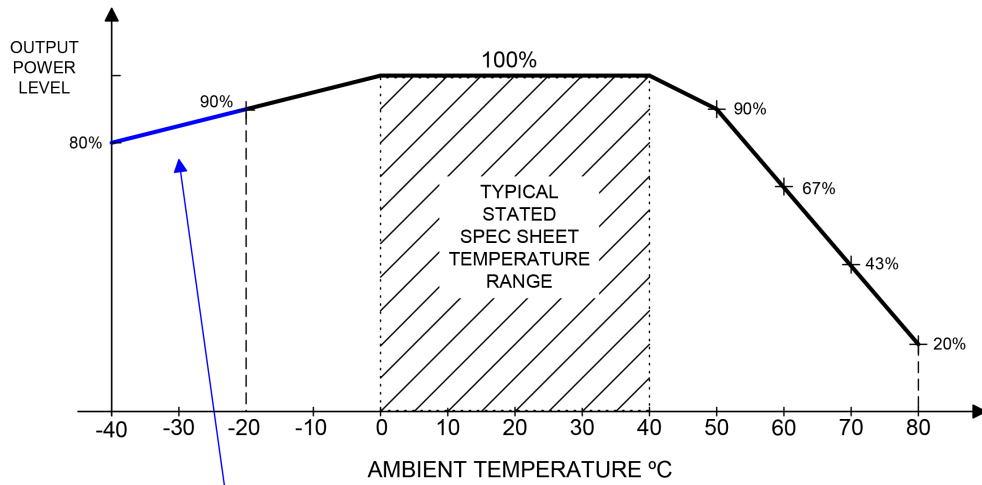
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DERATING CURVE

TYPICAL EXTERNAL POWER SUPPLY DERATING CURVE

(GTM96900 LPS PRODUCTS)



Blue Line represents special/optional Low Temperature, High Performance Construction

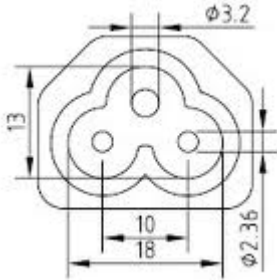
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INPUT CONFIGURATION

Description IEC 60320/C6 AC Inlet Connector, Class I, Earth Ground (aka "Mickey Mouse")



Mates with IEC 60320/C5 Plug

Standard International IEC 320/C5 Cordsets

Below are standard cordsets which are "not included" (unless stated above); these can be purchased separately or package 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.

Part Number / Link	Country	Plug	Connector	Length (mm)	Length (ft)
3021066F712(R)	N. American (Type B)	NEMA 5-15P	IEC 320/C5	1880	6
1191068F0712(R)	N. American (Type B)	NEMA 5-15P Hospital	IEC 320/C5	2459	8
2194262M0712(R)	Argentina (Type I)	IRAM 2073	IEC320/C5	2050	6.7
2064262M0712(R)	Australian (Type I)	AS3112 / 3 PRONG	IEC 320/C5	2000	6.6
204B4262M0712(R)	Brazil (Type N)	BRAZIL	IEC 320/C5	2000	6.6
6023592M5712(R)	China (Type I)	CCC GR2099	IEC 320/C5	2500	8
23144262M0712(R)	Europe (Type E)	CEE 7/7	IEC 320/C5	2050	6.6
2313K3432M0712(R)	Korea (Type F)	KS C 8305	IEC 320/C5	2000	6.6
205IN4262M0712(R)	India (Type D)	India IS 1293 (also known as IA16A3 or BS546)	IEC320/C5	2000	6.6
377C4262M0712(R)	Israel (Type H)	ISL	IEC320/C5	2050	6.7
23024262M0712(R)	Italy (Type L)	CEI 23-16/VII	IEC 320/C5	2000	6.6
3003316F0712(R)	Japan (Type B)	JIS 8303 / 3 PINS	IEC 320/C5	1830	6
	Japan / USA	JIS 8303 / 3 PINS +			

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3021066F0712ULPSE(R) (Type B)	NEMA 5-15P	IEC 320/C5 1830	6
2054262M0712(R)	S. Africa (Type D) South Africa SABS164-1 (6A type plug)	IEC320/C5 2050	6.7
2084262M0712(R)	S.Africa (Type M) South Africa SABS164-1 (16A type plug)	IEC 320/C5 2000	6.6
23214262M0712(R)	Switzerland (Type J) SEV 1011 (EL 203)	IEC 320/C5 2000	6.6
3003316F0712(R)	Taiwan (Type B) BSMI	IEC 320/C5 2000	6.6
6104262M0712(R)	UK, Hong Kong, Singapore, Gulf States (Type G) BS1363	IEC 320/C5 2000	6.6

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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 for IEC 60601-1:2006/A1:2013+A12:2014 IEC 60601-1-11:2015
No Logo Applicable	CB for IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
No Logo Applicable	CB for IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
No Logo Applicable	CB for IEC61347-1:2015 + A1:2017 IEC61347-2-13:2014, A1:2016
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
	CCC Altitude up to 5000 m GB17625.1-2012, GB4943.1-2011, GB/T9254-2008
	Test standard: EN 55032: 2012+AC: 2013 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 EN 60601-1-2:2015
	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]
	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php

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	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 Electrical Equipment - Part 1: General Requirements For Basic Safety And Essential Performance (R2012) [AAMI ES60601-1:2005 +C1;A2] [CSA C22.2#60601-1:2014 Ed.3] [AAMI HA60601-1-11:2015 Ed.2]
	Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]
 Class 2 Power Unit	Class 2 Power Units [UL 1310:2011 Ed.6 +R:12Dec2014] up to 5A Power Supplies With Extra-Low Voltage Class 2 Outputs [CSA C22.2 No.223:2015 Ed.3]
CAN ICES-3(B)/NMB-3(B)	Compliance of this PSU with Industry Canada, Class B demonstrated with a standard output load. The ICES law stipulates that system-level testing is required to demonstrate compliance with the ICES-3 emission limits with the actual system load.
	Indoor Use Only - Mark is on the label or Molded in the case
IP41	Ingress Protection: ?IP41 to IEC60529:2001 Protection against granular foreign bodies - Protected against vertically falling drops of water
 Glob Tek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50313287, to J60950-1(H26) , J55022(H22),J3000(H25)[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/
 Glob Tek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50314475, 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/
 Glob Tek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50314475, to J60950-1(H26) , J55022(H22),J3000(H25)[DC30?60V]. Please reference the following website for guidelines on PSE regulations: http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/

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 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 if Z suffix on model number
LPS	Limited Power Source if Z suffix on model number 62368
	Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/
Patent pending	Patent pending
	RCM certificate SAA-170646-EA; Australia and New Zealand Regulatory Compliance, Mark (http://rcm.standards.org.au/rcmfaq/rcmfaq.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
	S-Mark Certificate EN 60601-1:2006 + A1:2013 + A12:2014 EN 60601-1-11:2015 (http://www.intertek.com/marks/s/)
	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 (http://www.intertek.com/marks/s/)
	Ukraine UKRSepr (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