

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

Model:GTM96900P90VV.V-TP(SR with fixed Plug 2 pin)

January 23, 2022

## GTM96900P90VV.V-TP(SR with fixed Plug 2 pin)

### Information

Model Number	GTM96900P90VV.V-TP(SR with fixed Plug 2 pin)
Description	GTM96900P90VV.V-TP(SR with fixed Plug 2 pin), ICT/ITE Power Supply, 60601-1-4th Ed. , Desktop/External, Regulated Switchmode AC-DC Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, See "Blade/Cord Installed" section. Contact GlobTek for customization requests such as Molded country plugs, Molex or TE connectors, or IEC connectors mounted on any type of cable in any customer specified lengths., Output Rating: 90 Watts, Power rating with convection cooling (W) , 12-54V in 0.1V increments, Approvals: S-Mark 62368; IRAM; UKCA; cETLus 62368-1; Morocco; PSE; PSE; PSE; CE; China RoHS; Level VI; RoHS; Ukraine; WEEE; ETL; CB 60950; cETLus; IP42; EAC; Patent US9838207B2; VCCI; LPS 60950; CB 60601-1; CB 61347; S-Mark; CB 62368;
Model Picture	.
Agency Documents	<a href="http://www.globtek.info/certs/GTM96900P90VV.V/">http://www.globtek.info/certs/GTM96900P90VV.V/</a>
CE EC-Declaration	<a href="https://www.globtek.com/pdf/ec_declaration/a0O3a00000M5xhREAR">https://www.globtek.com/pdf/ec_declaration/a0O3a00000M5xhREAR</a>
RoHS/RoHS2 Declaration	<a href="https://www.globtek.com/pdf/rohs_cert/a0O3a00000M5xhREAR">https://www.globtek.com/pdf/rohs_cert/a0O3a00000M5xhREAR</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**

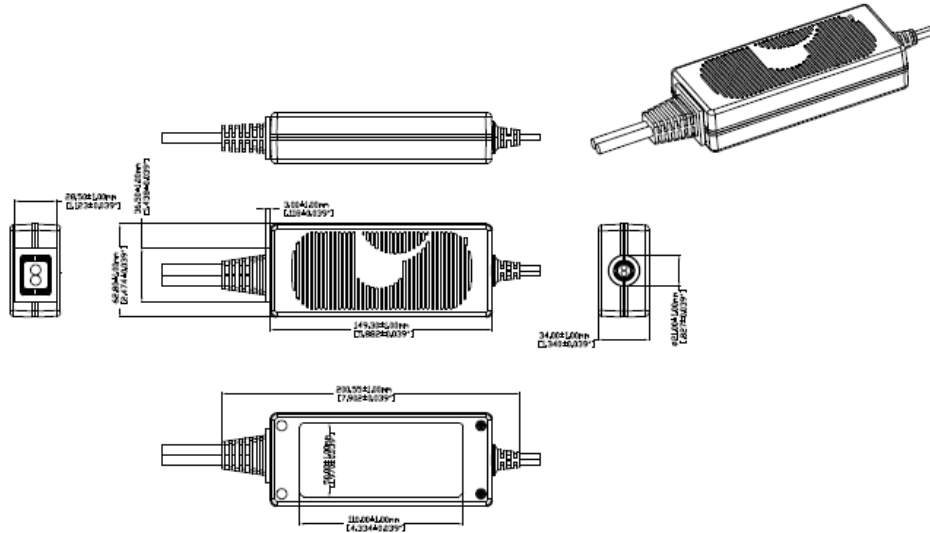
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ICT/ITE Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	1.5A
Wattage (W)	90.0
Vout Range (V)	12-54
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP42
Size (mm)	149.3 x 62.8 x 34.0 +/-1.0

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# ENCLOSURE



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## RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96900P9012-TPZ	12 V	7.5	90.00	<a href="#">RFQ</a>
GTM96900P9024-TP	24 V	3.75	90.00	<a href="#">RFQ</a>
GTM96900P9024-TPZ	24 V	3.75	90.00	<a href="#">RFQ</a>

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## SPECIFICATIONS

### Input

Input Voltage:	Specified: 90-264VAC, Nameplate: 100-240VAC 100% rated load current for 90-264VAC 90% rated load current for 85-264VAC 100% rated load current for 90-370VDC
Input Frequency:	Specified: 47-63Hz, Nameplate: 50-60Hz
Power Factor:	0.90 min. @ 230VAC, 0.97 min. @ 115VAC
No Load Input Power:	< 150mW @ 115/230VAC
Inrush Current:	< 65A @ 115VAC, < 130A @ 230VAC (cold start)
Efficiency:	DoE Level VI and EU CoC Tier 2 compliant

### Output

Turn-on Delay:	1 second typ.
Output Regulation:	± 4% (measured at output connector)
Line Regulation:	± 0.5% typ. (measured at output connector, full load)
Ripple:	1% or 200mV, whichever is greater (using a 47µF low-ESR cap + 0.1µF ceramic capacitor, measured @ 20MHz BW, at output connector)
Startup Overshoot:	5% max.
Transient Response:	5% max. deviation, 1ms typ. recovery time (with 25% to 50% load step)
Hold-up Time:	20ms min.
Power Indicator:	Green LED
Switching Frequency:	Variable, 25KHz - 125KHz, depending on load
Output Type:	Z-suffix only: IEC62368-1 Limited Power Source (LPS), 8A and 100W max.

### Protections

Input Protection:	300VAC MOV transient suppressor, input line fusing
Over-Current Protection (Non-LPS Version):	110 - 160% of rated output current, auto-restart
Over-Current Protection: (LPS "Z" Version)	Overload limited to less than 8A and less than 100W, auto-restart
Short-Circuit Protection:	Auto-restart
Over-Voltage Protection:	110 - 135% (60V max for models rated 45 - 54V), full load condition, latched off, cycle AC to reset
Over-Temperature Protection	On-chip temperature sensor (integrated in primary-side switching controller), shut down at Tj = ~150°C, restart at Tj = ~140°C

### Environmental

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MTBF:	1,500,000 hours @ 25°C ambient, full load (Telcordia SR-332, Issue 3)
Operating Temperature:	-10°C to 40°C (full 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
Note 1:	Regarding operating temperature a. See below de-rating table for output power capability at alternate temperature b. Extended low-end temperature range available as a custom option

## Safety

Dielectric Withstand Voltage:	4000VAC or 5656VDC from input to output 3000VAC or 4242VDC from input to earth (Class I models only)
Touch Current:	Class I: 20µA max. Class II: 70µA max.
Earth Leakage Current	Class I: 300µA max. Class II: N/A
Means of Protection:	2 x MOPP
Output Isolation Options:	Class I: C6 or C14 inlet (output negative tied to Earth contact) Class II: C8 or C18 inlet Class II FE: C6 or C14 inlet (output isolated from Earth contact) Review isolation options by reading our white paper <a href="#">PSU Isolation and Identity</a> .
Primary-to-Secondary Bridging Capacitors:	Two IEC60384-14 Class Y1 capacitors
Earth Continuity Test:	< 0.1Ω between earth pin (on AC inlet) and PCB termination point (Class I models only)
Compliant Standards:	See listing at end of this datasheet for specific standards

## EMC

Applicable Standards:	Medical: EN60601-1-2, 4th edition Emissions: EN55032, EN61000-6-3, EN61000-6-4, CISPR11, CISPR22 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
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

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Voltage Dip Immunity: EN61000-4-11

## Enclosure

Housing:	High impact plastic, 94V0 polycarbonate, non-vented
Size:	149.4 * 62.6 * 33.5mm, ± 1.0mm
AC Input Mechanical Options:	C6, C8, C14, or C18 IEC inlet
Markings:	Label and/or pad printed and/or laser-etched into case

## Special Options

1. IEC62368-1 Limited Power Source (LPS) version (add Z suffix)
2. Reduced leakage current to meet IEC60601-1 Type-CF limits
3. Improved EN61000-4-5 line surge immunity (3KV differential, 5KV common-mode)
4. Reduced harmonic current levels for LED lighting (EN61000-3-2 Class C), available in three load ranges: 27-45W, 40-60W, and 60-90W
5. Ruggedized construction with improved shock and vibration resistance
6. Compliance to IPC-600, IPC-610, IPC-6012 Class 2 or 3
7. Short term output surge capability for motors or other high peak current loads (non-LPS version only)
8. Custom cordsets, special cordage and connector types
9. Custom housing markings
10. Custom housing/cordage colors
11. Tightened output voltage tolerance
12. Reduced output ripple level
13. Reduced output power rating
14. Low temperature option, down to -40°C
15. Epoxy potted version "P2" or "P3" suffix, with flying wires or custom cables
16. "Back EMF" upgrade, for motor loads and other high inductance applications with reverse energy flow requirements
17. Improved ingress protection (IP) rating

## 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 our real-time listing of mating connector product offering:  
<https://en.globtek.com/news/high-current-coaxial-barrel-plug-jacks-for-high-wattage-power-supplies>

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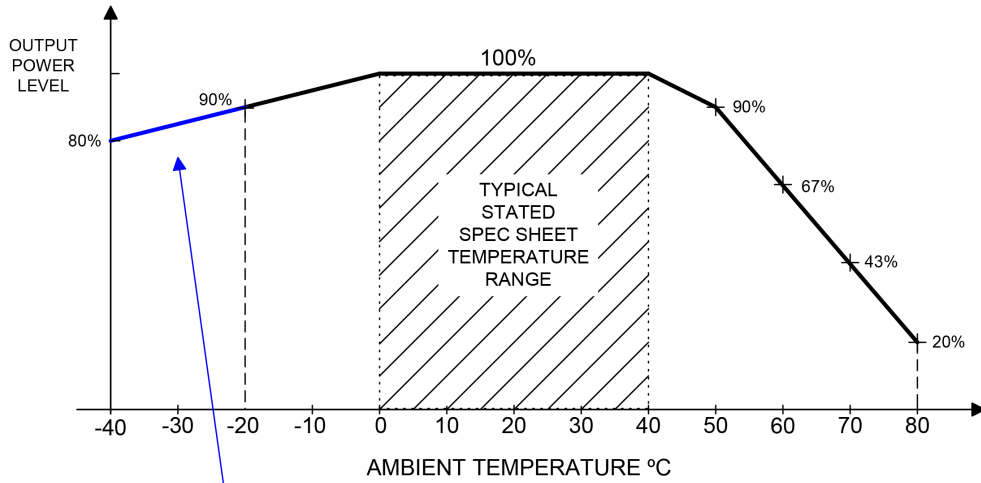
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# DERATING CURVE

## 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

See "Blade/Cord Installed" section. Contact GlobTek for customization requests such as Molded country plugs, Molex or TE connectors, or IEC connectors mounted on any type of cable in any customer specified lengths.

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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
 <b>DC-E-G71-005.2</b> PRECAUCION: PARA USO EN EQUIPOS ELECTRONICOS SOLAMENTE	IRAM certificate DC-E-G71-005.1 to IEC 62368-1:2014
No Logo Applicable	CB for IEC 60601-1:2006/A1:2013+A12:2014 IEC 60601-1-11:2015
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)
	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
	CHINA SJ/T 11364-2014, China RoHS Chart: <a href="http://en.globtek.com/globtek-rohs.php">http://en.globtek.com/globtek-rohs.php</a>
Conforms to UL STD. 60950-1 Certified to CSA STD C22.2 NO.60950-1	Conforms to UL STD. 60950-1 Certified to CSA STD C22.2 NO.60950-1

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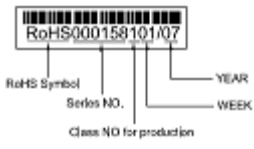




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Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1	Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1
	Declaration ДС № EAЭC N RU Д-US.KA01.B.10453_19 Custom Union of Russia, Belarus and Kazakhstan <a href="http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration">http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration</a>
	Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]
	Indoor Use Only - Mark is on the label or Molded in the case
IP42	Ingress Protection: ?IP42 to IEC60529:2001 Protection against granular foreign bodies - Protected against direct sprays up to 15o from the vertical Optional
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50469658, to J62368-1(H30) , J55032(H29),J3000(H25)[15V or less]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50469658, to J62368-1(H30) , J55032(H29),J3000(H25)[DC15?30V]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50469658, to J62368-1(H30) , J55032(H29),J3000(H25)[DC30?60V]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
EFFICIENCY LEVEL 	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
	Morocco SDoC declaration <a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>

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Patent pending	Patent pending
RoHS	Specifications of directive 2011/65/EU Annex VI (ROHS-2) with amendment 2015/863-EU (ROHS-3) <a href="http://www.ce-mark.com/Rohs%20final.pdf">http://www.ce-mark.com/Rohs%20final.pdf</a>
	S-Mark Certificate EN 60601-1:2006 + A1:2013 + A12:2014 EN 60601-1-11:2015 ( <a href="http://www.intertek.com/marks/s/">http://www.intertek.com/marks/s/</a> )
	S-Mark Certificate EN 62368-1:2014 + A11 ( <a href="http://www.intertek.com/marks/s/">http://www.intertek.com/marks/s/</a> )
	Serial Number Information
	UKCA Certification
	Ukraine UKRSepr (Document: <a href="http://www.globtek.com/html/iso_certificates/GT_Ukraine.pdf">www.globtek.com/html/iso_certificates/GT_Ukraine.pdf</a> )
	Japan: Voluntary Control Council for Interference (VCCI)
	WEEE: Complies with EU 2012/19/EU ( <a href="http://ec.europa.eu/environment/waste/weee/index_en.htm">http://ec.europa.eu/environment/waste/weee/index_en.htm</a> ) Mark is on the label or Molded in the case