

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

Model:GTM96180-18VV-T2A

November 28, 2020

## GTM96180-18VV-T2A

### Information

#### Model Number

GTM96180-18VV-T2A

#### Description

GTM96180-18VV-T2A, 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~, 50-60 Hz, IEC 60320/C18 AC Inlet connector, Class II, Non-Earth Ground, Output Rating: 18 Watts, Power rating with convection cooling (W) , 5-48V in 0.1V increments, Approvals: cETLus 60601-1 3rd; CB 61558-2-16; 230V CoC Tier 2; Fuse 60335; CB 60601-1; CB 60950; CB 60335; CB 62368; CCC; CE; CE; ETL; PSE; PSE; PSE; China RoHS; Level VI; LPS 60950; RoHS; Ukraine; VCCI; WEEE; FCC; CAN ICES-3; S-Mark 60950; RCM; Double Insulation; cETLus UL1310; Fuse 60335; IP42; IRAM; EAC; UKCA; LPS 62368; NrCAN (9V only); Morocco;

#### Model Picture



#### Agency Documents

<http://www.globtek.info/certs/GTM96180-TZ/>

#### CE EC-Declaration

[https://www.globtek.com/pdf/ec\\_declaration/a000c00000PHESvEAP](https://www.globtek.com/pdf/ec_declaration/a000c00000PHESvEAP)

#### RoHS/RoHS2 Declaration

[https://www.globtek.com/pdf/rohs\\_cert/a000c00000PHESvEAP](https://www.globtek.com/pdf/rohs_cert/a000c00000PHESvEAP)

#### REACH Declaration

[https://www.globtek.com/pdf/iso\\_certificates/REACH.pdf](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:GTM96180-18VV-T2A

November 28, 2020

**MODEL PARAMETERS**

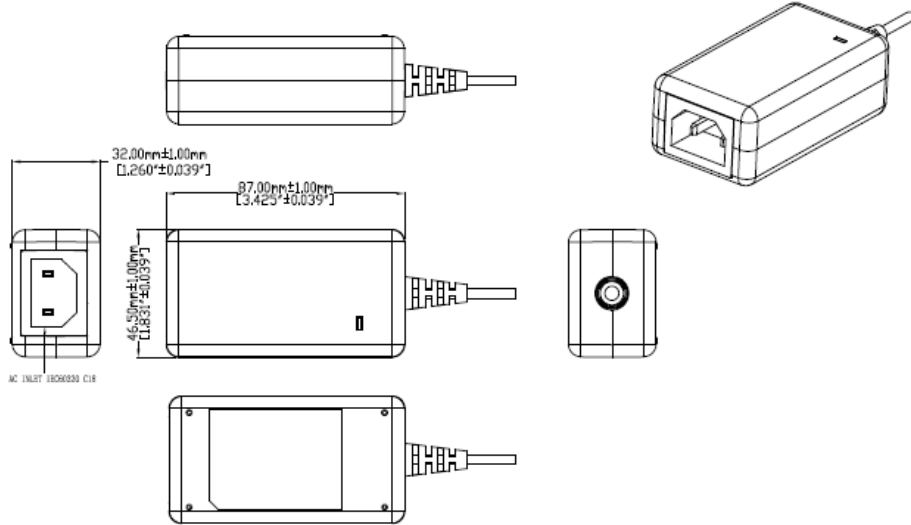
Type	Desktop/External
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ITE / Medical Power Supply/Class 2/Household Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	0.6 A
Wattage (W)	18.0
Vout Range (V)	5-48
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP42
Size (mm)	(L)87x(W)47x(H)32mm

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Model:GTM96180-18VV-T2A

November 28, 2020

# ENCLOSURE



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Model:GTM96180-18VV-T2A

November 28, 2020

**RATING TABLE**

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM96180-1507-2.0-T2A	5 V	3	15.00	<a href="#">RFQ</a>
GTM96180-1807-1.05-T2A	5.95 V	3	17.85	<a href="#">RFQ</a>
GTM96180-1811-3.5-T2A	7.5 V	2.4	18.00	<a href="#">RFQ</a>
GTM96180-1811-2.0-T2A	9 V	2	18.00	<a href="#">RFQ</a>
GTM96180-1817.9-5.9-T2A	12 V	1.5	18.00	<a href="#">RFQ</a>
GTM96180-1817.9-2.9-T2A	15 V	1.2	18.00	<a href="#">RFQ</a>
GTM96180-1830-12.0-T2A	18 V	1	18.00	<a href="#">RFQ</a>
GTM96180-1830-11.0-T2A	19 V	0.94	17.86	<a href="#">RFQ</a>
GTM96180-1830-10.0-T2A	20 V	0.9	18.00	<a href="#">RFQ</a>
GTM96180-1830-6.0-T2A	24 V	0.75	18.00	<a href="#">RFQ</a>
GTM96180-1830-T2A	30 V	0.6	18.00	<a href="#">RFQ</a>
GTM96180-1848-T2A	48 V	0.375	18.00	<a href="#">RFQ</a>

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Model:GTM96180-18VV-T2A

November 28, 2020

## SPECIFICATIONS

### 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/60A maximum, cold start @ 115VAC/230VAC input, respectively
Efficiency:	DoE Level VI compliant, EU CoC Tier 2 compliant

### Output

Turn-on Delay:	1 second max. @ nominal line and full load
Output Regulation	± 5% max. (measured at the output connector)
Line Regulation:	± 0.5% typ. (measured at the output connector, full load)
Ripple:	1% or 100mV, whichever is greater (measured using a 47µF low-ESR cap + 0.1µF ceramic capacitor, measured @ 20MHz BW, at output connector)
Transient Response:	5% max. deviation (with 40-70% load step), 1ms typ. recovery time
Hold-up Time:	8ms typ. @ nominal line and full load
Power On Indicator:	Green LED

### Protections

Input Protection:	MOV transient suppressor, input line fusing
Over-Voltage Protection:	110-130% of nominal output voltage
Short-Circuit Protection:	Auto-restart
Over-Current Protection:	110-160% of rated output current (Current limit range is determined by normal output power rating, not derated power level)

### Environmental

MTBF:	1,500,000 hours @ 25°C ambient, full load (Telcordia SR-332, Issue 3)
Operating Temperature:	-20°C to 40°C (full load) See derating table for output power capability at other temperatures. Extended low temperature range available as a custom option.
Storage Temperature:	-30°C to 80°C
Humidity:	0% to 95% relative humidity, non-condensing
Altitude:	5000m
Ingress protection:	IP40 standard, IP52 available as a special option

#### PROPRIETARY INFORMATION

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<http://en.globtek.com/datasheet/id/a000c00000PHESv>

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Model:GTM96180-18VV-T2A

November 28, 2020

Cooling:	Convection
RoHS:	Complies with EU 2011/65/EU and China SJ/T 11363-2006

## Safety

Dielectric Withstand Voltage:	4000VAC or 5656VDC from input to output 3000VAC or 4242VDC from input to earth (Class I models)
Touch Current:	Class I models: < 20uA Class II models: <75uA
Earth Leakage Current:	Class I models: <300uA Class II models: N/A
Isolation Options:	Floating output or Class I earthed output (desktop models)
Earth Continuity Test:	< 0.1 ohm between AC inlet earth pin and PCB termination point
Means of Protection:	2 x MOPP
Compliant Standards:	See listing at the end of this document.

## EMC

Applicable Standards:	Medical: EN60601-1-2, 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, 8KV contact discharge, 20KV 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

## Enclosure

Housing:	High impact plastic, 94V0 polycarbonate, non-vented
AC Input Mechanical Options:	Wall plug-in, changeable blades (Class II only) Desktop housing, extended housing: C6, C8, C14, or C18 IEC inlet (Class I or Class II)
Markings:	Label or laser printed

## Special Options

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Model:GTM96180-18VV-T2A

November 28, 2020

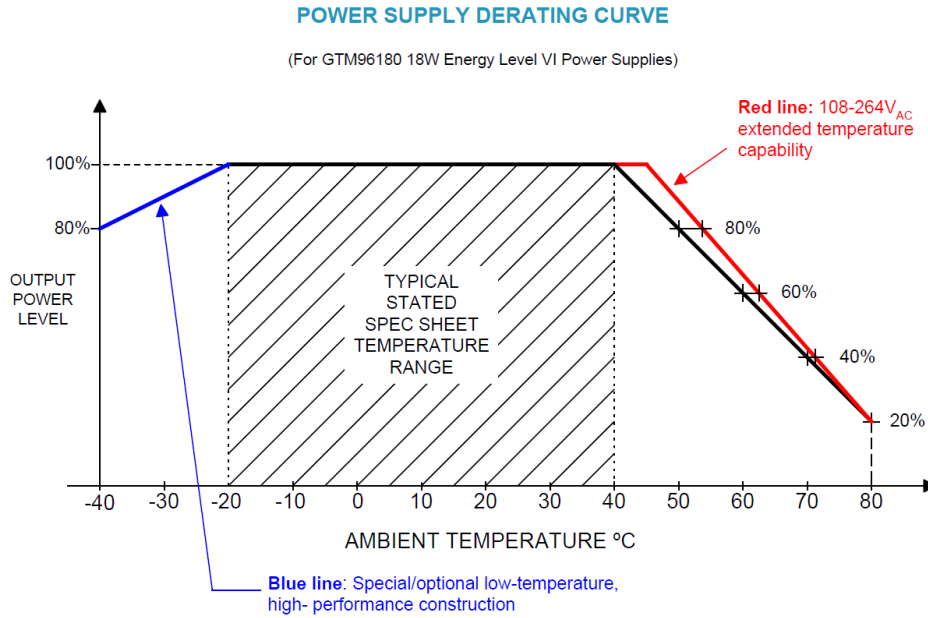
1. Removal of LED (optional)
  2. Custom cord-sets (custom cord and/or connector types). Note: 5VDC USB power supplies with Micro-B or Type-C connectors have a voltage regulation specification of  $\pm 8\%$  (4.6V to 5.4V).
  3. Custom markings
  4. Short term output surge capability
  5. Reduced leakage current versions (10uA max) for Type-CF medical applications and/or for AC noise sensitive equipment. (15W or less, 5 to 24V output voltage range.)
  6. Tightened output voltage tolerance
  7. Reduced output voltage ripple
  8. Improved reliability PCB laminate with plated-through-holes for IPC610 Class 2 compliance
  9. Custom housing colors
  10. Quasi constant-current output for SLA (lead-acid) battery charging applications
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Model:GTM96180-18VV-T2A

November 28, 2020

# DERATING CURVE





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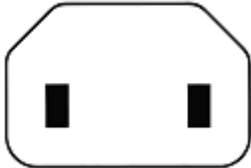
Model:GTM96180-18VV-T2A

November 28, 2020

**INPUT CONFIGURATION**

Description IEC 60320/C18 AC Inlet connector, Class II, Non-Earth Ground

Mates with IEC 60320/C17 Plug


[Standard International IEC 320/C17 Cordsets](#)

Below are standard cordsets which are "not included" (unless stated above); these may be purchased separately or packaged with the power supply. Please 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	Termination	Length (mm)	Length (F)
209A4062M071(R)	Argentina (Type I)	IRAM 2063	IEC320/C17	2000	6.6
5014112M071A(R)	Australia (Type I)	AS3112	IEC 320/C17	2000	6
<a href="#">204B4062M071(R)</a>	Brazil (Type N)	NRR 14136	IEC320/C17	2000	6.6
4533502M071A(R)	China (Type A)	GB 2099.1	IEC320/C17	2000	6.6
2074232M071C(R)	Europe (2.5A, Type C)	CEE 7/7	IEC 320/C17	2000	6.6
489C4232M071A(R)	Europe (10A)	CEE 7/17	IEC320/C17	2000	6.6

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Model:GTM96180-18VV-T2A

November 28, 2020

208A41111M8071A(R)	India (Type D)	IS 1293	IEC 320/C17	1800	6
451J3322M071A(R)	Japan (Type A)	JIS 8303	IEC320/C17	2000	6.6
401P1086F071A(R) 401P1086F071C(R)	North America (Type A)	NEMA 1-15P	IEC 320/C17	1828	6
401P1219F71A	North America (Type A)	NEMA 1-15P	IEC 320/C17	2743	9
4033321M8071(R)	Taiwan (Type A)	CNS10917	IEC 320/C17	1800	6
6104232M071A(R)	UK, Hong Kong, Singapore, Gulf States (Type G)	BS1363 (Fuse 3A)	IEC 320/C17	2000	6.6

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

Model:GTM96180-18VV-T2A

November 28, 2020

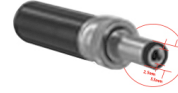
**OUTPUT CONFIGURATION**

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.

Model:GTM96180-18VV-T2A

November 28, 2020









## Approvals

Logo	Description
No Logo Applicable	EU 230V CoC Tier 2, 278/2009, Mar 2014
	Book 60335 up to 36 Volts
No Logo Applicable	IEC 60601-1:2005 (Third Edition) + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1 (2012 reprint) (Ed 3.1)
No Logo Applicable	CB for IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
No Logo Applicable	CB report to IEC 61558-2-16_2009 + A1_2013 IEC 61558-1_2005 2nd Edition + A1_2009 EN 61558-1-16_2009 EN 61558-1_2005 + A1_2009.pdf
	CCC to GB4943. 1-2011; GB9254-2008; GB17625. 1-2012 with Tropical and Altitude up to 5000 m approval.
No Logo Applicable	IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
	CE Mark: tested to comply with EN 55032:2012+AC:2013, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55024:2010, EN 60601-1-2:2015
	CE Certification CE Mark: tested to comply with EN 55032.2012+AC.2013 EN 61000-3-2.2014 EN 61000-3-3.2013 EN 60601-1-2.2015 EN 55024.2010
	Information Technology Equipment Safety Part 1: General Requirements (UL 60950-1 Issued: 2007/03/27, Ed: 2 Rev: 2014/10/14) Information Technology Equipment Safety Part 1: General Requirements (CSA C22.2 No. 60950-1 Issued: 2007/03/27 Ed: 2 (R2012) Amd.

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Model:GTM96180-18VV-T2A








November 28, 2020

 Intertek Class 2 Power Unit	cETLus-Cert 4007497 UL1310 Recognized Component up to 36 volts
	AAMI ES60601-1 Issued: 2012/08/20 Medical Electrical Equipment - Part 1: CAN/CSA-C22.2 No.60601-1:14, Third Edition Issued: 2014/03/01 - Medical Electrical Equipment - Part 1: IEC 60601-1-11 Issued: 2015/01/20 Ed. 2 Medical Elec. Equip.- Part 1-11:
	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>
	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>
	Compliance of this power supply with FCC Part 15, Class B has been demonstrated with a standard output load. The FCC law stipulates that system-level testing is required to demonstrate compliance with the FCC emission limits with the actual system load.
	Fuse 60335 T1.6A 250VAC Up to 36 volts
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
IP42	Ingress Protection: ?IP42 to IEC60529:2001 Protection against granular foreign bodies - Protected against direct sprays up to 15o from the vertical Optional
 DC-E-G71-002.7 PRECAUCION: PARA USO EN EQUIPOS ELECTRONICOS SOLAMENTE	IRAM certificate DC-E-G71-002.8 to IEC 60950-1:2005 + A1:2009 +A2:2013

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Model:GTM96180-18VV-T2A





November 28, 2020

 GlobTek, Inc.	JAPAN TUV R-PSE, Cert. No. JD 50471561.pdf, to J62368-1(H30) , J55032(H29), J3000(H25) ,[15V?30V]. Please reference the following website for 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 50471561, to J62368-1(H30) , J55032(H29), J3000(H25) ,[30V?60V]. Please reference the following website for 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 50471561, to J62368-1(H30) , J55032(H29), J3000(H25) ,[15V or less]. Please reference the following website for 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 60950
LPS	Limited Power Source 62368
	Morocco SDoC declaration <a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>
 Energy Verified Rendement Énergétique Vérifié	Natural Resources Canada (NRCAN): CSA Standard C381.1-08, QSP NRCAN EEV1191; <a href="http://shop.csa.ca/en/canada/energy-efficiency/canca-c3811-08/inv/27024802008">http://shop.csa.ca/en/canada/energy-efficiency/canca-c3811-08/inv/27024802008</a>
	RCM certificate SAA-161679-EA; Australia and New Zealand Regulatory Compliance, Mark ( <a href="http://rcmstandards.org.au/rcmfaq/rcmfaq.htm">http://rcmstandards.org.au/rcmfaq/rcmfaq.htm</a> )
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>

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Model:GTM96180-18VV-T2A

November 28, 2020

	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 <a href="http://www.intertek.com/marks/s/">(http://www.intertek.com/marks/s/)</a>
	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