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Model:GTM962251PWWVV.V-F

June 6, 2020

GTM962251PWWVV.V-F

Information

Model Number	GTM962251PWWVV.V-F
Description	GTM962251PWWVV.V-F, ITE / Medical Power Supply, 60601-1-4th Ed. , Open Frame/Internal, Regulated Switchmode AC-DC Power Supply AC Adaptor, Forced airflow for full rated power (CFM): 10CFM, Input Rating: 100-240V~, 50-60 Hz, , Output Rating: 225 Watts, Power rating with convection cooling (W) 140, 12-54V in 0.1V increments, Approvals: Level VI; RoHS; WEEE; EAC; Ukraine; China RoHS; VCCI;

Model Picture



Agency Documents

CE EC-Declaration	https://www.globtek.com/pdf/ec_declaration/a000c00000Ph0MxEAJ
RoHS/RoHS2 Declaration	https://www.globtek.com/pdf/rohs_cert/a000c00000Ph0MxEAJ
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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June 6, 2020

MODEL PARAMETERS

Type	Open Frame/Internal
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ITE / Medical Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	3A
Wattage (W)	225.0
Vout Range (V)	12-54
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	na
Size (mm)	103.5 (L) x 62.3 (W) x 40.0 (H)

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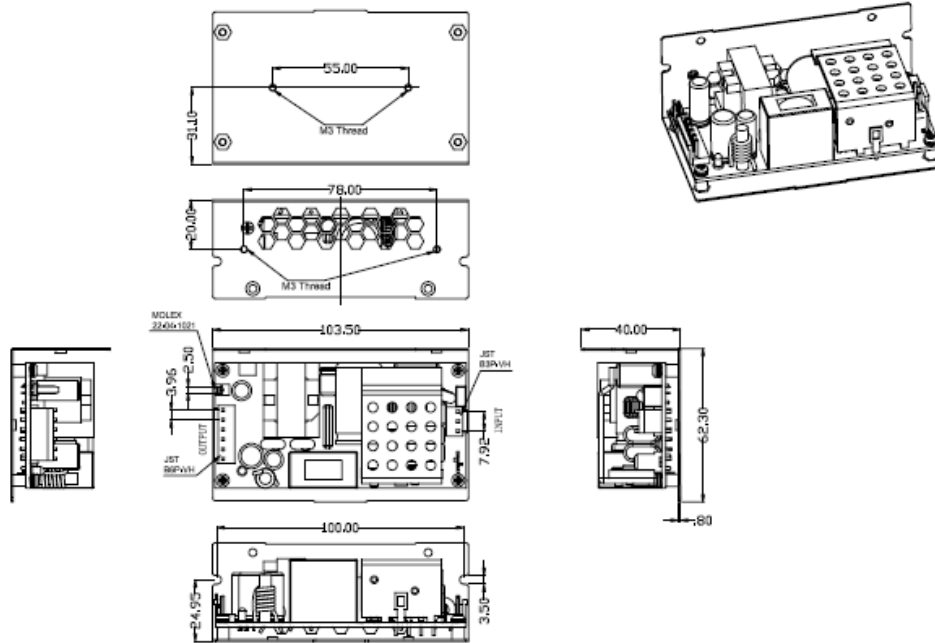
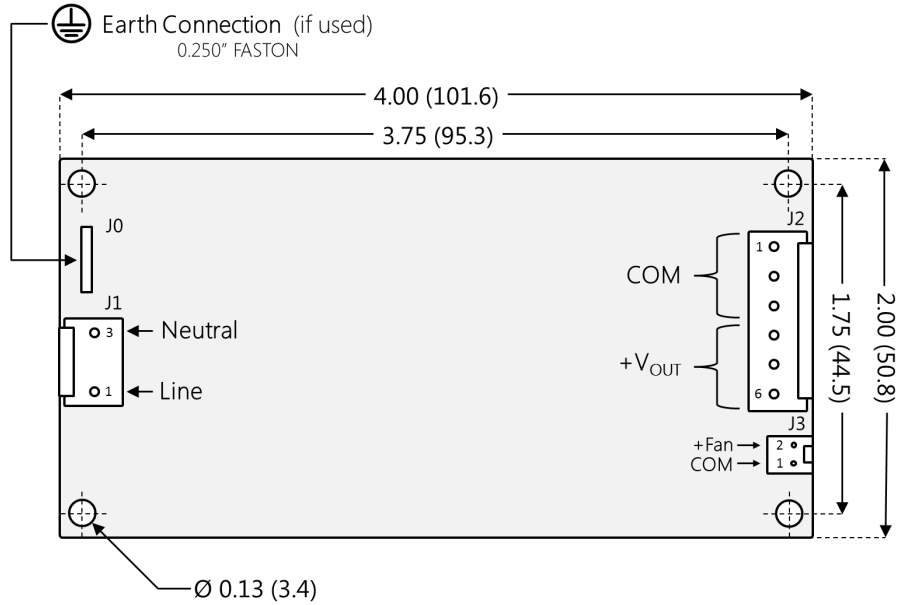
June 6, 2020

ENCLOSURE

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Model:GTM962251PWWVV.V-F

June 6, 2020



Customer may need to provide EMI shielding if not in metal chassis

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Model:GTM962251PWWWV.V-F

June 6, 2020

RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM962251P22512A-F	12 V	18.75	225.00	RFQ
GTM962251P22515A-F	15 V	15	225.00	RFQ
GTM962251P22516A-F	16 V	14.06	224.96	RFQ
GTM962251P22516-F	16 V	14.06	224.96	RFQ
GTM962251P22518A-F	18 V	12.5	225.00	RFQ
GTM962251P22518-F	18 V	12.5	225.00	RFQ
GTM962251P22519A-F	19 V	11.84	224.96	RFQ
GTM9622501P22524A-F	24 V	9.37	224.88	RFQ
GTM962251P22530A-F	30 V	7.5	225.00	RFQ
GTM962251P22536-F	36 V	6.25	225.00	RFQ
GTM962251P22536A-F	36 V	6.25	225.00	RFQ
GTM962251P22538A-F	38 V	5.92	224.96	RFQ
GTM962251P22548A-F	48 V	4.69	225.12	RFQ
GTM962251P22554A-F	54 V	4.17	225.18	RFQ

SPECIFICATIONS

Features

- High power density 2" x 4" format (3" x 5" and 4.22" x 7" formats also available)
- 2" x 4" version available in L-frame, cage, and potted configurations
- Low conducted & radiated EMI: Class B without external filters, ferrites, or metal planes (all input configurations)
- Class I, Class II, or Class II with Functional Earth input configurations
- ITE/ICT and medical (2 x MOPP) certified (suitable for Type-B or Type-BF applications)
- Auxiliary +12V fan output

Input

Input Voltage:	Specified: 85-264VAC, Nameplate: 100-240VAC
Input Frequency:	Specified: 47-63Hz, Nameplate: 50-60Hz
Input Current:	2.75A typ. @ 90VAC, 1.0A typ. @ 230VAC (full load)
No Load Input Power:	<150mW
Inrush Current:	<75A @ 230VAC (cold start @ 25°C)
Efficiency:	90 - 95% typ. (full load)
Power Factor:	>0.95 @ 115VAC, >0.90 @ 230VAC, 225W output >0.90 @ 115VAC, >0.85 @ 230VAC, 100W output

Output

Output Power:	225W (10CFM forced air) 140W (natural convection) Ratings are inclusive of fan output power Potted configuration is rated for 140W continuous with a 5 second 225W momentary surge capability
Turn-on Delay:	< 1 second @ 90VAC
Output Voltage Tolerance:	± 2.0% (worst case, set point + load/line regulation)
Load Regulation:	± 0.5% (measured at connector)
Line Regulation:	± 0.2% (measured at connector)
Ripple:	1% pk-pk (using a 47µF low-ESR cap + 0.1µF ceramic capacitor, measured @ 20MHz BW)
Transient Response:	<5% deviation (with 25% load step), recovery to within 1% in 1ms
Startup Overshoot:	<5% (full load)
Hold-up Time:	10ms min. (full load)
Fan Output Power:	1.2A (10CFM forced air) 0.8A (natural convection) 12V nominal

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Model:GTM962251PWWWVV.V-F

June 6, 2020

Fan Output Voltage:	Actual ranges (typ.) for 15% to 100% main output load conditions: 12V: Same as main output 15V: 10-13V 19V, 24V, 30V, 38V, 48V, 54V: 11-14V
Output Indicator:	Green LED
Protections	
Input Protection:	MOV transient suppressor, dual fuses (line + neutral)
Over-Voltage Protection:	110-130%. Latched-off, cycle AC to reset
Over-Current Protection:	130% typ. Non-latched with auto-recovery
Short Circuit Protection:	Non-latched with auto-recovery
Over-Temperature Protection:	Latched-off, cycle AC to reset
Environmental	
MTBF:	1,500,000 hours @ 25°C ambient, full load (Telcordia SR-332, Issue 3)
Operating Temperature:	-20°C to 50°C (full output power), -25°C to 80°C (derated)
Storage Temperature:	-30°C to 85°C
Humidity:	0% to 95% relative humidity, non-condensing
Altitude:	5000m max.
Vibration:	Conforms to EN60068-2-6
Safety	
Dielectric Withstand Voltage:	4000VAC or 5656VDC from input to output 3000VAC or 4242VDC from input to earth
Intended Medical Application:	Type-B or Type-BF
Touch Current:	3-conductor input - NC: <25µA, SFC: <200µA 2-conductor input - NC: <65µA, SFC: <140µA
Earth Leakage Current	3-conductor input: <200µA 2-conductor input: N/A
Means of Protection:	2 x MOPP
Primary-Secondary Bridging Capacitance:	Two IEC60384-14 certified Y1 capacitors in series
EMC	
Applicable Standards:	Medical: EN60601-1-2, 4th edition Emissions: EN55032, EN 55011, 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

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Model:GTM962251PWWWV.V-F

June 6, 2020

Voltage Fluctuations/Flicker:	EN61000-3-3
Electrostatic Discharge (ESD) Immunity:	EN61000-4-2, 10KV contact discharge, 20KV air discharge (applied to input or output terminals)
Radiated RF Immunity:	EN61000-4-3, 20V/m 80-2700MHz, 80% 1KHz AM, 80% 5Hz 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, (6VRMS in ISM/amateur bands), 80% 1KHz AM
Power Frequency Magnetic Field Immunity:	EN61000-4-8, 30A/m
Voltage Dip Immunity:	EN61000-4-11

Mechanical Formats

GTM962250P:	Open-frame No suffix: 2" x 4" style, 101.6*50.8*30.0mm, 170g -C suffix: 3" x 5" style, 127.0*64.8*30.0mm, 180g -D suffix: 4.22" x 7" style, 177.8*107.2*30.0mm, 190g
GTM962251P:	L-frame: 103.5*62.3*40.0mm, 230g
GTM962252P:	Cage: 103.5*62.3*40.0mm, 250g
GTM962253P:	Potted: 147.0*57.3*39.0mm, 500g
Note 1:	The open-frame format meets the above EMC specifications as a standalone unit. However, an L-frame or cage version may help to further improve EMI performance, or to help address other system level electrical/mechanical requirements.

Input/Output Connectors

Earth Terminal (J0):	Connector on PCB: Kang Yang PCH250 (0.250" x 0.031" Faston) Recommended mate: TE Connectivity/AMP 2-520184-2 Note: Leave earth terminal disconnected for Class II input
Input Connector (J1):	Connector on PCB: JST B2P3-VH Pin 1: Line, Pin 2: Not used, Pin 3: Neutral Recommended mate: JST VAR-2 (housing), JST SVA-41T-P1.1 (terminals)
Main Output Connector (J2):	Connector on PCB: JST B6P-VH Pin 1: COM, Pin 2: COM, Pin 3: COM, Pin 4: +VOUT, Pin 5: +VOUT, Pin 6: +VOUT Recommended mate: JST VHR-6N (housing), JST SVH-21T-P1.1 (terminals)
Fan Output Connector (J3):	Connector on PCB: Molex 22-04-1021 Pin 1: -FAN, Pin 2: +FAN Recommended mate: Molex 22-01-1022 (housing), Molex 2759 (terminals)

Special Options

- Custom labels/markings
- Short term output surge capability up to 350W
- Reduced touch current
- Reduced output ripple
- IEC61000-3-2 Class C line harmonics for LED lighting applications

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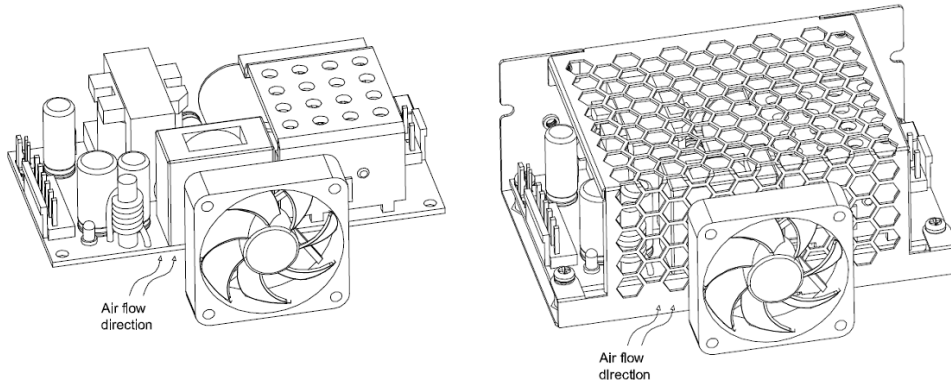
Model:GTM962251PWWWVV.V-F

June 6, 2020

- Non-latching (auto-recover) over-temperature protection
- Potentiometer to adjust/trim output voltage
- Custom fan output voltages (5V to 12V), available for main output voltages from 12-24V

Fan Airflow

- For full 225W output power, the fan should provide at least 10CFM in the direction noted below.

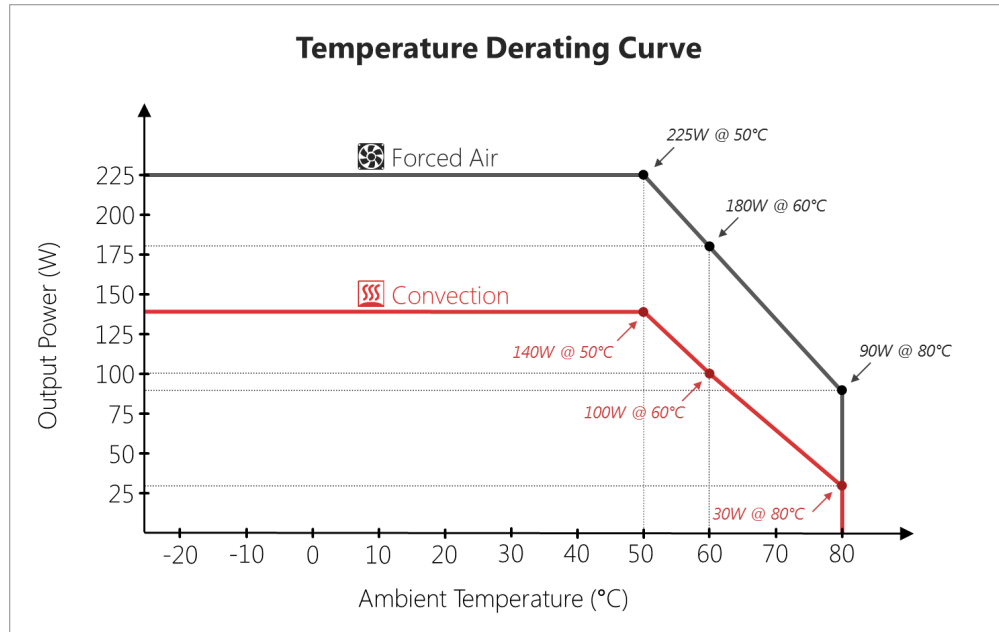


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June 6, 2020

DERATING CURVE



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June 6, 2020

INPUT CONFIGURATION

Description



Optional Input Wiring Kits are available:

PN/Ordering No	Length	End A	End B
C810070M6VAR2(R)	60	IEC 60320 C8	JST VAR-2
C1410070M6VAR2(R)	60	IEC 60320 C13	JST VAR-2
VAR2210070M7VAR2(R)	73	JST VAR-2	JST VAR-2





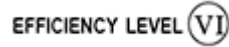




Custom lengths, construction, cable types, ferrites, filters, and termination available upon request.

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Approvals

Logo	Description
	Attention Mark / Refer to operating manual for operating and service instructions
	CHINA SJ/T 11364-2014, China RoHS Chart: http://en.globtek.com/globtek-rohs.php
	Certification # TC RU AR46.B.75423 Custom Union of Russia, Belarus and Kazakhstan
	Indoor Use Only - Mark is on the label or Molded in the case
	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)
	Morocco SDoC declaration http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/
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
	Ukraine UKRSepro (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