

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

Model:GTM962250PWWVV.V-F

May 20, 2019

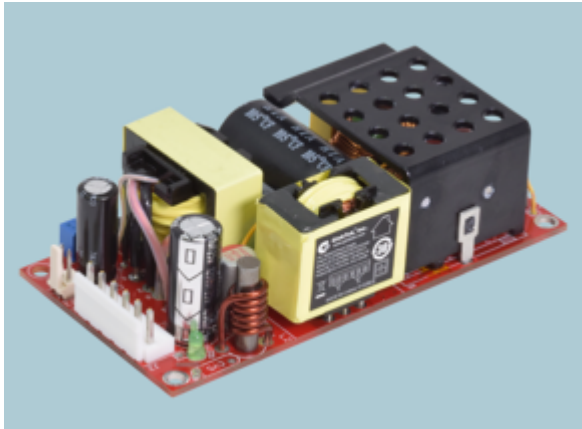
## GTM962250PWWVV.V-F

### Information

Model Number GTM962250PWWVV.V-F

Description GTM962250PWWVV.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) 140W, 12-54V in 0.1V increments, Approvals: WEEE; VCCI; Ukraine; China RoHS; RoHS; Level VI; EAC;

Model Picture



Agency

Documents

CE

[https://www.globtek.com/pdf/ec\\_declaration/a000c00000IkX6EAJ](https://www.globtek.com/pdf/ec_declaration/a000c00000IkX6EAJ)

EC-Declaration

RoHS/RoHS2

Declaration

[https://www.globtek.com/pdf/rohs\\_cert/a000c00000IkX6EAJ](https://www.globtek.com/pdf/rohs_cert/a000c00000IkX6EAJ)

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 Parameters**

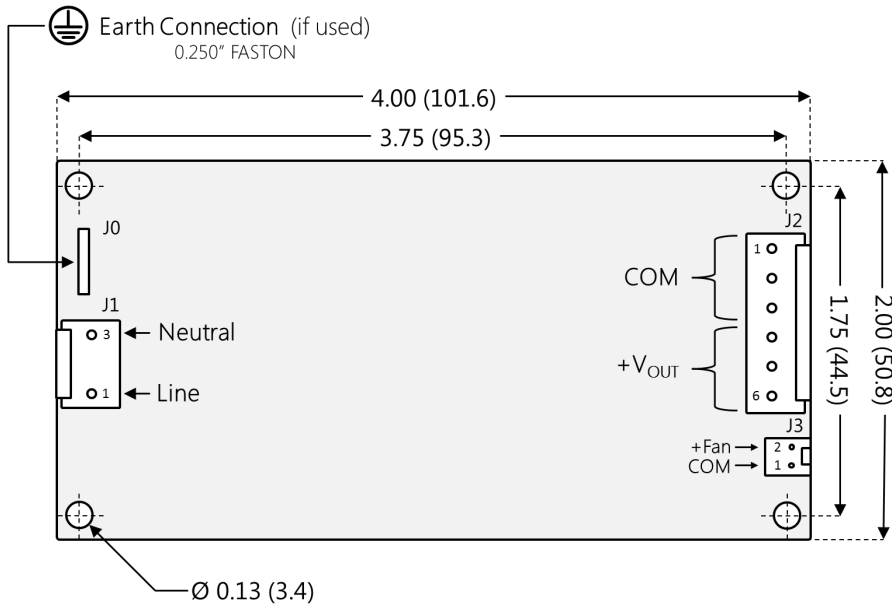
Type	Open Frame/Internal
Technology	Regulated Switchmode AC-DC Power Supply AC Adaptor
Category	ITE / Medical Power Supply
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	3A
Wattage (W)	225.0
Vout Range (V)	12-54
Efficiency Level	VI
Ingress Protection	N/A
Size (mm)	101.6 (L) x 50.8 (W) x 31.0 (H)

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ENCLOSURE



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

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**RATING TABLE**

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GTM962250P22512A-F12 V	12	18.75	225.00	<a href="#">RFQ</a>
GTM962250P22515A-F15 V	15	15	225.00	<a href="#">RFQ</a>
GTM962250P22519A-F19 V	19	11.84	224.96	<a href="#">RFQ</a>
GTM962250P22524A-F24 V	24	9.37	224.88	<a href="#">RFQ</a>
GTM962250P22530A-F30 V	30	7.5	225.00	<a href="#">RFQ</a>
GTM962250P22538A-F38 V	38	5.92	224.96	<a href="#">RFQ</a>
GTM962250P22548A-F48 V	48	4.69	225.12	<a href="#">RFQ</a>
GTM962250P22554A-F54 V	54	4.17	225.18	<a href="#">RFQ</a>

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**SPECIFICATIONS**KEY FEATURES

**High output power at high ambient temperatures**  
**Low profile (1.25")**  
**Compact 2" x 4" footprint**  
**Auxiliary 12V fan output**  
**Class I, Class II, or Class II with Functional Earth Input Configurations**  
**ITE and Medical certifications**  
**Available in 4 different mechanical configurations**

INPUT

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

OUTPUT

Output Power: With 10 CFM Forced Air: 225W, With Convection Cooling : 140W (inclusive of fan power)  
(Potted housing version only rated for 140W convection, however it has a 225W, five second momentary output power surge capability.)  
**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 47uF low-ESR cap in parallel with 0.1uF ceramic capacitor, measured with 20MHz bandwidth)  
**Transient Response:** <5% deviation (with 25% load step), recovery to within 1% in 1ms  
**Turn-on Delay:** < 1 second  
**Startup overshoot:** <5% (Full load)  
**Hold-up Time:** 10ms minimum (Full load)  
**Fan Output:** 12V nom, 1200mA with Forced air, 800mA with Convection Cooling  
Fan Voltage Range 10V-14V with Cross-Regulation 25%/100% and 100%/25% load condition tests.  
Specific Range for different output voltage models:  
12V: same as main output  
15V: 10-13V range  
19V, 24V, 30V, 38V, 48V, 54V: 11-14V range  
**Output Indicator:** Green LED

PROTECTION

**Input Protection:** Input line fusing and 300Vac MOV  
**Overvoltage Protection:** 110 -130% of V<sub>nom</sub>, Latched-off, cycle AC to reset  
**Overcurrent Protection:** 130% typ. Non-latched with auto-recovery  
**Short Circuit Protection:** -Non-latched with auto-recovery  
**Overtemperature Protection:** Latched-off, cycle AC to reset, plus optional non-resettable thermal fuse for redundancy

SAFETY

**Dielectric Withstand Voltage:** 4000V<sub>AC</sub> or 5656V<sub>DC</sub> from input to output, 3000V<sub>AC</sub> or 4242V<sub>DC</sub> from input to earth

Leakage Current

**3-Conductor Input***Earth Leakage Current: <230uA*

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*Touch Current (NC): <25µA**Touch Current (SFC): <200µA***2-Conductor Input***Earth Leakage Current: N/A**Touch Current (NC): <65µA**Touch Current (SFC): <140µA***Means of Protection:** 2 x MOPP**Primary to Secondary Bridging Capacitance:** Two IEC60384-14 certified Y1 type capacitors in series.EMC**EN 60601-1-2, 4<sup>th</sup> edition****Emissions, per EN 55032, EN 55011, 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, 20kV air discharge (*to input or output terminals*)

Radiated RF Immunity EN61000-4-3, 10V/m 80-2700MHz, 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, 30A/m

Voltage Dip Immunity EN61000-4-11, Criteria

ENVIRONMENTAL**MTBF:** 1,000,000 Hours @ 25°C ambient temperature**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 EN60068-2-6MECHANICAL FORMATS

a) Standard 2x4 Open Frame Construction, Size: 101.6\*50.8\*31 mm, Weight: 170 grams

b) L Frame Construction, Size: 103.4\*62\*40 mm, Weight: 230 grams

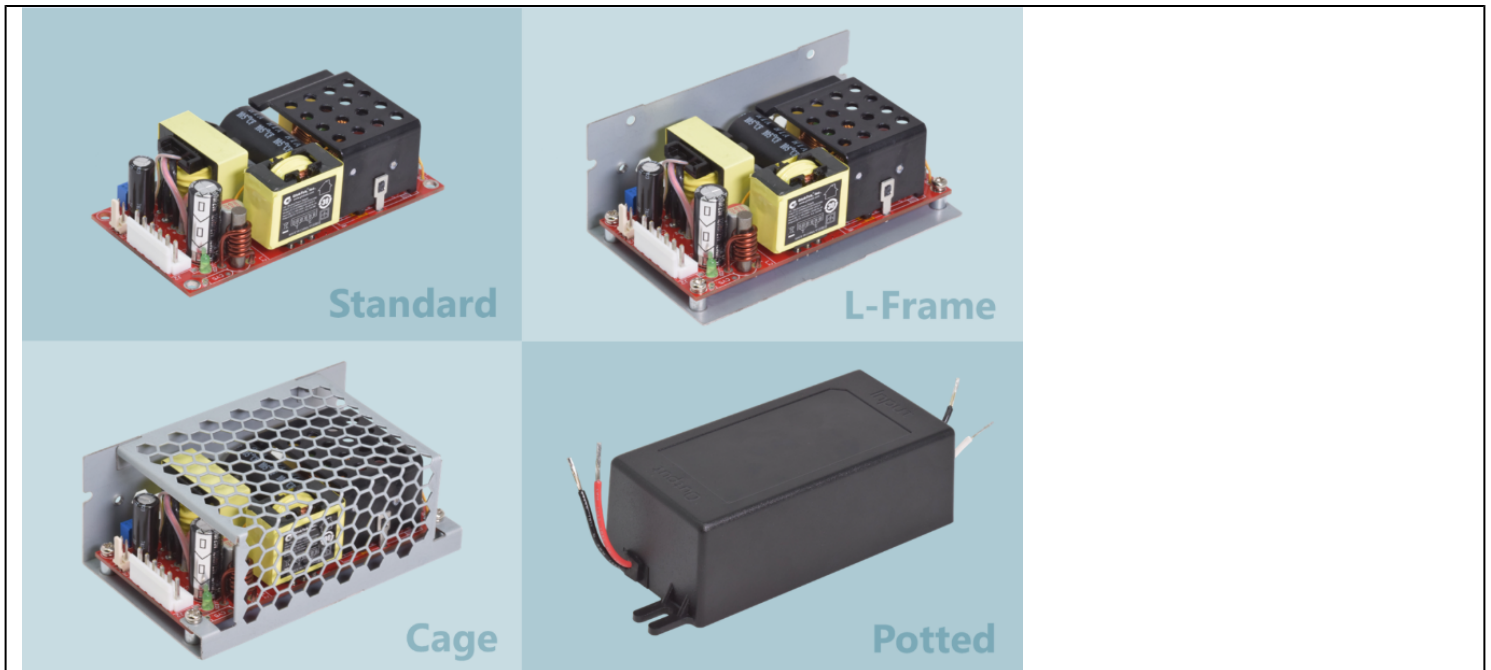
c) Full Cage Construction, Size: 103.4\*62\*40 mm, Weight: 250 grams

d) Potted/Encapsulated Construction, Size: 147\*57.3\*39 mm, Weight: 500 grams

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**Input Connector, J1:**

Pin 1: Line, Pin 2: Not used, Pin 3: Neutral

Connector on PCB: JST B2P3-VH

Recommended Mate: JST VAR-2 (housing), JST SVA-41T-P1.1 (terminals)

Earth Input connection attaches via a standard 0.250" x 0.031" Faston Input Terminal

Connector on PCB: Kang Yang PCH250

Recommended Mate: TE Connectivity 2-520184-2

(leave earth terminal unconnected for Class II input configuration)

**Main Output Connector, J2:**

 Pin 1: COM, Pin 2: COM, Pin 3: COM, Pin 4: +V<sub>OUT</sub>, Pin 5: +V<sub>OUT</sub>, Pin 6: +V<sub>OUT</sub>

Connector on PCB: JST B6P-VH

Recommended Mate: JST VHR-6N (housing), JST SVH-21T-P1.1 (terminals)

**12V Fan Output Connector, J3:**

Pin 1: -Fan, Pin 2: +Fan

Connector on PCB: Molex 22-04-1021

Recommended Mate: Molex 22-01-1022 (housing), Molex 2759 (terminals)

SPECIAL OPTIONS

Custom Label Markings

Short term Output Surge Capability, to 275W. Up to 350W for reduced AC input voltage range.

Reduced Leakage Current versions

Reduced output ripple level

Line Harmonics compliant to LED Lighting 61000-3-2 Class C, for 20W to 125W Power Range

Potentiometer to adjust/trim output voltage

Elimination of LED, or change to illumination level of LED

Fan output, replaced with Auxiliary output, selectable from 5V to 12V, option only for main output voltage 12V-24V.

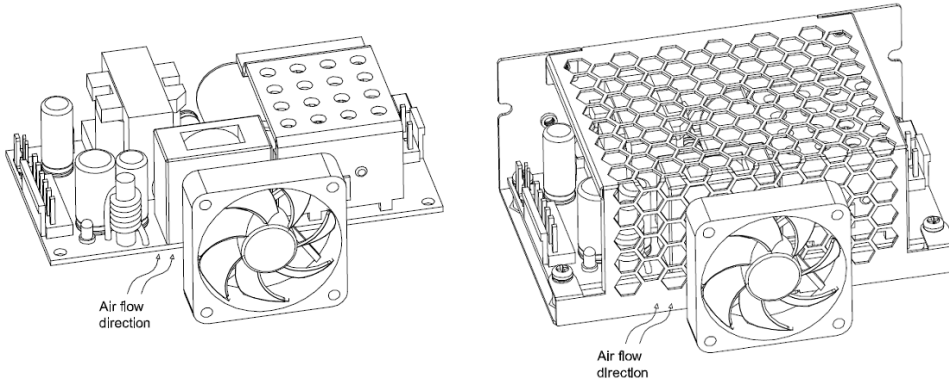
FAN AIR FLOW

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Fan should provide approximately 10CFM, in direction noted below, for full 225W output rating.



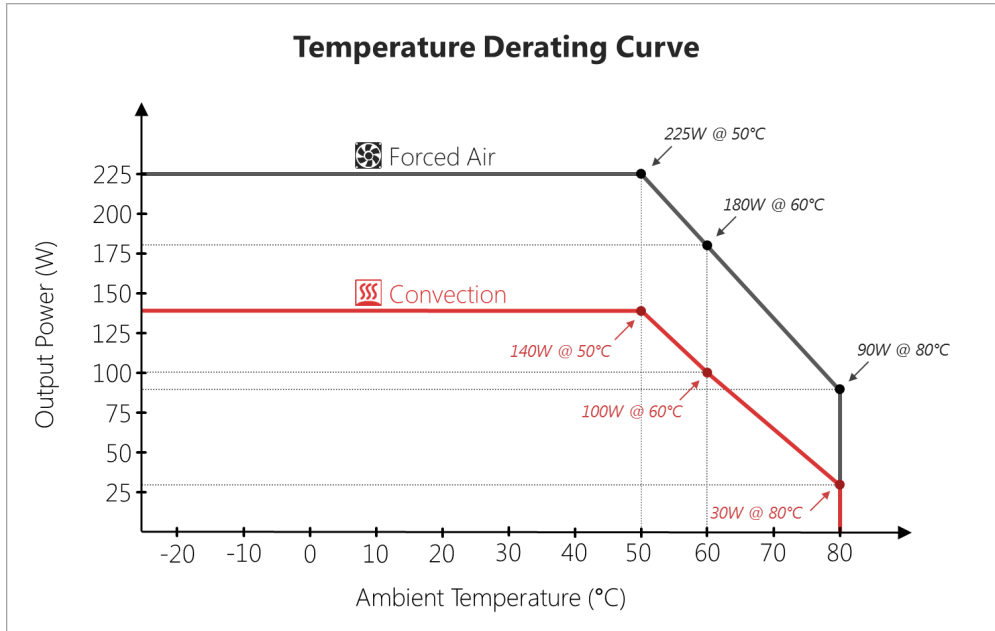


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DERATING CURVE



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**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: <a href="http://en.globtek.com/globtek-rohs.php">http://en.globtek.com/globtek-rohs.php</a>
	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
<b>EFFICIENCY LEVEL VI</b>	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)
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>
 10276	Ukraine UKRSepro (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