

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

Model:GTM962252PWWVV.V-F

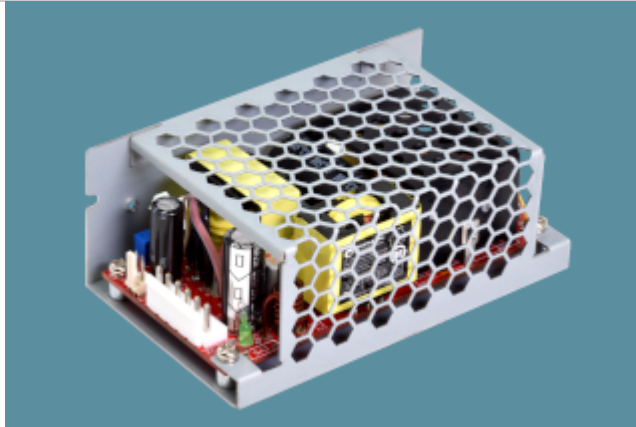
September 21, 2020

## GTM962252PWWVV.V-F

### Information

|              |   |
|--------------|---|
| Model Number | GTM962252PWWVV.V-F  |
| Description  | GTM962252PWWVV.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: China RoHS; EAC; Level VI; RoHS; Ukraine; VCCI; WEEE; |

### Model Picture



### Agency Documents

|                               |   |
|-------------------------------|---|
| CE EC-Declaration             | <a href="https://www.globtek.com/pdf/ec_declaration/a003a00000M4jYEEAZ">https://www.globtek.com/pdf/ec_declaration/a003a00000M4jYEEAZ</a> |
| RoHS/RoHS2 Declaration        | <a href="https://www.globtek.com/pdf/rohs_cert/a003a00000M4jYEEAZ">https://www.globtek.com/pdf/rohs_cert/a003a00000M4jYEEAZ</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>                         |

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

Model:GTM962252PWWWVV.V-F

September 21, 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)                                     |

**PROPRIETARY INFORMATION**

PROPRIETARY OF GLOBTEK, INC. ANY REPRODUCTION, DISCLOSURE OR USE OF THIS DRAWING, IN WHOLE OR IN PART, IS HEREBY PROHIBITED EXCEPT AS SPECIFIED IN WRITING BY GLOBTEK, INC.

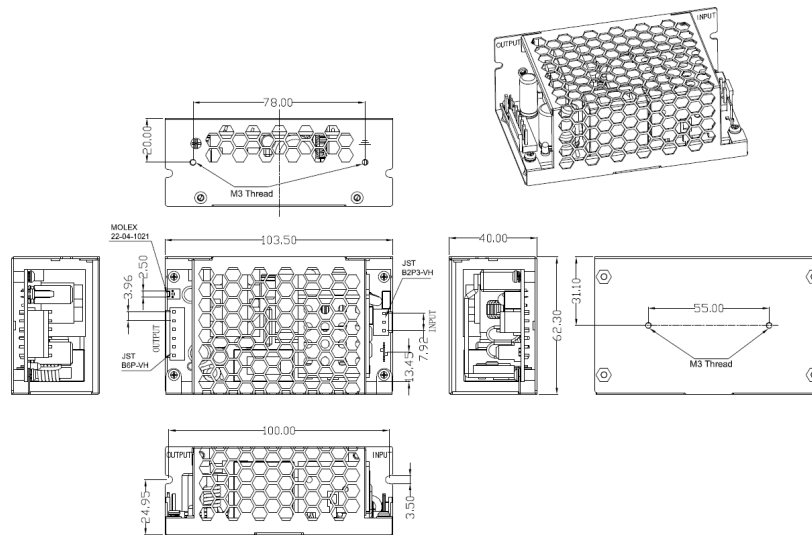
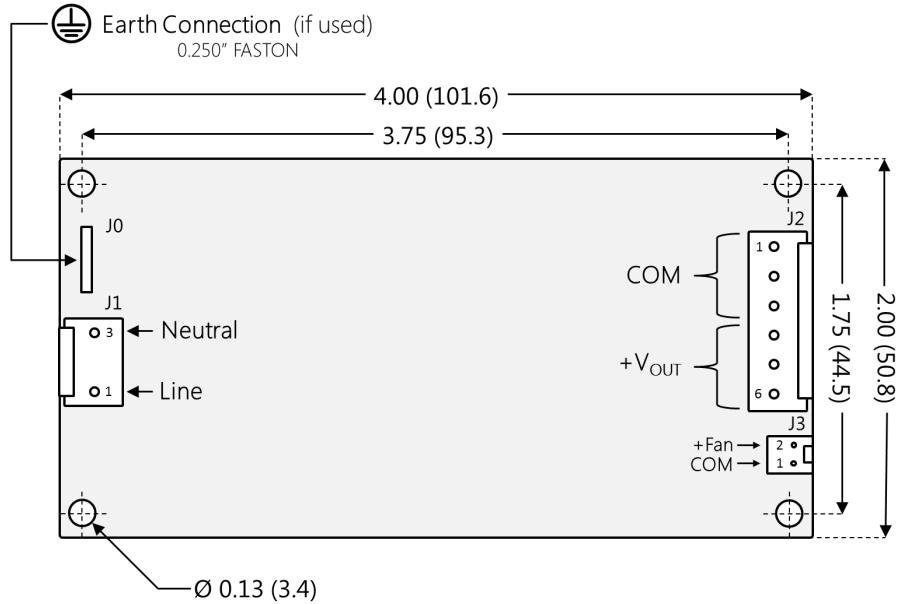
<http://en.globtek.com/datasheet/id/a003a00000M4jYY>

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

Model:GTM962252PWWWVV.V-F

September 21, 2020

# ENCLOSURE



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

Dimensions for larger alternate 3x5 product are below

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

Model:GTM962252PWWWV.V-F

September 21, 2020

**RATING TABLE**

| Model Number        | Voltage | Amps(A) | Watts(W) | RFQ                 |
|---------------------|---------|---------|----------|---------------------|
| GTM962252P22512A-F  | 12 V    | 18.75   | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22515A-F  | 15 V    | 15      | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22516A-F  | 16 V    | 14.06   | 224.96   | <a href="#">RFQ</a> |
| GTM962252P22516-F   | 16 V    | 14.06   | 224.96   | <a href="#">RFQ</a> |
| GTM962252P22518A-F  | 18 V    | 12.5    | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22518-F   | 18 V    | 12.5    | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22519A-F  | 19 V    | 11.84   | 224.96   | <a href="#">RFQ</a> |
| GTM9622502P22524A-F | 24 V    | 9.37    | 224.88   | <a href="#">RFQ</a> |
| GTM962252P22530A-F  | 30 V    | 7.5     | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22536-F   | 36 V    | 6.25    | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22536A-F  | 36 V    | 6.25    | 225.00   | <a href="#">RFQ</a> |
| GTM962252P22538A-F  | 38 V    | 5.92    | 224.96   | <a href="#">RFQ</a> |
| GTM962252P22548A-F  | 48 V    | 4.69    | 225.12   | <a href="#">RFQ</a> |
| GTM962252P22554A-F  | 54 V    | 4.17    | 225.18   | <a href="#">RFQ</a> |

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

Model:GTM962252PWWWVV.V-F

September 21, 2020

## 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<br>>0.90 @ 115VAC, >0.85 @ 230VAC, 100W output |

### Output

|                           |  |
|---------------------------|--|
| Output Power:             | 225W (10CFM forced air)<br>140W (natural convection)<br>Ratings are inclusive of fan output power<br>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)<br>0.8A (natural convection)<br>12V nominal  |

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

Model:GTM962252PWWWVV.V-F

September 21, 2020

|   |   |
|---|---|
| Fan Output Voltage:                     | Actual ranges (typ.) for 15% to 100% main output load conditions:<br>12V: Same as main output<br>15V: 10-13V<br>19V, 24V, 30V, 38V, 48V, 54V: 11-14V        |
| Output Indicator:                       | Green LED   |
| <b>Protections</b>                      |   |
| 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  |
| <b>Environmental</b>                    |   |
| 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   |
| <b>Safety</b>                           |   |
| Dielectric Withstand Voltage:           | 4000VAC or 5656VDC from input to output<br>3000VAC or 4242VDC from input to earth   |
| Intended Medical Application:           | Type-B or Type-BF   |
| Touch Current:                          | 3-conductor input - NC: <25µA, SFC: <200µA<br>2-conductor input - NC: <65µA, SFC: <140µA  |
| Earth Leakage Current                   | 3-conductor input: <200µA<br>2-conductor input: N/A   |
| Means of Protection:                    | 2 x MOPP  |
| Primary-Secondary Bridging Capacitance: | Two IEC60384-14 certified Y1 capacitors in series   |
| <b>EMC</b>                              |   |
| Applicable Standards:                   | Medical: EN60601-1-2, 4th edition<br>Emissions: EN55032, EN 55011, EN61000-6-3, EN61000-6-4, CISPR11/CISPR22<br>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  |

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

Model:GTM962252PWWWV.V-F

September 21, 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<br>No suffix: 2" x 4" style, 101.6*50.8*30.0mm, 170g<br>-C suffix: 3" x 5" style, 127.0*64.8*30.0mm, 180g<br>-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)<br>Recommended mate: TE Connectivity/AMP 2-520184-2<br>Note: Leave earth terminal disconnected for Class II input        |
| Input Connector (J1):       | Connector on PCB: JST B2P3-VH<br>Pin 1: Line, Pin 2: Not used, Pin 3: Neutral<br>Recommended mate: JST VAR-2 (housing), JST SVA-41T-P1.1 (terminals)                                 |
| Main Output Connector (J2): | Connector on PCB: JST B6P-VH<br>Pin 1: COM, Pin 2: COM, Pin 3: COM, Pin 4: +VOUT, Pin 5: +VOUT, Pin 6: +VOUT<br>Recommended mate: JST VHR-6N (housing), JST SVH-21T-P1.1 (terminals) |
| Fan Output Connector (J3):  | Connector on PCB: Molex 22-04-1021<br>Pin 1: -FAN, Pin 2: +FAN<br>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

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

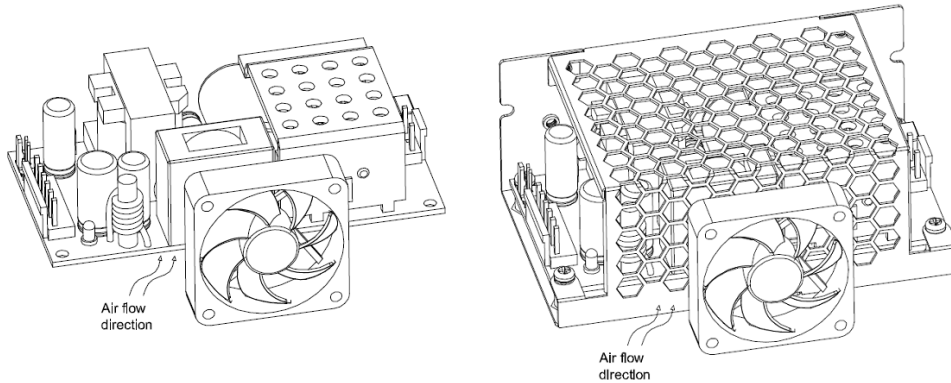
Model:GTM962252PWWWVV.V-F

September 21, 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.



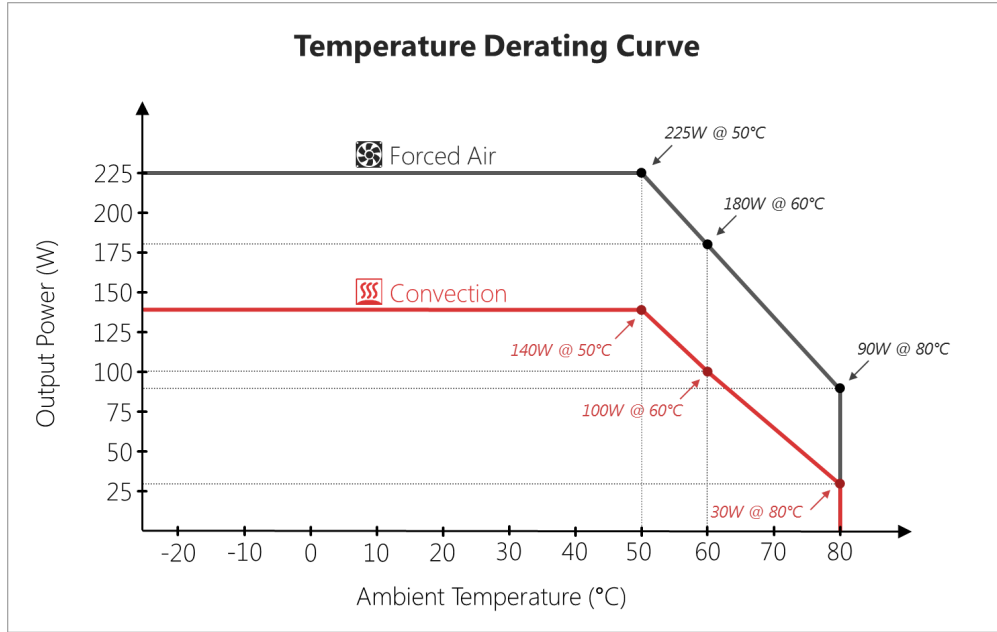


Delivering leading edge, innovative power solutions for more than 30 years....

Model:GTM962252PWWVV.V-F

September 21, 2020

### DERATING CURVE



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

Model:GTM962252PWWVV.V-F

September 21, 2020

**INPUT CONFIGURATION**

Description



Optional Input Wiring Kits are available:

| PN/Ordering No                      | Length | End A         | End B     |
|-------------------------------------|--------|---------------|-----------|
| <a href="#">C810070M6VAR2(R)</a>    | 60     | IEC 60320 C8  | JST VAR-2 |
| <a href="#">C1410070M6VAR2(R)</a>   | 60     | IEC 60320 C13 | JST VAR-2 |
| <a href="#">VAR2210070M7VAR2(R)</a> | 73     | JST VAR-2     | JST VAR-2 |










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

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

Model:GTM962252PWWWVV.V-F

September 21, 2020

## Approvals

| Logo  | Description  |
|---|--|
|                    | Attention Mark / Refer to operating manual for operating and service instructions  |
|                    | CHINA SJ/T 11364-2014, China RoHS Chart:<br><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   |
| 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) |
|                  | Morocco SDoC declaration<br><a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</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>                 |
|                  | UKCA Certification   |
| <br>10276        | Ukraine UKRSePro (Document:<br><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 (  |

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

Model:GTM962252PWWVV.V-F

September 21, 2020



[http://ec.europa.eu/environment/waste/weee/index\\_en.htm](http://ec.europa.eu/environment/waste/weee/index_en.htm)

Mark is on the label or Molded in the case