HiTRON

2008/02/18

# *UNIVERSAL INPUT HARMONIC CORRECTION AC-DC MEDICAL AND IEC APPLICATION OPEN FRAME SINGLE & MULTI-OUTPUT 150 WATTS INTERNAL SWITCHING POWER SUPPLIES HIMP151 SERIES*



## FEATURES:

- **5” X 3”* X 1.38” COMPACT SIZE**
- **ACCOMMODATE UNIVERSAL AC SOURCES**
- **MEET IEC 61000-3-2 HARMONIC CORRECTION**
- **MEET UNIVERSAL SAFETY STANDARDS**
- **EMI MEET CISPR EN 55022/EN 55011 & FCC CLASS B CONDUCTED**
- **CE MARKING COMPLIANCE**

## SPECIFICATION

### INPUT SPECIFICATION

**Input Voltage:** Typ. 90-264Vac with PFC.
**Input Connector:** V-M connector.
**Input Frequency:** 47-63Hz.
**Inrush Current:** 9.3-11.3Arms @230Vac.
**Input Current:** Typ. 2.2A @115Vac, 0.9A @230Vac.
**Dielectric Withstand:** Meet IEC 60950-1.
**EMI:** Meet CISPR EN 55022 & FCC Class B conducted.
Meet CISPR EN 55011 & FCC Class B conducted.
**Hold-up Time:** Typ. 90mS @115Vac & 230Vac.
**Power Factor & Harmonic Correction:**
Meet IEC 61000-3-2, PF typ. 0.99 @ full load.
**Over Temperature Protection:** Installed.
**Leakage Current:** 0.40-0.50mA @230Vac touch current.

### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.
**Output Current:** See Ratings Chart.
**Output Connector:** V-M connector.
**Output Wattage:** Max. 150 watts.
**Line Regulation:** Typ. 1.0%.
**Load Regulation:** Single O/P VO1 ±3.0%.
Dual O/P VO1 ±3.0% VO2 ±1.0%
Triple O/P VO1 ± 3.0% (± 8% for 3.3V), VO2/VO3 ±3.0%.
Quad O/P VO1/VO2/VO3/VO4 ±3.0%
**Noise & Ripple:** Typ. 1.0-2.0% peak to peak.
**OVP:** Built-in at VO1 and VO2.
**Adjustability:** Available at VO1 and VO2.
**Overload Protection (OLP):**
Fully protected against output overload and short circuit.
OLP set at about 125-150% rating output wattage.
Consult the factory for OLP setting.

### GENERAL SPECIFICATION

**Efficiency:** Typ. 76-80% various with output.
**Switching Frequency:** 68K Hz.
**Circuit Topology:** Single Fixed frequency forward circuit.
Dual/Triple/Quad: Fixed freq. flyback circuit.
**Transient Response:** Output voltage returns in less than 14.8-25.2mS following a 25% load change.
**Safety Standard:** IEC 60950-1 Class I for IEC use.
IEC 60601-1 Class I for Medical use.

**Operating Temperature:** 0 to +50°C under 30 CFM forced air cooling for full load.
**Storage Temperature:** -20 to +85°C.
**Temperature Coefficient:** Typ. 0.04% /°C.
**Cooling:** Requested 30 CFM forced air flow for full load.
**Construction:** U-bracket format.
**Power Density:** 6.52-7.24 Watts / Cubic Inch .

Note: Due to requests in market and advances in technology, specifications subject to change without notification.

TÜV Rheinland of North America, Inc. US

CE

For the details of safety approval, please consult the factory.

# OUTPUT VOLTAGE / CURRENT RATINGS CHART

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## SINGLE OUTPUT (Under air cooling)

| MODEL NO. | MAIN VO1 ★@ | | |
|---|---|---|---|
| | Typ. | Volt. | Max. |
| HIMP151-S050270 | 27A | 5V | 30A |
| HIMP151-S120125 | 12.5A | 12V | 12.5A |
| HIMP151-S150100 | 10.0A | 15V | 10.0A |
| HIMP151-S240063 | 6.3A | 24V | 6.3A |

## DUAL OUTPUT (Under forced air cooling)

| MODEL NO. | MAIN VO1 ★@ | | | AUX. VO2 ★@ | | |
|---|---|---|---|---|---|---|
| | Typ. | Volt. | Max. | Typ. | Volt. | Max. |
| HIMP151-D050I | 15.00A | +5V | 15.00A | 6.00A | +12V | 6.00A |
| HIMP151-D050M | 15.0A | +5V | 15.0A | 3.00A | +24V | 3.00A |
| HIMP151-D120I | 6.25A | +12V | 6.25A | 6.25A | +12V | 6.25A |
| HIMP151-D150K | 5.0A | +15V | 5.00A | 5.00A | +15V | 5.00A |

## TRIPLE OUTPUT (Under forced air cooling)

| MODEL NO. | MAIN VO1 ★@ | | | AUX. VO2 ★@ | | | AUX. VO3 ● | | |
|---|---|---|---|---|---|---|---|---|---|
| | Typ. | Volt. | Max. | Typ. | Volt. | Max. | Typ. | Volt. | Max. |
| HIMP151-T033EI | 18A | +3.3V | 20A | 13.5A | +5V | 15A | 0.8A | +12V | 0.8A |
| HIMP151-T050II | 15A | +5.0V | 15A | 5.5A | +12V | 5.5A | 0.8A | +12V | 0.8A |
| HIMP151-T050KK | 15A | +5.0V | 15A | 4.5A | +15V | 4.5A | 0.5A | +15V | 0.5A |

## QUAD OUTPUT (Under forced air cooling)

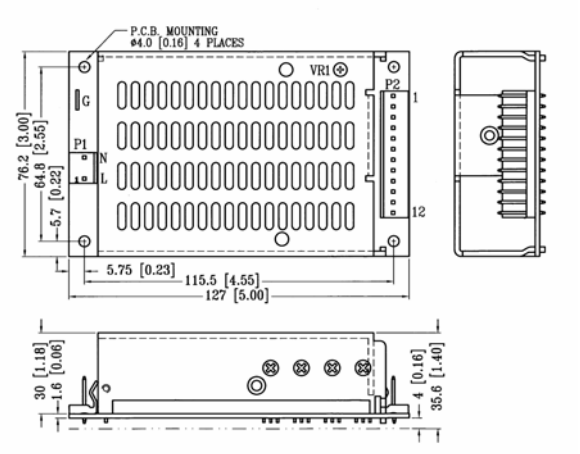
| MODEL NO. | MAIN VO1 ★@ | | | AUX. VO2 ★@ | | | AUX. VO3 ● | | | AUX. VO4 ● | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Typ. | Volt. | Max. | Typ. | Volt. | Max. | Typ. | Volt. | Max. | Typ. | Volt. | Max. |
| HIMP151-Q050KKE | 15A | +5V | 15A | 4A | +15V | 4A | 0.8A | -15V | 0.8A | 0.5A | -5V | 0.5A |

**Symbol:** "★" OVP built-in. "@" Adjustable. "●" Post –Regulated

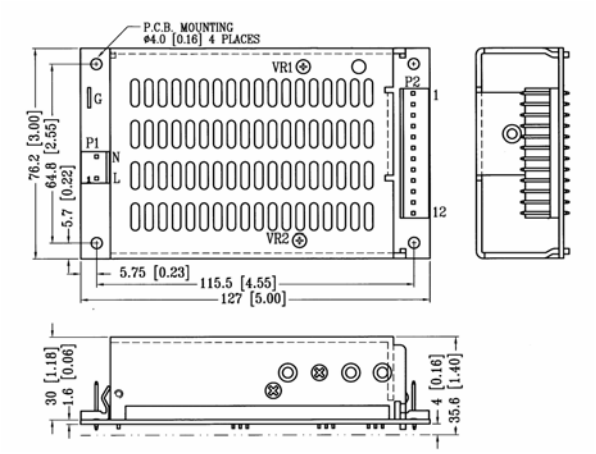
Remark: Please refer to the derating chart depending on ambient temperature and fan cooling.

## MECHANICAL DIMENSIONS: MM [INCHES]

**WEIGHT:** 385.0g (13.4 Oz.)




SINGLE




DUAL/TRIPLE/QUAD

## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

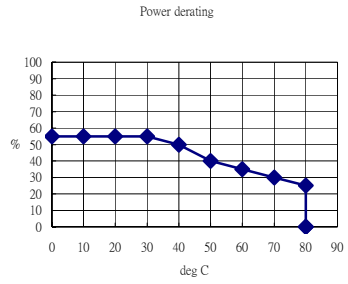
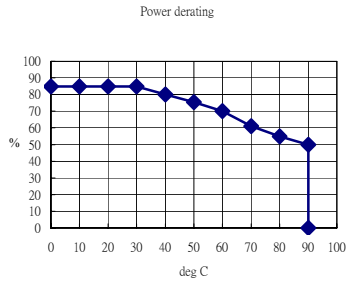
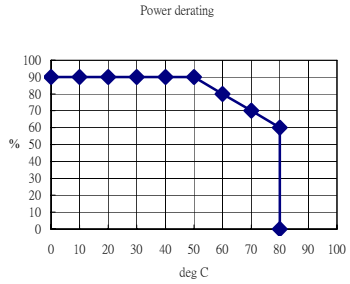
| | AC INPUT | | | SINGLE O/P | | DUAL O/P | | | TRIPLE O/P | | | | QUAD O/P | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASSIGNMENT | AC -L | AC-N | AC-G | VO1 | DC-COM | VO1 | VO2 | DC-COM | VO1 | VO2 | VO3 | DC-COM | VO1 | VO2 | VO3 | +VO4 | DC COM |
| CNTR & PIN # | P1-L | P1-N | P1-G | P2-1,2, 3,4,5,6 | P2-7,8,9 10,11,12 | P2-1,2,3, 4 | P2-9,10 | P2-5, 6,7,8 | P2-1,2, 3,4 | P2-9,10 | P2-11 | P2-5, 6,7,8 | P2-1, 2,3,4 | P2-9,10 | P2-11 | P2-12 | P2-5,6, 7,8 |

**Mating connector:** Moles 5195 or 5239 series.

# DERATING CHART

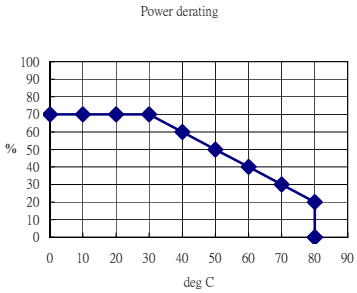
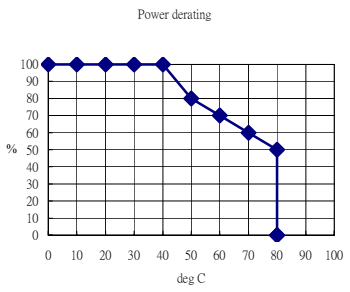
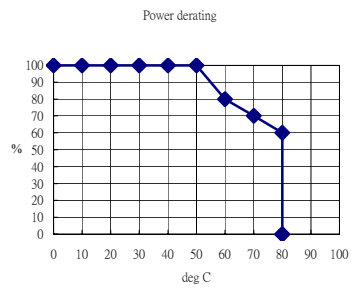
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## HIMP151-S050270

| Forced air cooling- 5CFM | Forced air cooling- 20CFM | Forced air cooling- 30CFM |
|---|---|---|
|  |  |  |

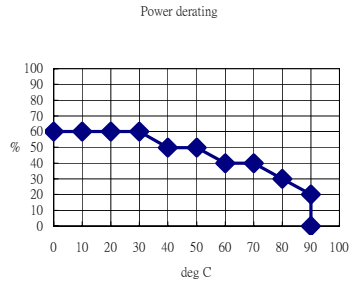
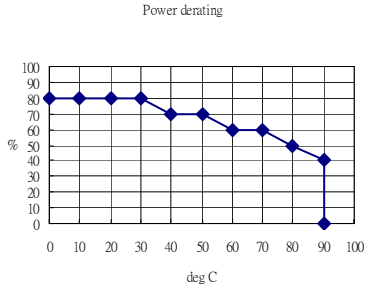
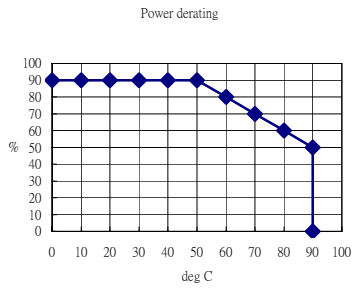


## HIMP151-D050I

| Forced air cooling- 5CFM | Forced air cooling- 20CFM | Forced air cooling- 23CFM |
|---|---|---|
|  |  |  |

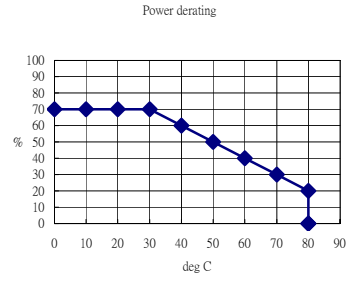
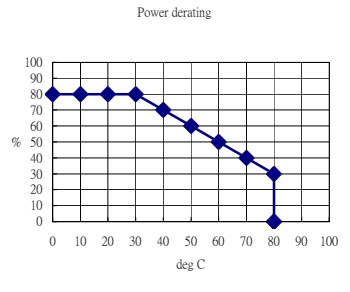
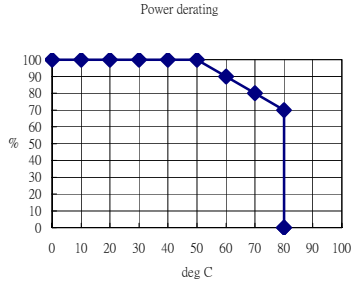


## HIMP151-T033EI

| Forced air cooling- 5CFM | Forced air cooling- 20CFM | Forced air cooling- 30CFM |
|---|---|---|
|  |  |  |



## HIMP151-Q050KKE

| Forced air cooling- 5CFM | Forced air cooling- 20CFM | Forced air cooling- 26CFM |
|---|---|---|
|  |  |  |