TWM360A Series
360W Medical & ITE Grade AC/DC Power Supplies

FEATURES
• High Density, 360W in 4” X 6” Footprint
• BF Rated
• 5V Standby Power & 12V Fan Output
• Remote Control (Inhibit) Function
• Meets IEC/EN 60601-1-2 4th Edition EMC
• Approved to UL/IEC/EN 60601-1 & 60950-1

ELECTRICAL SPECIFICATIONS
Input Voltage ......................... 90-264 VAC
Input Frequency .................... 47-63 Hz
Input Current ........................ 5A (rms) max. @ 115 VAC,
........................................ 2.5A (rms) max. @ 230 VAC
Inrush Current ...................... 40A max. @ 115 VAC, 80A max.
........................................ @ 230 VAC, at 25°C cold start
Earth Leakage Current .......... 100µA max. @ 264 VAC, 63 Hz
Power Factor ....................... >0.95 @ 115 VAC, >0.9 @ 230 VAC
Output Power Ratings ........ See table
Output Voltage Regulation .. See table
Ripple and Noise ................. See table
Standby Power .................. 5V/0.5A max.
Fan Output ....................... 12V/0.3A max.

STANDARDS & COMPLIANCES
IEC/EN 60601-1-2: 2014 .... EMC & Immunity Performance
EN 55011, EN 55022 .......... Class B, conducted & radiated
EN 55024 ............................ Class B, conducted & radiated
FCC ......................................Class B, conducted & radiated
EN61000-3-2 ....................... Harmonic distortion, Class A
EN61000-3-3 ....................... Line fluctuations & flicker
EN61000-4-2 ....................... ESD, ±15 KV air and ±8 KV contact
EN61000-4-3 ....................... Radiated immunity, 3 V/m
EN61000-4-4 ....................... Fast transient/burst, ±2 KV
EN61000-4-5 ....................... Surge, ±1 KV diff., ±2 KV com.
EN61000-4-6 ....................... Conducted immunity, 6 Vrms
EN61000-4-8 ....................... Magnetic field immunity, 30 A/m
EN61000-4-11 ..................... Voltage dip immunity, 30% reduction
........................................ for 500ms, 60% reduction for
........................................ 100ms, >95% reduction for 10ms

GENERAL SPECIFICATIONS
Efficiency ............................. 90% typ. @ full load, 230 VAC
Hold-up Time ...................... 10ms typ. @ full load, 230 VAC
Operating Altitude .............. 5,000 meters max. (ITE),
........................................ 3,000 meters max. (Medical)
Operating Temperature ...... 0°C to +70°C
Storage Temperature ........... -20°C to +85°C
Derating ............................... Derate linearly 2.5%/°C from +41°C
to +70°C at convection; 2.5%/°C from
........................................ +51°C to +70°C, 1%/°C from -20°C
to 0°C at 20 CFM forced air cooling
Operating Humidity .......... 0% to 90% non-condensing
Short Circuit Protection ...... Auto-recovery
Over Load Protection .......... Set at 105% to 150% of the
........................................ maximum rating; Auto-recovery
Over Voltage Protection ...... Latching type, AC recycle
Withstand Voltage ............... 5,656 VDC input-output
........................................ 2,121 VDC input-ground
........................................ 2,121 VDC output-ground
MTBF .................................... 250K hours min. at full load and
........................................ 25°C ambient temperature
........................................ calculated per Telcordia SR-332

MODELS LIST

<table>
<thead>
<tr>
<th>Product No. (1)</th>
<th>Output Voltage</th>
<th>Min. Load</th>
<th>Max. Load</th>
<th>Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Output Voltage</td>
<td>Min. Load</td>
<td>Max. Load</td>
<td>Output Power</td>
</tr>
<tr>
<td>TWM360-12A</td>
<td>12V</td>
<td>0A</td>
<td>20.84A</td>
<td>30A</td>
</tr>
<tr>
<td>TWM360-24A</td>
<td>24V</td>
<td>0A</td>
<td>10.42A</td>
<td>15A</td>
</tr>
<tr>
<td>TWM360-28A</td>
<td>28V</td>
<td>0A</td>
<td>8.93A</td>
<td>12.86A</td>
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<tr>
<td>TWM360-48A</td>
<td>48V</td>
<td>0A</td>
<td>5.21A</td>
<td>7.50A</td>
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<tr>
<td>TWM360-54A</td>
<td>54V</td>
<td>0A</td>
<td>4.63A</td>
<td>6.67A</td>
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</tbody>
</table>

Notes:
1. Optional output connector: Add suffix “Q” to the P/N for JST B10P-VH-B 3.96mm pitch or equivalent (suitable for 24V and up), e.g. TWM360-24AQ, etc.
2. Ripple & noise are measured at 20 MHz bandwidth with a 10µF electrolytic capacitor and a 0.1µF ceramic capacitor in parallel.
### MECHANICAL SPECIFICATIONS (Unit: mm)

- **Dimensions:** L152.4(6") x W101.6(4") x H30(1.18")mm
- **Weight:** 0.48 kgs (1.06 lbs) approx.

### INPUT & OUTPUT CONNECTORS

#### Input Connector: CN1

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AC Line</td>
</tr>
<tr>
<td>2</td>
<td>AC Neutral</td>
</tr>
</tbody>
</table>

JST P/N B3P-VH-B (3.96mm pitch or equivalent); mates with JST VHR-3N or equivalent.

#### Output Connector: CN2

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>GND</td>
</tr>
<tr>
<td>4, 5, 6</td>
<td>+V</td>
</tr>
</tbody>
</table>

6-Pole Terminal Block (8.25mm pitch or equivalent); rated 20A/300V.

#### Optional CN2 (for 24V & up)

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4, 5</td>
<td>GND</td>
</tr>
<tr>
<td>6, 7, 8, 9, 10</td>
<td>+V</td>
</tr>
</tbody>
</table>

JST P/N B10P-VH-B (3.96mm pitch or equivalent); mates with JST VHR-10N or equivalent.

#### Remote Sense Connector: CN4

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>+5Vsb</td>
</tr>
<tr>
<td>3</td>
<td>SD (Inhibit)</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
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JST P/N B6B-XH-A (2.5mm pitch or equivalent); mates with JST XHP-4 or equivalent.

#### Fan Output Connector: CN5

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+12V</td>
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<tr>
<td>2</td>
<td>GND</td>
</tr>
</tbody>
</table>

JST P/N B2B-XH-A (2.5mm pitch or equivalent); mates with JST XHP-2 or equivalent.