TAM90 Series
90 Watts Medical Grade AC/DC Power Adapters

FEATURES
- Class I with IEC 320/ C14 AC Inlet
- 12V, 15V, 19V, 24V Single Output Voltages
- Meets IEC/EN 60601-1 Edition 3.1 Safety Standards
- Meets IEC/EN 60601-1-2 Edition 4.0 EMC Standards
- Compliant with RoHS, DOE & Energy Star Level VI
- UL, cUL, TUV, CB, CE Approved

INPUT SPECIFICATIONS
- Input Voltage Range .......... 90-264 VAC
- Input Frequency .............. 47-63Hz
- Input Current .................. 1.5A rms @ 115 VAC
- Inrush Current .............. 50A @ 115 VAC or 100 A @ 230 VAC, at 25°C cold start
- Earth Leakage Current ............ 250 µA max. @ 264 VAC, 63 Hz
- Touch Current ............... 100 µA max. @ 264 VAC, 63 Hz
- No Load Input Power ....... 0.21W max.

OUTPUT SPECIFICATIONS
- Output Power Ratings ......... See table
- Tolerance .................. ±5%
- Ripple and Noise* ............... 1% peak to peak max. @ full load except 150 mVp-p on 12V output
- Over Voltage Protection ....... Set at 112-140% of its nominal output voltage; Latch off
- Over Current Protection ...... Protected to short circuit conditions; Auto-recovery
- Over Temp. Protection ........... Latch off
- Short Circuit Protection ...... Auto-recovery
- Temperature Coefficient ...... ±0.04%/°C max.
- Transient Response ............. Max. excursion of 4% or better on all models, recovering to 1% of final value within 500 µs after a 25% step load change

* Measured with 20MHz bandwidth at rated line voltage and output load ranges, with a 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor in parallel across the output.

GENERAL SPECIFICATIONS
- Power Factor .................. 0.98 typical
- Efficiency ...................... 88% min.
- Hold-up Time ................. 10 ms min. @ 115 VAC/60Hz
- Switching Frequency .......... 75-150 KHz
- Line Regulation .............. ±0.5% max. @ full load
- Operating Altitude .......... 5,000 meters max.
- Operating Temperature ...... 0°C to +60°C
- Derating ....................... Derate from 100% at +40°C linearly to 50% at +60°C
- Storage Temperature .......... -40°C to +85°C
- Relative Humidity .......... 5% to 95% non-condensing
- Withstand Voltage .......... 4,000 VAC input-output (2 MOPP)
- 1,500 VAC input-ground (1 MOPP)
- MTBF ......................... 100K hours minimum at full load, 25°C ambient, calculated per MIL-HDBK-217F

STANDARDS & COMPLIANCE
- IEC/EN 60601-1-2:2014 .... EMC & Immunity Performance
- EN 55011 ....................... Class B, conducted & radiated
- FCC, VCCI ....................... Class B, conducted & radiated
- EN 61000-3-2 ................ Harmonic distortion, Class D
- EN 61000-3-3 .................. Line fluctuations & flicker
- EN 61000-4-2 .................. ESD, ±15 KV air and ±8 KV contact
- EN 61000-4-3 .................. Radiated immunity, 10 V/m
- EN 61000-4-4 .................. Fast transient/burst, ±2 KV
- EN 61000-4-5 .................. Surge, ±1 KV diff., ±2 KV com.
- EN 61000-4-6 .................. Conducted immunity, 10 Vrms
- EN 61000-4-8 .................. Magnetic field immunity, 30 A/m
- EN 61000-4-11 ................. Voltage dip immunity, 30% reduction for 500ms, 100% reduction for 10ms


Agency Approvals ............... UL, cUL, TUV, CB, CE

Other Compliance ............... RoHS, DOE & Energy Star Level VI
MECHANICAL SPECIFICATIONS

NOTES:
1. Dimensions: inches [mm]
2. Tolerance: 0.02 [0.5] maximum
3. Weight: 350 grams (0.77 lbs.) approx.
4. Standard output connector: Kycon P/N KPPX-4P or equivalent, mating with Kycon P/N KPJX-4S-S or equivalent.
5. The length of the output cable is 59.06 in (1500mm) 18 AWG for 19V AND 24V, 16 AWG for 12V and 15V output models, so as to comply with DOE and Energy Star efficiency level VI requirements.
6. Standard model comes with AC and DC Grounds connected together. Separate grounds available upon request.