

Features

- ◆ 100 W power supply in 2.0" x 4.0" footprint!
- ◆ Full load operation up to +50°C with convection cooling
- ◆ Highest efficiency, 90% typ.
- ◆ EMI filter meets EN 55022, level B
- ◆ Compliance with EN 61000-3-2
- ◆ Low leakage current
- ◆ Safety class I and class II operation
- ◆ 3-year product warranty



The new TOP-100 Series AC/DC Power Supplies feature the highest power rating in the industry standard 2.0" x 4.0" (50.8 x 101.6 mm) footprint. They can supply up to 100 W output power with convection cooling over an industrial operating temperature range of -25 °C to +50 °C. This performance could be realized by a state of the art design providing an extremely high efficiency of >90 % which eliminates the need for a dedicated power supply cooling fan.

Also see: www.tracopower.com/products/top100_article_e1.pdf

Compliance with global safety and EMC standards qualify these power supplies for worldwide markets. Approved for Class I and Class II applications, these switchers are suitable for industrial and IT systems but also for consumer products. High reliability is provided by use of industrial quality grade components and an excellent thermal management. This product offers an interesting power supply solution for many space and cost critical applications in commercial and industrial electronic equipment.

Models

| Order Code | Output Voltage (Adjustment Range) | Output Current max. |
|-------------|--------------------------------------|------------------------|
| TOP 100-103 | 3.3 VDC (3.3 - 3.5) | 20.0 A |
| TOP 100-105 | 5.0 VDC (5.0 - 5.2) | 20.0 A |
| TOP 100-112 | 12 VDC (12.0 - 13.0) | 8.3 A |
| TOP 100-115 | 15 VDC (15.0 - 16.0) | 6.7 A |
| TOP 100-124 | 24 VDC (24.0 - 26.0) | 4.2 A |
| TOP 100-148 | 48 VDC (48.0 - 52.0) | 2.1 A |

Input Specifications

| | |
|-----------------------------|---|
| Input voltage range | 90 – 132 / 187 – 264 VAC autorange |
| Input frequency | 47 – 63 Hz |
| Input protection | T4 A/250 V internal fuse in both line & neutral |
| Zero load power consumption | 3.6 W |
| Recommended circuit breaker | 6 A (characteristic C) or slow blow fuse |

Output Specifications

| | | |
|--------------------------------------|----------------------------|--|
| Regulation | – Input and Load variation | 1% max. |
| Ripple and noise (20Mhz Bandwidth) | | < 100 mVp-p 48 VDC model: < 200 mVp-p |
| Overvoltage protection | | 3.3 VDC model: 5.0 V 5.0 VDC model: 6.0 V 12 VDC model: 16 V 15 VDC model: 20 V 24 VDC model: 30 V 48 VDC model: 60 V |
| Power back immunity | | 3.3 VDC model: 5.0 V (6.0 V for 1 sec) 5 VDC model: 6.3 V (7.0 V for 1 sec) 12 VDC model: 16 V (18 V for 1 sec) 15 VDC model: 20 V (23 V for 1 sec) 24 VDC model: 35 V (40 V for 1 sec) 48 VDC model: 63 V (68 V for 1 sec) |
| Overload protection by current limit | | at 150 % I _{out} max. |
| Short circuit protection | | foldback (automatic recovery) |
| Capacitive load | | 10'000 µF max. |

General Specifications

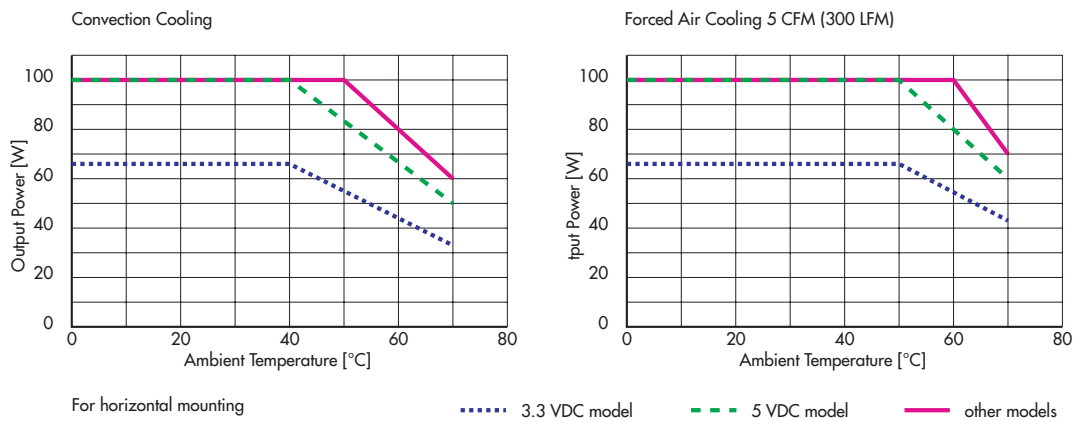
| | | |
|---|---|---|
| Operating Temperature | | – 25°C to +70°C with derating |
| Power derating | | see graph page 3 |
| Temperature coefficient | | 0.02 % /K |
| Reliability, calculated MTBF @ 25°C acc. to IEC 61709 | 3.3 – 12 VDC models: 15 – 48 VDC models: | >1.0 Mio h >1.4 Mio h |
| Humidity (non condensing) | | 0 – 95 % rel. H max. |
| Efficiency | – Vin = 115 VAC – Vin = 230 VAC | 89 – 91% 90 – 92% |
| Switching frequency | | 100 kHz typ. (pulse width modulation) |
| Hold-up time | – Vin = 115 VAC – Vin = 230 VAC | 10 ms typ. 15 ms typ. |
| Start-up time | – Vin = 115 VAC – Vin = 230 VAC | < 3s < 2s |
| Isolation voltage | – Input / Output – Input / Field Ground – Output / Field Ground | 4000 VAC 2000 VAC 500 VAC |
| Isolation resistance (at 500 VDC) | | 100 Mohm min. |
| Earth leakage current | | 250 µA max. |
| Isolation class | | class II double isolation |
| Electromagnetic compatibility (EMC), emissions | – Conducted input RI suppression – Harmonic current emissions | EN 55022, class B (conductive plane to be connected to safety earth) IEC / EN 61000-3-2, class A |

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

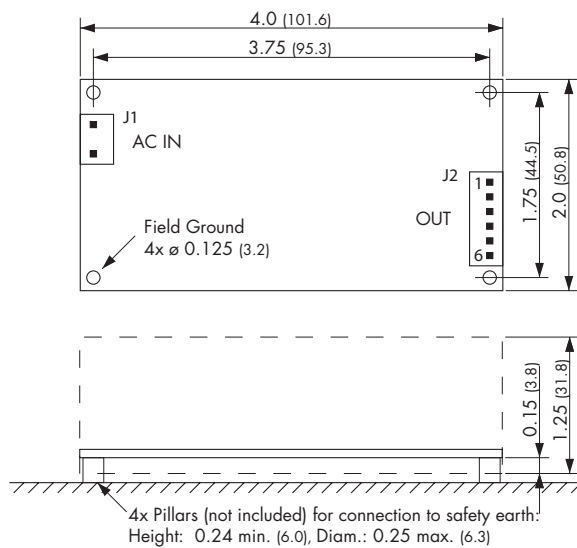
General Specifications

| | | |
|--|---|--|
| Electromagnets compatibility (EMC), immunity | – Electrostatic discharge ESD – RF field immunity – Electrical fast transients/burst immunity – Surge – Conducted RF – Voltage dip | IEC / EN 61000-4-2 IEC / EN 61000-4-3 IEC / EN 61000-4-4 IEC / EN 61000-4-5 IEC / EN 61000-4-6 IEC / EN 61000-4-11 |
| Safety approvals and certifications | – CB report – UL approval | for IEC/EN 60950-1 www.tracopower.com/products/top100-cb.pdf UL 60950-1 File: pending www.ul.com -> certifications |
| Environment | – Vibration acc. IEC 60068-2-6; – Shock acc. IEC 60068-2-27 | 3 axis, sine sweep, 10-55Hz, 1g, 1oct/min 3 axis, 15g half sine, 11msShock 20 G (3 directions each 3 times) |
| Connection | | pin connector (Molex) |
| Weight | | 140 g (4.9 oz) |

Power Derating



Dimensions



| Input | |
|-------|-------|
| Pin | J1 |
| 1 | AC in |
| 2 | AC in |

| Output | |
|--------|--------|
| Pin | J2 |
| 1 | - Vout |
| 2 | - Vout |
| 3 | - Vout |
| 4 | + Vout |
| 5 | + Vout |
| 6 | + Vout |

J1: Molex Series 41791
mates with Molex crimp terminal: 08-50-0106
and terminal housing: 09-50-3031

J2: Molex Series 41791
mates with Molex crimp terminal: 08-50-0106
and terminal housing: 09-50-3061

Specifications can be changed any time without notice.