

Features

- ◆ Highest power density in 5.0" x 3.0" footprint
- ◆ Supplies 200 W (convection cooling!)
- ◆ Highest efficiency up to 95%
- ◆ Operating temperature range -25°C to +70°C
- ◆ Universal input 85 – 264 VAC
- ◆ Compliance with EN 61000-3-2
- ◆ Power Back immunity
- ◆ Low leakage current
- ◆ Protection class I and class II
- ◆ 3-year product warranty



The new TOP-200 Series AC/DC Power Supplies feature the highest power rating in the industry standard 3.0" x 5.0" (76.2 x 127 mm) footprint. They can supply up to 200 W output power with convection cooling over an industrial operating temperature range of -25°C to +70°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.

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 Power max.	Output Voltage (fixed)	Output Current max.
TOP 200-112		12 VDC	16 A
TOP 200-115		15 VDC	13 A
TOP 200-124	200 W	24 VDC	8.3 A
TOP 200-148		48 VDC	4.2 A

Input Specifications

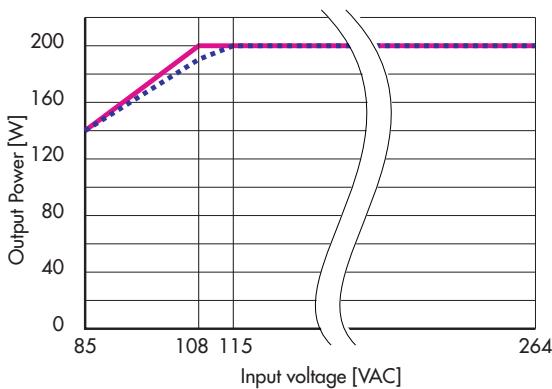
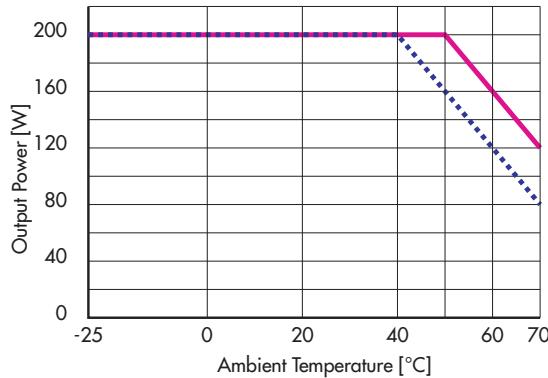
Input voltage	– nominal – AC input range	120 – 240 VAC (universal input) 85 – 264 VAC with derating at low input see power derating graph 1
Input frequency	47 – 63 Hz	
Input protection	T4A / 250 V	
Harmonic limits	EN 61000-3-2, class A	
Zero load power consumption	3.6 W	
Input protection	T4 A internal fuses (line and neutral)	
Recommended circuit breaker	6 A (characteristic C) or slow blow fuse. For protection class II use two fuses (line and neutral)	

Output Specifications

Voltage set accuracy	TOP 200-112: min. 11.9 V, max. 12.3 V TOP 200-115: min. 14.9 V, max. 15.3 V TOP 200-124: min. 23.8 V, max. 24.2 V TOP 200-148: min. 48.0 V, max. 49.3 V
Regulation	– Input and Load variation 1.0 % max.
Ripple and noise (20Mhz Bandwidth)	<120 mVp-p <150 mVp-p for 48 VDC models
Overvoltage protection	12 & 15 VDC models: >150 % of Vout 24 & 48 VDC models: >125 % of Vout
Power back immunity	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 120 – 150 % Iout max.
Short circuit protection	foldback (automatic recovery)
Capacitive load	12 & 15 VDC models: 15'000 μ F max. 24 VDC model: 4'000 μ F max. 48 VDC model: 1'000 μ F max.

General Specifications

Operating temperature	– derating	-25°C to +70°C (convection cooling) see power derating graph 2
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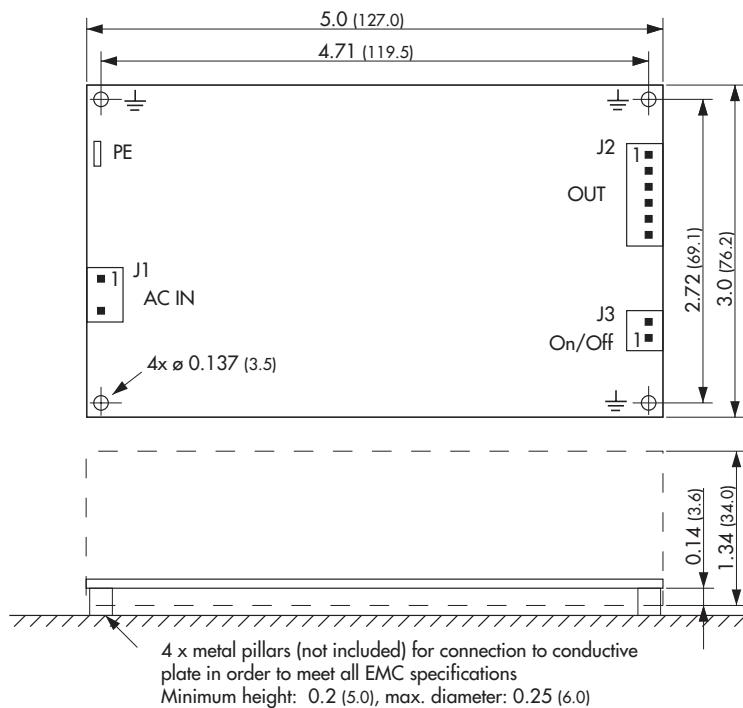
Power derating
Graph 1:
In respect to input voltage

Graph 2:
in respect to ambient temperature


General Specifications

Humidity (non condensing)	0 – 95 % rel. H max.				
Efficiency	– Vin = 115 VAC	12 & 15 VDC models:	88 – 91 %		
		24 & 48 VDC models:	90 – 93 %		
	– Vin = 230 VAC	12 & 15 VDC models:	90 – 93 %		
		24 & 48 VDC models:	92 – 95 %		
Switching frequency	100 kHz typ. (pulse width modulation)				
Hold-up time	10 ms typ.				
Start-up time	– Vin = 115 VAC	<3.0s			
	– Vin = 230 VAC	<2.0s			
Remote On/Off	– Off: connection to secondary ground	J3 pin 1 connected to secondary ground will turn the unit off. Output voltage may pulse to 20% of nominal output voltage.			
	– Off: applying external current	J3 pin 2 connected to an external current source of 10 mA will turn the unit off (no pulsing output)			
	– On: open contacts	J3 pin 1 & 2 open.			
Isolation voltage	– Input / Output	3000 VAC			
	– Input / Field Ground	1500 VAC			
	– Output / Field Ground	500 VAC			
Isolation resistance (at 500 VDC)	100 Mohm min.				
Earth leakage current	500 µA max.				
Reliability, calculated MTBF at +25°C acc. to IEC 61709	www.tracopower.com/products/top200-mtbf.pdf				
Safety class (for built in use only)	class I, class II prepared with second fuse				
Electromagnetic compatibility (EMC), emissions	– Conducted input RI suppression	EN 55022, class B (conductive plane to be connected to field ground)			
	– Harmonic current emissions	IEC/EN 61000-3-2, class A			
Electromagnets compatibility (EMC), immunity	– Electrostatic discharge ESD	IEC/EN 61000-4-2			
	– RF field immunity	IEC/EN 61000-4-3			
	– Electrical fast transients/burst immunity	IEC/EN 61000-4-4			
	– Surge	IEC/EN 61000-4-5			
	– Conducted RF	IEC/EN 61000-4-6			
	– Voltage dip	IEC/EN 61000-4-11			
Safety approvals and Certificate	– CB test certificate for IEC/EN 60950-1	www.tracopower.com/products/top200-cb.pdf			
	– SIQ certificate (IEC/EN 60950-1)	www.tracopower.com/products/top200-siq.pdf			
	– CSA certificate for UL/cUL 60950-1	www.tracopower.com/products/top200-csa.pdf			
	– Bureau Veritas for other standards	www.tracopower.com/products/top200-bv.pdf			
Environment	– Vibration acc. IEC 60068-2-6;	3 axis, sine sweep, 10 – 55Hz, 0.075 mm			
	– Shock acc. IEC 60068-2-27	3 axis, 15g half sine, 11ms			
Environmental compliance	– Reach	www.tracopower.com/products/top200-reach.pdf			
	– RoHS	RoHS directive 2011/65/EU			
Connection	pin connector (Molex)				
Weight	315 g (8.93 oz)				
Installation instruction	www.tracopower.com/products/top200-inst.pdf				

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

Dimensions



J1: Molex Series 41791

mates with Molex crimp terminal: 08-52-0072
and terminal housing: 09-50-3031

J2: Molex Series 41791

mates with Molex crimp terminal: 08-52-0072
and terminal housing: 09-50-3061

J3: Molex Series KK

mates with Molex crimp terminal: 08-50-0032
and terminal housing: 22-01-2025

PE: Faston

mates with TAB-6.3 (1/4")

Dimensions in Inch, () = mm

J1	
Pin	
1	AC in L
2	AC in N

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

J3	
Pin	
1	contact
2	current

PE to connect to protective earth if used as safety class I unit

J3 pin 1 connected to secondary ground will turn the unit off.

Output voltage may pulse to 20% of nominal output voltage.

J3 pin 2 connected to an external current source of 10 mA

will turn the unit off (no pulsing output)

J3 pin 1 & 2 open: Unit is on

Specifications can be changed any time without notice.