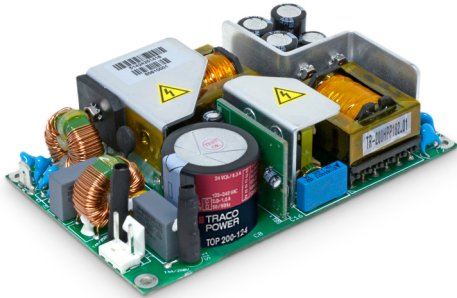


AC/DC Power Supply

TOP 200 Series, 200 Watt

- 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



UL 60950-1 IEC 62368-1

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 nom.	Output Current max.	Efficiency typ.
TOP 200-112	200 W	12 VDC	16'000 mA	93 %
TOP 200-115		15 VDC	13'000 mA	93 %
TOP 200-124		24 VDC	8'300 mA	95 %
TOP 200-148		48 VDC	4'200 mA	95 %

Options	
on demand (backorder with MOQ non stocking item)	- Encased version: www.tracopower.com/overview/top200c

Input Specifications

Input Voltage	Operational Range: 85 - 264 VAC (Full Range) Rated Range: 100 - 240 VAC (Full Range)
Input Frequency	47 - 63 Hz
Power Consumption	- At no load 3'700 mW max.
Input Inrush Current	- At 230 VAC 40 A max.
Power Factor	- At 230 VAC 0.98 min. (Active Power Factor Correction)
Input Protection	T 4 A (Internal Fuse in L & N)
Recommended Input Fuse	6'000 mA (slow blow) (The need of an external fuse has to be assessed in the final application.)

Output Specifications

Voltage Set Accuracy	±3% max.
Regulation	- Input Variation (Vmin - Vmax) - Load Variation (0 - 100%) 1% max. 1% max.
Ripple and Noise (20 MHz Bandwidth)	12 VDC model: 120 mVp-p max. 15 VDC model: 120 mVp-p max. 24 VDC model: 120 mVp-p max. 48 VDC model: 150 mVp-p max.
Capacitive Load	12 VDC model: 15'000 µF max. 15 VDC model: 15'000 µF max. 24 VDC model: 4'000 µF max. 48 VDC model: 1'000 µF max.
Minimum Load	Not required
Temperature Coefficient	±0.02 %/K max.
Hold-up Time	- At 230 VAC - At 115 VAC 10 ms min. 10 ms min.
Start-up Time	- At 230 VAC - At 115 VAC 2'000 ms max. 3'000 ms max.
Short Circuit Protection	Automatic recovery 60% typ. of Iout nom.
Overload Protection	Foldback Mode
Output Current Limitation	120 - 150% of Iout max.
Overvoltage Protection	150% typ. of Vout nom. (depending on model) 20 V typ. (12 Vout model) 25 V typ. (15 Vout model) 35 V typ. (24 Vout model) 60 V typ. (48 Vout model)
Transient Response	- Peak Variation - Response Time 600 mV max. (10% to 90% Load Step) 20'000 µs max. (10% to 90% Load Step)

Safety Specifications

Safety Standards	- IT / Multimedia Equipment EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1 UL 60950-1 - Certification Documents www.tracopower.com/overview/top200
Protection Class	Class I & II (Prepared): Reinforced Insulation
Pollution Degree	PD 2
Over Voltage Category	OVC II

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

EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential) EN 55032 class B (internal filter) EN 55032 class B (internal filter) EN 61000-3-2, class A (conductive plane to be connected to safety earth to meet all EMI specifications)
EMS Immunity	- Conducted Emissions - Radiated Emissions - Harmonic Current Emissions	
	- RF Electromagnetic Field - EFT (Burst) / Surge - Conducted RF Disturbances - PF Magnetic Field - Voltage Dips & Interruptions	EN 61000-4-3, 20 V/m, perf. criteria A EN 61000-4-4, ± 2 kV, perf. criteria B L to L: EN 61000-4-5, ± 1 kV, perf. criteria B L to PE: EN 61000-4-5, ± 2 kV, perf. criteria B EN 61000-4-6, 10 Vrms, perf. criteria A Continuous: EN 61000-4-8, 100 A/m, perf. criteria A 230 VAC / 50 Hz: EN 61000-4-11 20%, 250 periods, perf. criteria A 30%, 25 periods, perf. criteria A 60%, 10 periods, perf. criteria B >95%, 1 period, perf. criteria B 115 VAC / 60 Hz: EN 61000-4-11 20%, 250 periods, perf. criteria A 30%, 25 periods, perf. criteria B 60%, 10 periods, perf. criteria B >95%, 1 period, perf. criteria B

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	-25°C to +70°C
	- Storage Temperature	-40°C to +80°C
Power Derating	- High Temperature	2 %/K above 40°C (12 & 15 Vout models) 2 %/K above 50°C (24 & 48 Vout models) 1 %/V below 115 VAC (12 & 15 Vout models) 1.5 %/V below 108 VAC (24 & 48 Vout models)
	- Low Input Voltage	
Cooling System		Natural convection (20 LFM)
Remote Control	- Voltage Controlled Remote	See application note: www.tracopower.com/overview/top200
	- Current Controlled Remote	See application note: www.tracopower.com/overview/top200
Altitude During Operation		2'000 m max.
Switching Frequency		100 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s	3'000 VAC
	- Input to Case or PE, 60 s	1'500 VAC
	- Output to Case or PE, 60 s	500 VAC
Creepage	- Input to Output	7 mm min.
	- Input to Case or PE	4 mm min.
	- Output to Case or PE	1 mm min.
Clearance	- Input to Output	5 mm min.
	- Input to Case or PE	2.5 mm min.
	- Output to Case or PE	0.5 mm min.
Isolation Resistance		100 M Ω min.
Isolation Capacitance		1'500 pF typ.
Leakage Current	- Earth Leakage Current	500 μ A max.
	- Touch Current	100 μ A max.
Reliability		(see application note)
Environment	- Vibration	IEC 60068-2-6 3 axis, sine sweep, 10-55 Hz, 0.075 mm
	- Mechanical Shock	IEC 60068-2-27 15 g, 3 axis, half sine, 11 ms

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

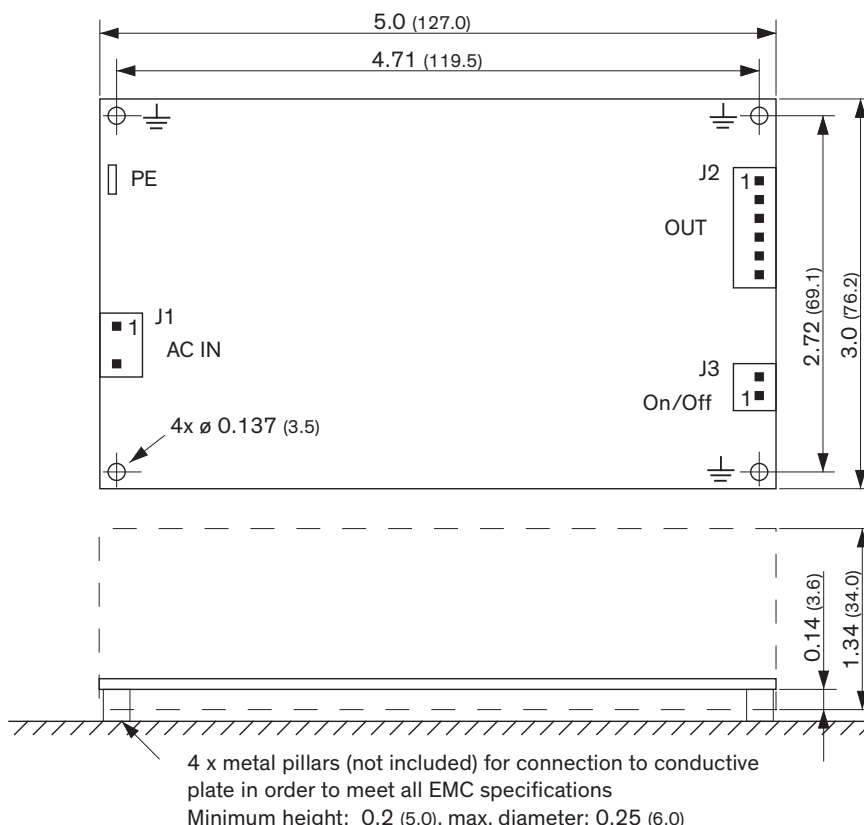
Housing Type	Open Frame
Mounting Type	Chassis Mount
Connection Type	Pin Connector
Weight	360 g
Power Back Immunity	12 VDC model: 16 V max. (18 V for 1 s) 15 VDC model: 20 V max. (23 V for 1 s) 24 VDC model: 35 V max. (40 V for 1 s) 48 VDC model: 63 V max. (68 V for 1 s)
Environmental Compliance	- REACH Declaration www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant www.tracopower.com/info/rohs-declaration.pdf Exemptions: 6a, 6c, 7a, 7c-I, 7c-II (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule). The SCIP number is provided on request.)
	- RoHS Declaration

Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/top200

Outline Dimensions



Dimensions in Inch (mm)
Tolerances: ± 0.008 (± 0.2)

Input	
J1	
Pin	Function
1	AC (L)
2	AC (N)

Output	
J2	
Pin	Function
1-3	+ Vout
4-6	- Vout

On / Off	
J3	
Pin	Function
1	-
2	+