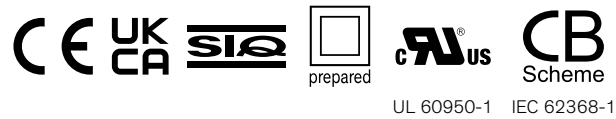
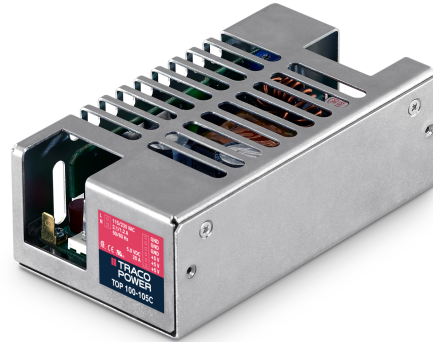


- 100 W power supply in 2.0" x 4.0" footprint!
- Full load operation up to +50°C with convection cooling
- Highest efficiency, 90 % typ.
- EMI filter meets EN 55032, level B
- Compliance with EN 61000-3-2
- Low leakage current
- Safety class I and class II operation
- 3-year product warranty



The new TOP 100C 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/info/top100\\_article\\_e1.pdf](http://www.tracopower.com/info/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 Power max.	Output Voltage nom. (adjustable)	Output Current max.	Efficiency typ.
TOP 100-105C	100 W	5 VDC (5.0 - 5.2 VDC)	20'000 mA	91 %
TOP 100-112C		12 VDC (12.0 - 13.0 VDC)	8'300 mA	91 %
TOP 100-124C		24 VDC (24.0 - 26.0 VDC)	4'200 mA	91 %
TOP 100-148C		48 VDC (48.0 - 52.0 VDC)	2'100 mA	91 %

### Input Specifications

Input Voltage		Operational Range: <b>90 - 132 VAC / 187 - 264 VAC (Auto Range)</b>
Input Frequency		Operational Range: <b>47 - 63 Hz</b> Certified: <b>50/60 Hz</b>
Power Consumption	- No load & $V_{in} = 230 \text{ VAC}$ - No load & $V_{in} = 115 \text{ VAC}$	<b>2'600 mW max.</b> <b>3'600 mW max.</b>
Input Inrush Current	- At 230 VAC	<b>60 A max.</b>
Power Factor	- At 230 VAC - At 115 VAC	<b>0.51 min.</b> <b>0.59 min.</b>
Input Protection		<b>T 3.15 A / 250 VAC (Internal Fuse in L &amp; N)</b>
Recommended Input Fuse		<b>6'000 mA (slow blow)</b>  (The need of an external fuse has to be assessed in the final application.)

### Output Specifications

Output Voltage Adjustment		5 VDC model: <b>5.0 - 5.2 VDC</b> 12 VDC model: <b>12.0 - 13.0 VDC</b> 24 VDC model: <b>24.0 - 26.0 VDC</b> 48 VDC model: <b>48.0 - 52.0 VDC</b> (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy		<b>±1.5% max.</b>
Regulation	- Input Variation ( $V_{min} - V_{max}$ ) - Load Variation (0 - 100%)	<b>0.5% max.</b> <b>1% max.</b>
Ripple and Noise (20 MHz Bandwidth)		5 VDC model: <b>150 mVp-p max.</b> 12 VDC model: <b>150 mVp-p max.</b> 24 VDC model: <b>150 mVp-p max.</b> 48 VDC model: <b>200 mVp-p max.</b>
Capacitive Load		<b>10'000 <math>\mu\text{F}</math> max.</b>
Minimum Load		<b>Not required</b>
Temperature Coefficient		<b>±0.02 %/K max.</b>
Hold-up Time	- At 230 VAC - At 115 VAC	<b>15 ms min.</b> <b>10 ms min.</b>
Start-up Time	- At 230 VAC - At 115 VAC	<b>2'000 ms max.</b> <b>3'500 ms max.</b>
Short Circuit Protection		<b>Automatic recovery</b> <b>60% typ. of I<sub>out</sub> nom.</b>
Overload Protection		<b>Foldback Mode</b>
Output Current Limitation		<b>150% max. of I<sub>out</sub> max.</b> (depending on model) <b>25 A max.</b> (5 V <sub>out</sub> model) <b>11 A max.</b> (12 V <sub>out</sub> model) <b>6 A max.</b> (24 V <sub>out</sub> model) <b>3 A max.</b> (48 V <sub>out</sub> model)
Overvoltage Protection		<b>135% typ. of V<sub>out</sub> nom.</b> (depending on model) <b>6 V typ.</b> (5 V <sub>out</sub> model) <b>16 V typ.</b> (12 V <sub>out</sub> model) <b>30 V typ.</b> (24 V <sub>out</sub> model) <b>60 V typ.</b> (48 V <sub>out</sub> model)
Transient Response	- Peak Variation - Response Time	<b>400 mV max.</b> (10% to 90% Load Step) <b>3'000 <math>\mu\text{s}</math> max.</b> (10% to 90% Load Step)

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

### Safety Specifications

Standards	- IT / Multimedia Equipment	EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1 UL 60950-1
	- Certification Documents	<a href="http://www.tracopower.com/overview/top100c">www.tracopower.com/overview/top100c</a>
Protection Class		Class I & II (Prepared): Reinforced Insulation
Pollution Degree		PD 2
Over Voltage Category		OVC II

### EMC Specifications

EMI Emissions	- Conducted Emissions - Radiated Emissions - Harmonic Current 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
EMS Immunity	- RF Electromagnetic Field - EFT (Burst) / Surge  - Conducted RF Disturbances - PF Magnetic Field  - Voltage Dips & Interruptions	EN 61000-4-3, 10 V/m, perf. criteria A EN 61000-4-4, $\pm 2$ kV, perf. criteria A  L to L: EN 61000-4-5, $\pm 1$ kV, perf. criteria A L to PE: EN 61000-4-5, $\pm 2$ kV, perf. criteria A EN 61000-4-6, 10 Vrms, perf. criteria A Continuous: EN 61000-4-8, 100 A/m, perf. criteria A 1 s: EN 61000-4-8, 1000 A/m, perf. criteria A 230 VAC / 50 Hz: EN 61000-4-11 115 VAC / 60 Hz: EN 61000-4-11

### General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature - Storage Temperature	-25°C to +70°C -40°C to +80°C
Power Derating	- High Temperature  - Low Input Voltage	2 %/K above 40°C (5 Vout model) 2 %/K above 50°C (other models) 3.8 %/V below 103 VAC (low input range) 1.0 %/V below 207 VAC (high input range)
Cooling System		Natural convection (20 LFM)
Altitude During Operation		2'000 m max.
Regulator Topology		Soft switch half bridge Converter
Switching Frequency		100 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s - Input to Case or PE, 60 s - Output to Case or PE, 60 s	3'000 VAC 1'500 VAC 500 VAC
Creepage	- Input to Output - Input to Case or PE - Output to Case or PE	7 mm min. 4 mm min. 1 mm min.
Clearance	- Input to Output - Input to Case or PE - Output to Case or PE	5 mm min. 2.5 mm min. 0.5 mm min.
Isolation Resistance	- Input to Output, 500 VDC	100 M $\Omega$ min.
Isolation Capacitance	- Input to Output, 100 kHz, 1 V	1'120 pF typ.
Leakage Current	- Earth Leakage Current - Touch Current	500 $\mu$ A max. 100 $\mu$ A max.
Reliability	- Calculated MTBF	(see application note)

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

Environment	- Vibration	IEC 60068-2-6 1 g, 3 axis, sine sweep, 10-55 Hz, 1 oct/min
	- Mechanical Shock	IEC 60068-2-27 10 g, 3 axis, half sine, 11 ms 20 g, 3 axis, 3 shocks
Housing Material		Aluminum
Housing Type		Metal Case
Mounting Type		Chassis Mount
Connection Type		Pin Connector
Weight		350 g
Power Back Immunity	5 VDC model:	6.3 VDC max. (7 VDC for 1 s)
	12 VDC model:	16 VDC max. (18 VDC for 1 s)
	24 VDC model:	35 VDC max. (40 VDC for 1 s)
	48 VDC model:	63 VDC max. (68 VDC for 1 s)
Environmental Compliance	- REACH Declaration	<a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a> REACH SVHC list compliant REACH Annex XVII compliant
	- RoHS Declaration	<a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a> Exemptions: 7a, 7c-I (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
	- SCIP Reference Number	31cfb2de-eb31-4fc2-ad98-946c7c211c4e

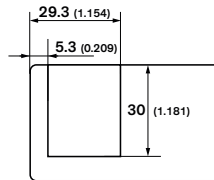
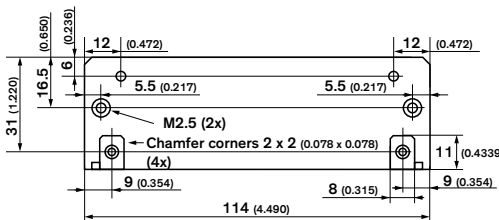
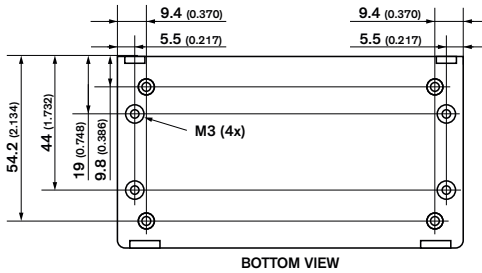
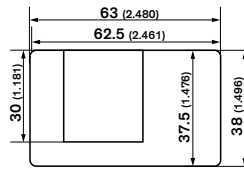
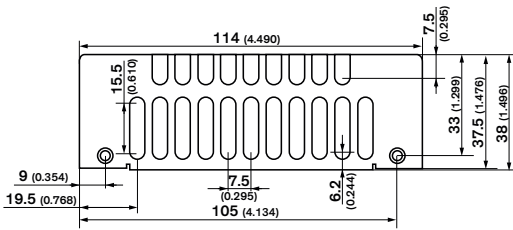
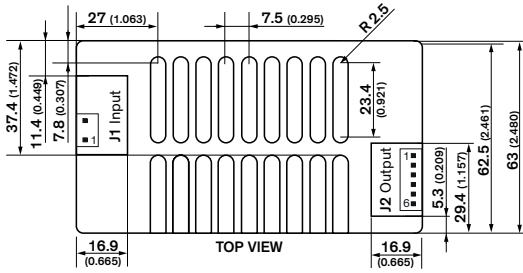
### Supporting Documents

Overview Link (for additional Documents)

[www.tracopower.com/overview/top100c](http://www.tracopower.com/overview/top100c)

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

### Outline Dimensions



Max. Screw Penetration 4.0 (0.160) Dimensions in mm (inch)  
 Mounting screw tightening torque: 0.9 - 1.1 Nm Tolerances:  $\pm 0.008$  ( $\pm 0.2$ )

#### Input (J1)

Pin	Function
1	AC in
2	AC in

#### Output (J2)

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

**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