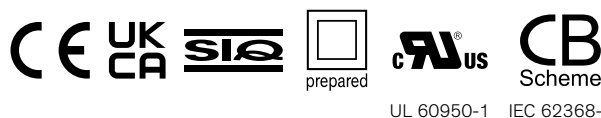
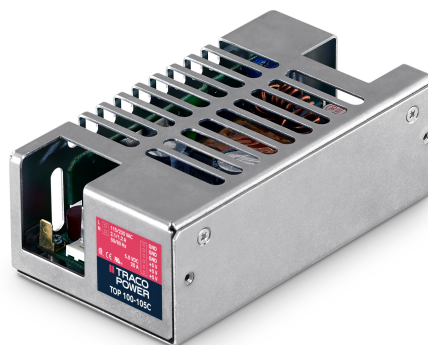


- 100 W power supply in 2.0"x 4.0" footprint!
- Full load operation up to +50°C with convection cooling
- Highest efficiency, 90 % typ.
- EMI filter meets EN 55032, level B
- Compliance with EN 61000-3-2
- Low leakage current
- Safety class I and class II operation
- 3-year product warranty



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

## Output Specifications

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

|                       |                             |                                                                                              |
|-----------------------|-----------------------------|----------------------------------------------------------------------------------------------|
| Safety Standards      | - IT / Multimedia Equipment | EN 60950-1<br>EN 62368-1<br>IEC 60950-1<br>IEC 62368-1<br>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          | EN 61000-6-3 (Generic Residential)                  |
|               | - Radiated Emissions           | EN 55032 class B (internal filter)                  |
|               | - Harmonic Current Emissions   | EN 55032 class B (internal filter)                  |
|               |                                | EN 61000-3-2, class A                               |
| EMS Immunity  | - RF Electromagnetic Field     | EN 61000-4-3, 10 V/m, perf. criteria A              |
|               | - EFT (Burst) / Surge          | 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 |
|               | - Conducted RF Disturbances    | EN 61000-4-6, 10 Vrms, perf. criteria A             |
|               | - PF Magnetic Field            | Continuous: EN 61000-4-8, 100 A/m, perf. criteria A |
|               |                                | 1 s: EN 61000-4-8, 1000 A/m, perf. criteria A       |
|               | - Voltage Dips & Interruptions | 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         | -25°C to +70°C                           |
|                           | - Storage Temperature           | -40°C to +80°C                           |
| Power Derating            | - High Temperature              | 2 %/K above 40°C (5 Vout model)          |
|                           |                                 | 2 %/K above 50°C (other models)          |
|                           | - Low Input Voltage             | 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.                             |
| 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      | - 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         | 500 $\mu$ A max.                         |
|                           | - Touch Current                 | 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<br>1 g, 3 axis, sine sweep, 10-55 Hz, 1 oct/min                                                                                                                                                                                                                                                        |
|                          | - Mechanical Shock  | IEC 60068-2-27<br>10 g, 3 axis, half sine, 11 ms<br>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: <b>6.3 VDC max.</b> (7 VDC for 1 s)                                                                                                                                                                                                                                                                     |
|                          |                     | 12 VDC model: <b>16 VDC max.</b> (18 VDC for 1 s)                                                                                                                                                                                                                                                                    |
|                          |                     | 24 VDC model: <b>35 VDC max.</b> (40 VDC for 1 s)                                                                                                                                                                                                                                                                    |
|                          |                     | 48 VDC model: <b>63 VDC max.</b> (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><br>REACH SVHC list compliant<br>REACH Annex XVII compliant                                                                                                                                          |
|                          | - RoHS Declaration  | <a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a><br><b>Exemptions: 7a, 7c-I</b><br>(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).<br>The SCIP number is provided on request.) |

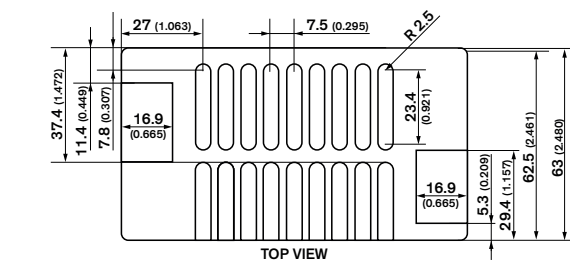
## Supporting Documents

Overview Link (for additional Documents)

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

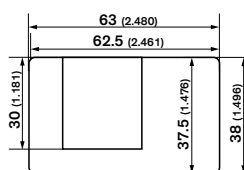
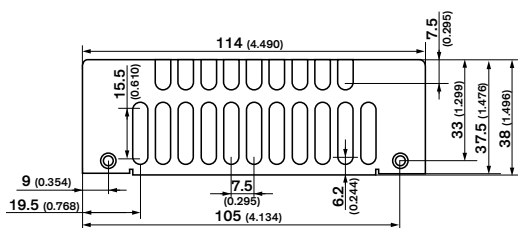
All specifications valid at nominal voltage, resistive full load and +25°C after warm-up time, unless otherwise stated.

### Outline Dimensions



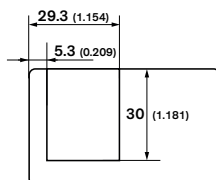
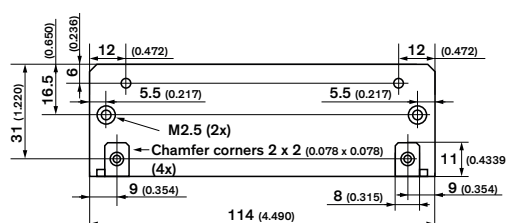
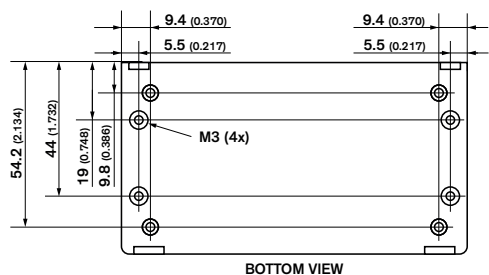
| Input (J1) |          |
|------------|----------|
| Pin        | Function |
| 1          | AC in    |
| 2          | AC in    |

| 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



Max. Screw Penetration 4.0 (0.160)

Dimensions in mm (inch)  
Tolerances:  $\pm 0.008$  ( $\pm 0.2$ )