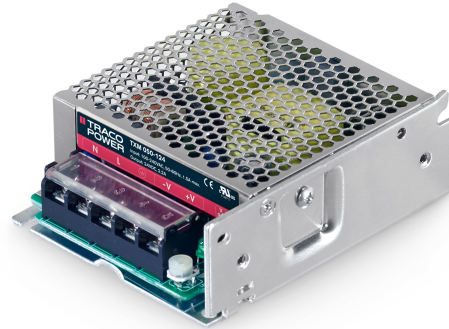


- Very compact metal cased power supplies
- High operating temperature up to 70°C
- Low no load power consumption <0.5W
- Screw terminal block
- No internal fan
- Universal AC input, full range
- Withstand 300 VAC surge input for 5 s
- Adjustable output voltage
- 3-year product warranty



The TXM 050 series of 50 Watt is a family of enclosed AC/DC power supplies designed for cost critical applications. With a low profile metal case and screw terminal block connections, they are easy to install in any equipment. There are five models of single output voltages from 5 VDC to 48 VDC. These power supplies have universal input and comply with European EMC standards and the Low Voltage Directive (LVD).

| Models      |                   |                                  |                     |                 |
|-------------|-------------------|----------------------------------|---------------------|-----------------|
| Order Code  | Output Power max. | Output Voltage nom. (adjustable) | Output Current max. | Efficiency typ. |
| TXM 050-105 | 40 W              | 5 VDC (4.8 - 5.5 VDC)            | 8'000 mA            | 80 %            |
| TXM 050-112 | 50 W              | 12 VDC (11.4 - 13.2 VDC)         | 4'200 mA            | 85 %            |
| TXM 050-115 | 51 W              | 15 VDC (14.3 - 15.0 VDC)         | 3'400 mA            | 86 %            |
| TXM 050-124 | 53 W              | 24 VDC (22.8 - 26.4 VDC)         | 2'200 mA            | 87 %            |
| TXM 050-148 | 54 W              | 48 VDC (45.6 - 52.8 VDC)         | 1'100 mA            | 89 %            |

### Input Specifications

|                        |                             |   |
|------------------------|-----------------------------|---|
| Input Voltage          | - AC Range                  | Operational Range: <b>85 - 264 VAC</b> (Full Range)<br>Rated Range: <b>100 - 240 VAC</b> (Full Range)   |
|                        | - DC Range                  | Operational Range: <b>120 - 375 VDC</b> (Designed for, no certification)<br>Polarity: <b>irrelevant</b><br>(Surge voltage (5 s max.): 300 VAC max.) |
| Input Frequency        |                             | Operational Range: <b>47 - 63 Hz</b><br>Certified: <b>50/60 Hz</b>  |
| Power Consumption      | - No load & Vin = 230 VAC   | <b>500 mW max.</b>  |
|                        | - No load & Vin = 115 VAC   | <b>500 mW max.</b>  |
| Input Current          | - Full load & Vin = 115 VAC | <b>1'300 mA max.</b>  |
| Input Inrush Current   | - At 230 VAC                | <b>45 A max.</b>  |
| Recommended Input Fuse |                             | (The need of an external fuse has to be assessed in the final application.)   |

### Output Specifications

|  |                                 |   |
|--|---------------------------------|---|
| Output Voltage Adjustment              |                                 | <b>-5% to +10%</b> (By trim potentiometer)<br>Output power must not exceed rated power! |
| Voltage Set Accuracy                   |                                 | <b>±3% max.</b>   |
| Regulation                             | - Input Variation (Vmin - Vmax) | <b>0.5% max.</b>  |
|  | - Load Variation (0 - 100%)     | <b>1% max.</b>  |
| Ripple and Noise<br>(20 MHz Bandwidth) | 5 VDC model:                    | <b>80 mVp-p max.</b> (w/ 0.1 µF    10 µF)   |
|  | 12 VDC model:                   | <b>120 mVp-p max.</b> (w/ 0.1 µF    10 µF)  |
|  | 15 VDC model:                   | <b>120 mVp-p max.</b> (w/ 0.1 µF    10 µF)  |
|  | 24 VDC model:                   | <b>200 mVp-p max.</b> (w/ 0.1 µF    10 µF)  |
|  | 48 VDC model:                   | <b>200 mVp-p max.</b> (w/ 0.1 µF    10 µF)  |
| Minimum Load                           |                                 | Not required  |
| Temperature Coefficient                |                                 | <b>±0.03 %/K max.</b>   |
| Hold-up Time                           | - At 230 VAC                    | <b>50 ms min.</b>   |
| Start-up Time                          | - At 230 VAC                    | <b>1'500 ms max.</b>  |
| Start-up Overshoot Voltage             |                                 | <b>5% max.</b>  |
| Short Circuit Protection               |                                 | Continuous, Automatic recovery  |
| Output Current Limitation              |                                 | <b>105 - 150% of Iout max.</b>  |
| Oversvoltage Protection                |                                 | <b>115 - 150% of Vout nom.</b>  |
| Transient Response                     | - Response Deviation            | <b>9% max.</b> (75% to 100% Load Step)  |
|  | - Response Time                 | <b>400 µs typ.</b> (75% to 100% Load Step)  |

### Safety Specifications

|                       |                             |  |
|-----------------------|-----------------------------|--|
| Standards             | - IT / Multimedia Equipment | EN 60950-1<br>EN 62368-1<br>IEC 60950-1<br>IEC 62368-1<br>UL 60950-1<br>UL 62368-1         |
|                       | - Certification Documents   | <a href="http://www.tracopower.com/overview/txm050">www.tracopower.com/overview/txm050</a> |
| Protection Class      |                             | <b>Class I (Prepared): Connection to PE</b>  |
| Pollution Degree      |                             | <b>PD 2</b>  |
| Over Voltage Category |                             | <b>OVC II</b>  |

### EMC Specifications

|               |                                  |   |
|---------------|----------------------------------|---|
| EMI Emissions | - Conducted Emissions            | <b>EN 55032 class B</b> (internal filter) |
|               | - Radiated Emissions             | <b>EN 55032 class B</b> (internal filter) |
|               | - Harmonic Current Emissions     | <b>EN 61000-3-2, class A</b>              |
|               | - Voltage Fluctuations & Flicker | <b>EN 61000-3-3</b>                       |

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

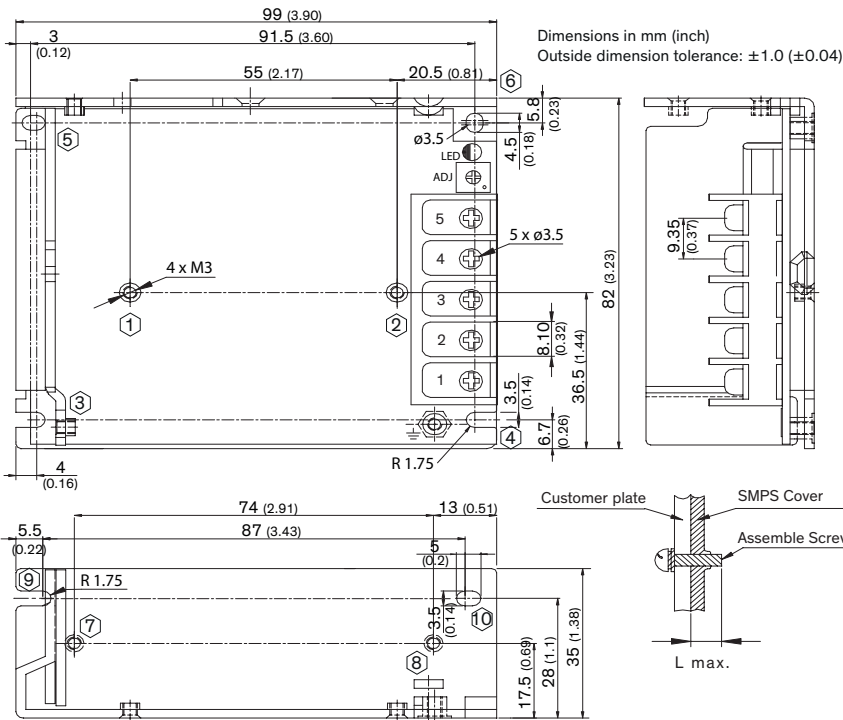
|              |  |  |
|--------------|--|--|
| EMS Immunity | <ul style="list-style-type: none"> <li>- Electrostatic Discharge</li> <li>- RF Electromagnetic Field</li> <li>- EFT (Burst) / Surge</li> <li>- Conducted RF Disturbances</li> <li>- PF Magnetic Field</li> <li>- Voltage Dips &amp; Interruptions</li> </ul> | EN 55024 (IT Equipment)<br>EN 55035 (Multimedia)<br>Air: EN 61000-4-2, $\pm 8$ kV, perf. criteria B<br>Contact: EN 61000-4-2, $\pm 4$ kV, perf. criteria B<br>EN 61000-4-3, 3 V/m, perf. criteria A<br>EN 61000-4-4, $\pm 1$ kV, perf. criteria B<br>L to L: EN 61000-4-5, $\pm 1$ kV, perf. criteria B<br>L to PE: EN 61000-4-5, $\pm 2$ kV, perf. criteria B<br>EN 61000-4-6, 3 Vrms, perf. criteria A<br>Continuous: EN 61000-4-8, 1 A/m, perf. criteria A<br>230 VAC / 50 Hz: EN 61000-4-11<br>30%, 25 periods, perf. criteria C<br>>95%, 0.5 periods, perf. criteria B<br>>95%, 250 periods, perf. criteria C |
|--------------|--|--|

| General Specifications    |  |   |
|---------------------------|--|---|
| Relative Humidity         |  | 90% max. (non condensing)   |
| Temperature Ranges        | <ul style="list-style-type: none"> <li>- Operating Temperature</li> <li>- Storage Temperature</li> </ul>   | -25°C to +70°C<br>-40°C to +85°C  |
| Power Derating            | <ul style="list-style-type: none"> <li>- High Temperature</li> <li>- Low Input Voltage</li> </ul>  | 1.5 %/K above 50°C (5 Vout model)<br>1 %/K above 50°C (other models)<br>0.74 %/V below 115 VAC  |
| Cooling System            |  | Natural convection (20 LFM)   |
| Altitude During Operation |  | 5'000 m max.  |
| Regulator Topology        |  | Flyback Converter   |
| Switching Frequency       |  | 65 kHz typ. (PWM)   |
| Insulation System         |  | Reinforced Insulation   |
| Working Voltage (rated)   |  | 275 VAC   |
| Isolation Test Voltage    | <ul style="list-style-type: none"> <li>- Input to Output, 60 s</li> <li>- Input to Case or PE, 60 s</li> <li>- Output to Case or PE, 60 s</li> </ul> | 3'000 VDC<br>1'500 VAC<br>500 VAC   |
| Creepage                  | - Input to Output  | 6.1 mm min.   |
| Clearance                 | - Input to Output  | 6.1 mm min.   |
| Isolation Resistance      | - Input to Output, 500 VDC   | 100 M $\Omega$ min.   |
| Leakage Current           | <ul style="list-style-type: none"> <li>- Earth Leakage Current</li> <li>- Touch Current</li> </ul>   | 3500 $\mu$ A max.<br>250 $\mu$ A max.   |
| Reliability               | - Calculated MTBF  | 200'000 h (MIL-HDBK-217F, ground benign)  |
| Housing Material          |  | Aluminum  |
| Housing Type              |  | Metal Case  |
| Mounting Type             |  | Chassis Mount   |
| Connection Type           |  | Screw Terminal  |
| Weight                    |  | 270 g   |
| Environmental Compliance  | <ul style="list-style-type: none"> <li>- REACH Declaration</li> <li>- RoHS Declaration</li> <li>- SCIP Reference Number</li> </ul>                   | <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<br><a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a><br>Exemptions: 7a, 7c-I<br>(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)<br>9ca2f776-0a1e-4139-86c0-d553473746ef |

| Supporting Documents                     |  |
|--|--|
| Overview Link (for additional Documents) | <a href="http://www.tracopower.com/overview/txm050">www.tracopower.com/overview/txm050</a> |

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### Outline Dimensions



### Pin-Out

| Pin | Function |
|-----|----------|
| 1   | AC (N)   |
| 2   | AC (L)   |
| 3   | PE       |
| 4   | - Vout   |
| 5   | + Vout   |

Screw locked torque:  
8.0 kgfcm (0.78 Nm) max.

| Screw Definition    |              |            |         |             |
|---------------------|--------------|------------|---------|-------------|
| Installation Method | Position No. | Screw Size | L max.  | Torque max. |
| Bottom Installation | 1-2          | M3         | 4 (1.6) | 6.5 kgfcm   |
|                     | 3-6          | M3         | 4 (1.6) | 6.5 kgfcm   |
| Side Installation   | 7-8          | M3         | 4 (1.6) | 6.5 kgfcm   |
|                     | 9-10         | M3         | 4 (1.6) | 6.5 kgfcm   |