

- Compact metal case with screw terminal block
- Universal input 85 - 264 Vac
- EMI/EMC compliance with EN 61000-6-3 and EN 61000-6-1
- Compliance to EN 61000-3-2
- Short circuit and overvoltage protection
- International safety approvals
- 3 year product warranty



The TRACO POWER TXL series is a family of encased power supplies designed for a wide range of cost critical applications. With a low profile metal case and screw terminal block connection, they are easy to install in any equipment. These power supplies have universal input and comply with European EMC standards and the Low Voltage Directive (LVD).

| Models      |            |                     |                     |                 |
|-------------|------------|---------------------|---------------------|-----------------|
| Order Code  | Power max. | Output voltage nom. | Output current max. | Efficiency typ. |
| TXL 050-05S | 50 W       | 5 VDC               | 10.0 A              | 78 %            |
| TXL 060-12S | 60 W       | 12 VDC              | 5.0 A               | 81 %            |
| TXL 060-15S | 60 W       | 15 VDC              | 4.0 A               | 83 %            |
| TXL 060-24S | 60 W       | 24 VDC              | 2.5 A               | 84 %            |

## Input Specifications

|                                                                 |                                                                                                                       |                                                                                 |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Input voltage range                                             | <ul style="list-style-type: none"> <li>– nominal</li> <li>– AC range (universal input)</li> <li>– DC range</li> </ul> | 100 – 240 VAC<br>88 – 264 VAC<br>125 – 375 VDC (Designed for, no certification) |
| Input frequency                                                 |                                                                                                                       | 47 – 63 Hz                                                                      |
| Input current at full load                                      | – at 100 VAC                                                                                                          | 1.6 A max.                                                                      |
| Input inrush current                                            | – at 115 VAC / 230 VAC                                                                                                | 30 A max. / 50 A max.                                                           |
| Zero load power consumption                                     |                                                                                                                       | 0.5 W max. (green mode function)                                                |
| Recommended circuit breaker (characteristic C or slow bow fuse) |                                                                                                                       | 5 A                                                                             |

## Output Specifications

|                                                            |                                                                                                           |                                                                                                              |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Output voltage adjustment range                            |                                                                                                           | ±10 %                                                                                                        |
| Regulation                                                 | <ul style="list-style-type: none"> <li>– Input variation</li> <li>– Load variation (20 - 100%)</li> </ul> | 1.0 % max.<br>1.0 % max.                                                                                     |
| Minimum load                                               |                                                                                                           | not required                                                                                                 |
| Temperature coefficient                                    |                                                                                                           | 0.02 %/K                                                                                                     |
| Start-up time                                              |                                                                                                           | 1 s max.                                                                                                     |
| Rise time                                                  |                                                                                                           | 30 ms max.                                                                                                   |
| Hold-up time                                               | – at 230 VAC                                                                                              | 60 ms min.                                                                                                   |
| Ripple and noise (20Mhz Bandwidth)                         | 5 Vout model:<br>12 Vout model:<br>15 & 24 Vout models:<br>– measured with external capacitors:           | 70 mVp-p typ.<br>120 mVp-p typ.<br>150 mVp-p typ.<br>0.1 µF and 47 µF parallel capacitor                     |
| Overload protection by current limitation                  |                                                                                                           | 105 – 150 % of Iout max.                                                                                     |
| Short circuit protection                                   |                                                                                                           | hiccup mode (automatic recovery)                                                                             |
| Overvoltage protection (Latch off, recovery after restart) |                                                                                                           | 115 – 140 % of nominal Vout                                                                                  |
| Capacitive load                                            |                                                                                                           | <a href="http://www.tracopower.com/products/txl-capload.pdf">www.tracopower.com/products/txl-capload.pdf</a> |

## General Specifications

|                                   |                                                                                                                 |                                                  |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Temperature ranges                | <ul style="list-style-type: none"> <li>– Operating</li> <li>– Storage</li> </ul>                                | –20°C to +70°C (with derating)<br>–40°C to +85°C |
| Output power derating             | <ul style="list-style-type: none"> <li>– Temperature</li> <li>– Low input voltage</li> </ul>                    | 2.5 %/K above +50°C<br>0.8 %/V below 100 VAC     |
| Cooling                           |                                                                                                                 | natural convection (20 lfm), no internal fan     |
| Humidity (non condensing)         |                                                                                                                 | 20 – 90 % rel. H max.                            |
| Altitude during operation         |                                                                                                                 | 2000 m                                           |
| Isolation voltage (60 sec.)       | <ul style="list-style-type: none"> <li>– Input / Output</li> <li>– Input / PE</li> <li>– Output / PE</li> </ul> | 3000 VAC<br>1500 VAC<br>500 VAC                  |
| Isolation resistance (at 500 VDC) |                                                                                                                 | 100 MOhm min.                                    |
| Leakage current (at 264 VAC/60Hz) |                                                                                                                 | 0.75 mA max.                                     |

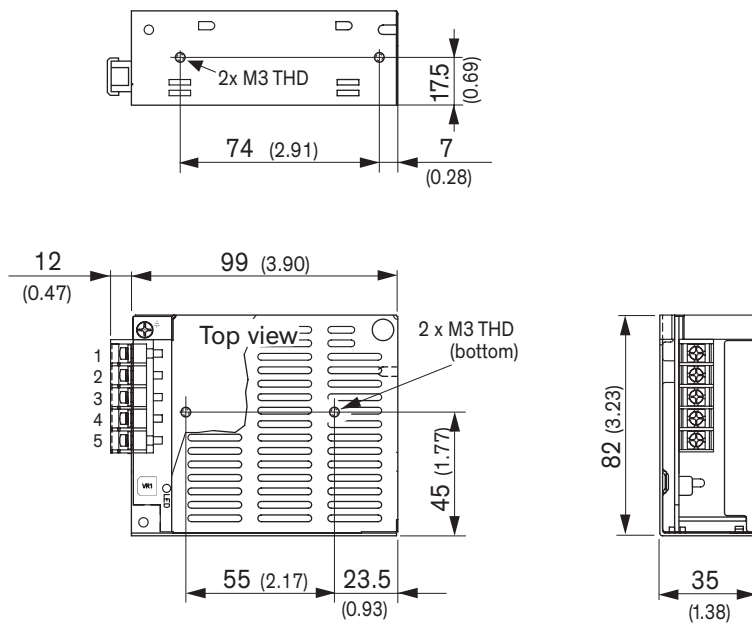
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

**General Specifications (continued)**

|                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching frequency                                                                                                                                                                                                                                                                                      | 65 kHz typ. (pulse width modulation)                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Reliability (calculated MTBF)                                                                                                                                                                                                                                                                            | > 335'000 h                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Electromagnetic compatibility (EMC), emissions <ul style="list-style-type: none"> <li>– Conducted input RI suppression</li> <li>– Harmonic current emissions</li> <li>– Voltage flicker</li> </ul>                                                                                                       | EN 55032 class B, FCC Part 15 level B<br>IEC/EN 61000-3-2, class A<br>IEC/EN 61000-3-3                                                                                                                                                                                                                                                                                                                                                                                |
| Electromagnets compatibility (EMC), immunity <ul style="list-style-type: none"> <li>– Electrostatic discharge ESD</li> <li>– RF field immunity</li> <li>– Electrical fast transients/burst immunity</li> <li>– Surge</li> <li>– Conducted RF</li> <li>– Magnetic field</li> <li>– Voltage dip</li> </ul> | according EN 55024 & EN 55035<br>IEC/EN 61000-4-2, 4 kV / 8 kV, perf. criteria A<br>IEC/EN 61000-4-3, 3 V/m, perf. criteria A<br>IEC/EN 61000-4-4, $\pm 2$ kV, perf. criteria A<br>IEC/EN 61000-4-5, 1 kV / 2 kV, perf. criteria A<br>IEC/EN 61000-4-6, 3 Vrms perf. criteria A<br>IEC/EN 61000-4-8, 3 A/m perf. criteria A<br>IEC/EN 61000-4-11<br>>95 %, perf. criteria A, 0.5 periods<br>30 %, perf. criteria A, 25 periods<br>>95 % perf. criteria B, 250 periods |
| Safety standards                                                                                                                                                                                                                                                                                         | UL 60950-1, IEC/EN 60950-1<br>UL 62368-1, IEC/EN 62368-1                                                                                                                                                                                                                                                                                                                                                                                                              |
| Safety approvals <ul style="list-style-type: none"> <li>– UL/cUL</li> <li>– CB report</li> </ul>                                                                                                                                                                                                         | <a href="http://www.ul.com">www.ul.com</a> → certifications → File: e188913<br><a href="http://www.tracopower.com/overview/txl">www.tracopower.com/overview/txl</a>                                                                                                                                                                                                                                                                                                   |
| Environmental compliance <ul style="list-style-type: none"> <li>– Reach</li> <li>– RoHS</li> </ul>                                                                                                                                                                                                       | <a href="http://www.tracopower.com/products/reach-declaration.pdf">www.tracopower.com/products/reach-declaration.pdf</a><br>RoHS directive 2011/65/EU                                                                                                                                                                                                                                                                                                                 |
| Connection                                                                                                                                                                                                                                                                                               | 5 pole terminal pitch (9.5mm with plastic cover)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Casing material                                                                                                                                                                                                                                                                                          | nickel plated steel (cover), aluminium (chassis)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Weight                                                                                                                                                                                                                                                                                                   | 0.34 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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

## Outline Dimensions



### Screw Terminal

| Pin | Single |
|-----|--------|
| 1   | AC L   |
| 2   | AC N   |
| 3   | PE     |
| 4   | - Vout |
| 5   | + Vout |

Max. terminal screw locked torque: 0.7 Nm  
 Max. mounting screw locked torque: 0.8 Nm

Max. mounting screw penetration depth: 4.5 (1.77)

Dimensions in [mm], ( ) = Inch  
 Tolerances  $\pm 0.5$  ( $\pm 0.02$ )