

### **Enclosed Power Supplies**

TXL Series, 15-1000 Watt

#### **Features**

- Compact metal case with screw terminal block
- Dual and triple output models with isolated outputs
- ◆ Universal input 85-264 VAC
- EMI/EMC compliance with EN 61000-6-3 and EN 61000-6-1
- ◆ Compliance to EN 61000-3-2 (PFC)
- ◆ Short circuit and overvoltage protection
- International safety approvals
- 3-year product warranty



The TRACOPOWER 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.

There are 64 models in this range with single, dual, and triple output voltages from 3.3 VDC to 48 VDC in 12 power ranges from 15 W to 1000 W. These power supplies have universal input and comply with European EMC standards and the Low Voltage Directive (LVD).

| Models with Single Output |           |                   |                     |                     |
|---------------------------|-----------|-------------------|---------------------|---------------------|
| Order Code                | Case Type | Output Power max. | Output Voltage nom. | Output Current max. |
| TXL 015-3.3S              |           |                   | 3.3 VDC             | 3.0 A               |
| TXL 015-05S               |           |                   | 5 VDC               | 3.0 A               |
| TXL 015-12S               | В         | 15 Watt           | 12 VDC              | 1.3 A               |
| TXL 015-15S               | D         | 15 Wan            | 15 VDC              | 1.0 A               |
| TXL 015-24S               |           |                   | 24 VDC              | 0.63 A              |
| TXL 015-48S               |           |                   | 48 VDC              | 0.32 A              |
| TXL 025-3.3S              |           |                   | 3.3 VDC             | 6.0 A               |
| TXL 025-05S               |           |                   | 5 VDC               | 5.0 A               |
| TXL 025-12S               | С         | 25 Watt           | 12 VDC              | 2.1 A               |
| TXL 025-15S               |           | 25 Wall           | 15 VDC              | 1.7 A               |
| TXL 025-24S               |           |                   | 24 VDC              | 1.1 A               |
| TXL 025-48S               |           |                   | 48 VDC              | 0.57 A              |
| TXL 035-3.3S              |           |                   | 3.3 VDC             | 9.0 A               |
| TXL 035-05S               |           |                   | 5 VDC               | 7.0 A               |
| TXL 035-12S               |           | 35 Watt           | 12 VDC              | 3.0 A               |
| TXL 035-15S               |           | 35 Wali           | 15 VDC              | 2.4 A               |
| TXL 035-24S               | D         |                   | 24 VDC              | 1.5 A               |
| TXL 035-48S               |           |                   | 48 VDC              | 0.8 A               |
| TXL 050-05S               |           |                   | 5 VDC               | 10.0 A              |
| TXL 060-12S               |           | 50 / 60 Watt      | 12 VDC              | 5.0 A               |
| TXL 060-15S               |           | 30 / 00 Wall      | 15 VDC              | 4.0 A               |
| TXL 060-24S               |           |                   | 24 VDC              | 2.5 A               |



| Models with Single Output |           |                   |                     |                     |
|---------------------------|-----------|-------------------|---------------------|---------------------|
| Order Code                | Case Type | Output Power max. | Output Voltage nom. | Output Current max. |
| TXL 060-3.3S              |           |                   | 3.3 VDC             | 15.0 A              |
| TXL 060-05S               |           |                   | 5 VDC               | 12.0 A              |
| TXL 070-12S               | E         | 60 / 70 Watt      | 12 VDC              | 6.0 A               |
| TXL 070-15S               | E         |                   | 15 VDC              | 4.8 A               |
| TXL 070-24S               |           |                   | 24 VDC              | 3.0 A               |
| TXL 070-48S               |           |                   | 48 VDC              | 1.5 A               |
| TXL 100-3.3S              |           |                   | 3.3 VDC             | 23.0 A              |
| TXL 100-05S               |           |                   | 5 VDC               | 20.0 A              |
| TXL 100-12S               |           | 100 Watt          | 12 VDC              | 8.5 A               |
| TXL 100-15S               | J         | 100 Wali          | 15 VDC              | 7.0 A               |
| TXL 100-24S               |           |                   | 24 VDC              | 4.3 A               |
| TXL 100-48S               |           |                   | 48 VDC              | 2.3 A               |
| TXL 150-05S               |           |                   | 5 VDC               | 30.0 A              |
| TXL 150-12S               | L         | 150 Watt          | 12 VDC              | 12.5 A              |
| TXL 150-24S               | L         | 150 Wali          | 24 VDC              | 6.3 A               |
| TXL 150-48S               |           |                   | 48 VDC              | 3.2 A               |
| TXL 230-12S*              |           |                   | 12 VDC              | 19.2 A              |
| TXL 230-24S*              | N         | 230 Watt          | 24 VDC              | 9.6 A               |
| TXL 230-48S*              |           |                   | 48 VDC              | 4.8 A               |
| TXL 350-24S*              | 0         | 350 Watt          | 24 VDC              | 14.7 A              |
| TXL 350-48S*              | <u> </u>  | 330 Wali          | 48 VDC              | 7.5 A               |
| TXL 750-24S*              | Р         | 750 Watt          | 24 VDC              | 31.3 A              |
| TXL 750-48S*              | r         | 7 50 VVdII        | 48 VDC              | 15.8 A              |
| TXL 1000-24S*             | Q         | 1000 Watt         | 24 VDC              | 40.0 A              |
| TXL 1000-48S*             | Q         | 1000 Watt         | 48 VDC              | 21.0 A              |

<sup>\*</sup> with internal fan (see dimensions)

| Models with Multiple Output |           |              |                |                |               |
|-----------------------------|-----------|--------------|----------------|----------------|---------------|
| Order Code                  | Case Type | Output Power | * Output1      | * Output 2     | * Output 3    |
|                             |           | max.         | (Main Output)  |                |               |
| TXL 035-0512D               |           |              | +5 VDC/ 4.0 A  | +12 VDC/ 2.5 A |               |
| TXL 035-0524D               | D         | 25 14/. 11   | +5 VDC/ 4.0 A  | +24 VDC/ 1.3 A |               |
| TXL 035-1212D               | J D       | 35 Watt      | +12 VDC/ 3.0 A | –12 VDC/ 1.5 A |               |
| TXL 035-1515D               |           |              | +15 VDC/ 2.4 A | –15 VDC/ 1.5 A |               |
| TXL 060-0512DI              |           |              | 5 VDC/ 8.0 A   | 12 VDC/ 4.0 A  |               |
| TXL 060-0524DI              |           |              | 5 VDC/ 6.0 A   | 24 VDC/ 2.2 A  |               |
| TXL 060-0521TI              | E         | 60 Watt      | 5 VDC/ 8.0 A   | 12 VDC/ 3.5 A  | 5 VDC/ 1.0 A  |
| TXL 060-0522TI              |           |              | 5 VDC/ 7.0 A   | 12 VDC/ 3.5 A  | 12 VDC/ 1.0 A |
| TXL 060-0533TI              |           |              | 5 VDC/ 7.0 A   | 15 VDC/ 3.0 A  | 15 VDC/ 1.0 A |
| TXL 060-0534TI              |           |              | 5 VDC/ 6.0 A   | 12 VDC/ 1.5 A  | 24 VDC/ 1.2 A |
| TXL 100-0512DI              |           |              | 5 VDC/ 12.0 A  | 12 VDC/ 7.0 A  |               |
| TXL 100-0524DI              |           |              | 5 VDC/ 12.0 A  | 24 VDC/ 3.5 A  |               |
| TXL 100-0521TI              |           | 100 Watt     | 5 VDC/ 12.0 A  | 12 VDC/ 5.0 A  | 5 VDC/ 1.5 A  |
| TXL 100-0522TI              | J         | 100 Wall     | 5 VDC/ 12.0 A  | 12 VDC/ 5.0 A  | 12 VDC/ 1.5 A |
| TXL 100-0533TI              |           |              | 5 VDC/ 12.0 A  | 15 VDC/ 4.0 A  | 15 VDC/ 1.5 A |
| TXL 100-0534TI              |           |              | 5 VDC/ 12.0 A  | 12 VDC/ 4.0 A  | 24 VDC/ 2.0 A |

 $<sup>^{\</sup>star}$  Total power must not exceed specified max. output power



**Input Specifications** Input voltage range 100 - 240 VAC - nominal - AC range (universal input) 85 - 264 VAC for 15 to 350 Watt model 90 - 264 VAC for 750 & 1000 Watt models 120 - 375 VDC for 15 to 350 Watt model - DC range 127 - 375 VDC for 750 & 1000 Watt models 47 - 63 Hz Input voltage frequency Input current (at full load) Vin = 115 VACVin = 230 VACTXL 015/025 models: **0.50 A typ.** 0.22 A typ. TXL 035 models: **0.70 A typ.** 0.42 A typ. TXL 060/070 models: 1.00 A typ. 0.60 A typ. TXL 100 models: 1.65 A typ. 0.95 A typ. TXL 150 models: **2.10 A typ.** 1.10 A typ. TXL 230 models: **3.20 A typ.** 1.70 A typ. TXL 350 models: 3.30 A typ. 1.70 A typ. TXL 750 models: 8.0 A typ. 3.90 A typ TXL 1000 models: 11.0 A typ. 5.0 A typ. Vin = 230 VACVin = 115 VAC**Input current** (at no load) TXL 015/025 models: 10 mA typ. 17 mA typ. 55 mA typ. TXL 035 models: 50 mA typ. 115 mA typ. TXL 230/350 models: 140 mA typ. TXI 750 models: 210 mA tvp. 220 mA typ.

|                                      | TXL 1000 models: other models: | 330 mA typ. | 350 mA typ.<br>80 mA typ. |
|--------------------------------------|--------------------------------|-------------|---------------------------|
| Recommended circuit breaker          | up to 70 Watt models:          | 5 A         |                           |
| (characteristic C) or slow blow fuse | up to 350 Watt models:         | 10 A        |                           |

|                                 | TXL 75   | 0 & 1000 Watt models:  | 16 A  |
|---------------------------------|--|--|---|
| Output Specification            | S  |  |   |
| Output voltage adjustment range |  | ±10 % - 35 Watt dual output models: range Vout 1-2 - other multi output models: Vout 1 |   |
| Regulation                      | <ul><li>Input variation</li><li>Load variation (10–100%)</li><li>Minimum load on main output</li><li>(to provide the regulation on</li></ul> |  | 4 % max. for main output<br>6 % max. for output 2/3 (20–100 % load) |
| Ripple and noise (20 MHz        |  | 3.3 VDC output<br>(on triple output models)<br>all other output voltages               | < 1.5 % of Vout   |
| Output current limitation       |  |  | 105 % – 150 % of lout max.  |
| Overload protection mode        |  |  | Fold back, automatic recovery                                       |
| Over voltage protection (o      | nly output 1)  |  | 115 % – 140 % of Vout nom.<br>(depending on model)                  |

Capacitive load, max.

www.tracopower.com/products/txl-capload.pdf



| General Specification                         | ns en   |  |  |
|---|---|--|--|
| Temperature ranges                            | <ul><li>Operating</li><li>Load derating above +45°C</li><li>Storage (non operating)</li></ul>   | -20°C to +70°C<br>2 %/°K (2.5 %/°K for TXL 120/230/1000)<br>-40°C to +85°C   |  |
| Temperature coefficient                       |   | 0.02 %/°C  |  |
| Efficiency                                    |   | 70 – 84 % (depending on model)   |  |
| Humidity (non condensing)                     |   | 85 % rel max. (non condensing)   |  |
| Switching frequency                           |   | 50 kHz typ. (pulse width modulation)   |  |
| Hold-up time                                  |   | 20 ms min.   |  |
| Isolation voltage (60 sec.)                   | <ul> <li>Input/Output</li> <li>Input/Case</li> <li>Output/Case</li> <li>Output/Output</li> <li>60–100 Watt multiple output model</li> <li>35 Watt dual output model</li> </ul>                                  |  |  |
| Reliability /calculated MTBF                  | (MIL-HDBK-217F, at +25°C typ., ground benign)   | >250′000 h   |  |
|   | - Conducted input RI suppression - Harmonic current emissions - Flicker   | EN 55022, class B, FCC part 15, level B<br>IEC/EN 61000-3-2, class D (TXL 120/150/220)<br>IEC/EN 61000-3-2, class A (others)<br>IEC/EN 61000-3-3   |  |
| Electromagnetic compatibility (EMC), Immunity | <ul> <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> | IEC/EN 61000-4-2  4 kV / 8 kV IEC/EN 61000-4-3  3 V/m IEC/EN 61000-4-4  1 kV IEC/EN 61000-4-5  1 kV / 2 kV IEC/EN 61000-4-6  3 V/m IEC/EN 61000-4-8  3 A/m IEC/EN 61000-4-11   |  |
| Safety standards                              |   | UL 60950-1, IEC/EN 60950-1 2nd edition   |  |
| Safety approvals                              | - UL/cUL - CB report TXL 015 model TXL 025 model TXL 035 model TXL 060/070 model TXL 100 model TXL 150 model TXL 230 model TXL 350 model TXL 750 model TXL 750 model TXL 1000 model                             | www.tracopower.com/products/txl025-cb.pdf<br>www.tracopower.com/products/txl035-cb.pdf<br>www.tracopower.com/products/txl060-cb.pdf<br>www.tracopower.com/products/txl100-cb.pdf<br>www.tracopower.com/products/txl150-cb.pdf<br>www.tracopower.com/products/txl230-cb.pdf<br>www.tracopower.com/products/txl350-cb.pdf<br>www.tracopower.com/products/txl350-cb.pdf |  |
| Environmental compliance                      | - Reach<br>- RoHS   | www.tracopower.com/products/reach-declaration.pdf<br>RoHS directive 2011/65/EU   |  |
| Casing material                               | TXL 025/03<br>TXL 50/60/70/10<br>othe   | O aluminium (chassis), nickel plated steel (cover)   |  |

All specifications valid at nominal input voltage, full load and  $+25^{\circ}\text{C}$  after warm-up time unless otherwise stated.

51

#### **Case Dimensions**

#### Case B

**Weight:** 0.13 kg (4.6 oz)



**Weight:** 0.19 kg (6.7 oz)

## 2x M3 THD 2 2 5 5 5 5 5 6 5 (2.56) 3 (0.12)

2x M3 THD

(1.54)

Top view:

39.1

(1.54)

62 (2.44)

14 max.

(0.55 max.)

Vout

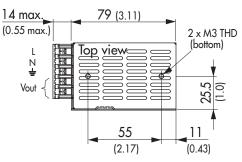
11.5

(0.45)

2 x M3 THD

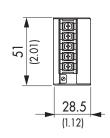
(bottom)

(0.58)



2x M3 THD

74 (2.91)



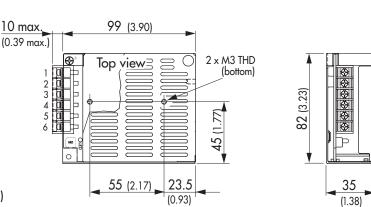
28.0

(1.10)

#### Case D

| Connection |              |        |  |
|------------|--------------|--------|--|
|            | single       | dual   |  |
| 1          | AC L         | AC L   |  |
| 2          | AC N         | AC N   |  |
| 3          | PE PE        |        |  |
| 4          | -Vout Common |        |  |
| 5          | +Vout Vout 1 |        |  |
| 6          | No con.      | Vout 2 |  |

Weight: 0.3 kg (10 oz)



(0.28)

Max mounting screw penetration: 2.0 mm (0.08)

#### **Case Dimensions**

#### Case E

|   | Connection |         |          |  |
|---|------------|---------|----------|--|
|   | Single     | Dual    | Triple   |  |
| 1 | AC L       | AC L    | AC L     |  |
| 2 | AC N       | AC N    | AC N     |  |
| 3 | PE         | PE      | PE       |  |
| 4 | -Vout      | No con. | +Vout 3* |  |
| 5 | -Vout      | No con  | -Vout 3* |  |
| 6 | +Vout      | -Vout 1 | -Vout 1  |  |
| 7 | +Vout      | +Vout 1 | +Vout 1  |  |
| 8 | _          | -Vout 2 | -Vout 2  |  |
| 9 | _          | +Vout 2 | +Vout 2  |  |

<sup>\*</sup> Opposite polarity for TXL 060-0534TI

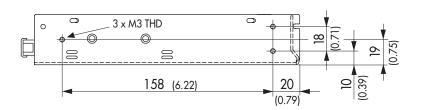
3 x M3 THD 118 (4.65)(0.75) 10 max. 159 (6.26) (0.39 max.) 123456789 Top view 2 x M3 THD (bottom) (3.74)4 5 6 7 95 Single output Dual & Triple output models 57 38 78 (3.07)(0.95)(1.50)

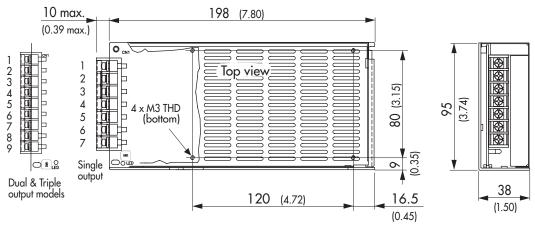
**Weight:** 0.7 kg (25 oz)

#### Case J

|   | Connection |         |          |  |  |
|---|------------|---------|----------|--|--|
|   | Single     | Dual    | Triple   |  |  |
| 1 | AC L       | AC L    | AC L     |  |  |
| 2 | AC N       | AC N    | AC N     |  |  |
| 3 | PE         | PE      | PE       |  |  |
| 4 | -Vout      | No con. | +Vout 3* |  |  |
| 5 | -Vout      | No con  | -Vout 3* |  |  |
| 6 | +Vout      | -Vout 1 | -Vout 1  |  |  |
| 7 | +Vout      | +Vout 1 | +Vout 1  |  |  |
| 8 | _          | -Vout 2 | -Vout 2  |  |  |
| 9 | _          | +Vout 2 | +Vout 2  |  |  |

<sup>\*</sup> Opposite polarity for TXL 100-0534TI





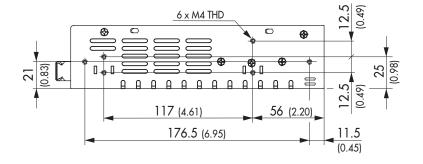
**Weight:** 0.8 kg (28 oz)

Max mounting screw penetration: 3.0 mm (0.12)

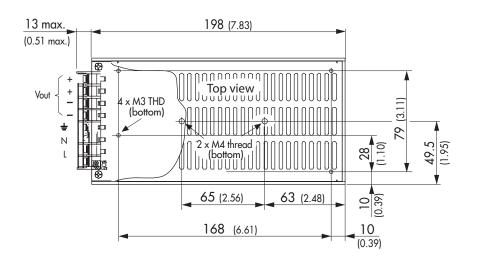


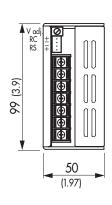
#### **Case Dimensions**

#### Case L



|    | Connector                                       |  |  |
|----|---|--|--|
| RC | Remote Control On/Off:                          |  |  |
|    | Remote Control On/Off:<br>RC+/RC-: O-0.7 V = On |  |  |
|    | 3-10 V = Off.                                   |  |  |
| RS | Remote Sense                                    |  |  |
|    | Can be open or connected to                     |  |  |
|    | the load under regard of polarity               |  |  |



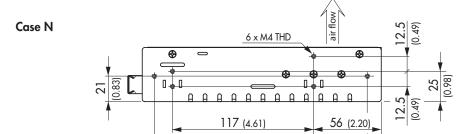


Weight: 0.89 kg (31 oz)

4x TXL-CMB chassis mount brackets included in shipment

Max mounting screw penetration: 3.0 mm (0.12)

#### **Outline Dimensions**

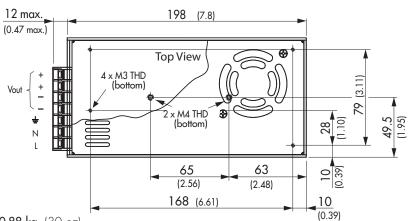


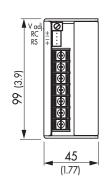
176.5 (6.95)

11.5

(0.45)

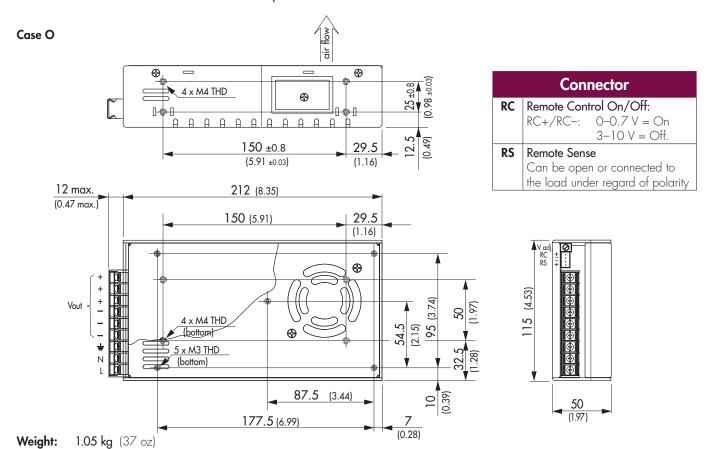
# Connector RC Remote Control On/Off: RC+/RC−: 0-0.7 V = On 3-10 V = Off. RS Remote Sense Can be open or connected to the load under regard of polarity





Weight: 0.88 kg (30 oz)

4x TXL-CMB chassis mount brackets included in shipment



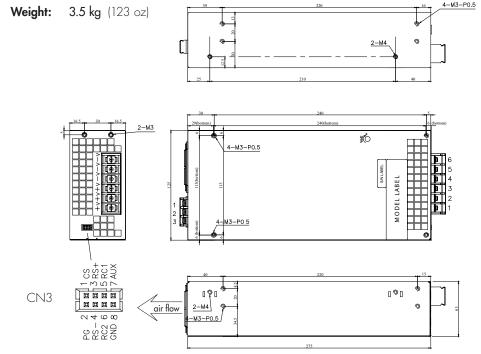
4x TXL-CMB chassis mount brackets included in shipment

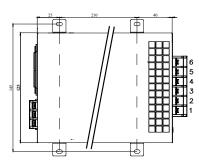
Max mounting screw penetration: 3.0 mm (0.12)



#### **Outline Dimensions**

#### Case P





TXL-CMB chassis mount bracket set (4pcs) included in shipment. For dimensions see page 11.

Max mounting screw penetration: 3.0 mm (0.12)

#### CN3 pin consideration:

Current sharing to interconnect up to 3 units at parallel operation

Max power = units  $\times$  0.9, max deviation of voltage adjustment among units = 100 mV

Power Good Signal. TTL (3mA max.): 0 - 1 VDC = DC-Off, 3.3 - 5.6 VDC = DC-OK Pin 2:

Pin 3/4: Remote sense to be connected at load side under regard of polarity

Pin 5/6: Remote control input RC1& RC2

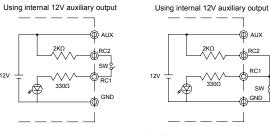
Auxillary output 12VDC/0.1A for remote control function Pin 7/8

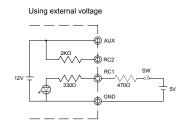
#### Mating connector:

Housing: HRS DF11-08DS-2C Crimp: HRS DF11-EP22SCB

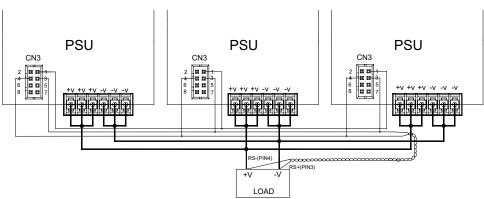
Connection cable with 500mm flyind leads included!

#### Remote On/Off function:





#### Parallel operation:

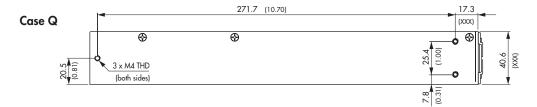


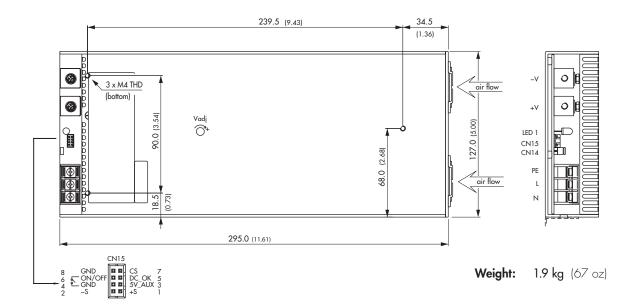
SW

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



#### **Outline Dimensions**





**Caution!** Max mounting screw penetration: 3.0 mm (0.12)

TXL-CMB1 chassis mount bracket set (4pcs) included in shipment. For dimensions see page 11.

Dimensions in [mm], () = Inch Tolerances  $\pm 0.8 \ (\pm 0.03)$  Monting hole pich tolerances  $\pm 0.5 \ (\pm 0.02)$ 

CN14 Jumper on CN14 disables the Remote Off function

CN15 On/Off (pin 4 & 6): Contact closed = Power On, Contact open = Power Off

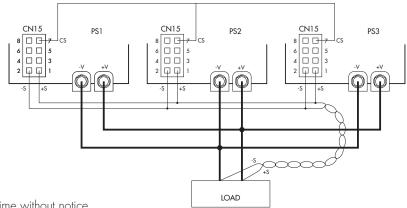
CN15 -S/+S (pin 1 & 2): Remote sense to be connected at load side under regard of polarity

CN15 5V Aux (pin 3 & 8): Auxiliary output 5 VDC / 0.5 A

CN15 DC-OK (pin 5 & 8): TTL signal (2.2 mA max.): 0 - 1 VDC = DC-Off, 3.3 - 5.6 VDC = DC-OK

CN15 CS (pin 7): Current Sharing to interconnect up to 4 units at parallel operation Max power = units  $\times$  0.9, max deviation of voltage adjustment among units = 100 mV

#### Parallel operation:



Specifications can be changed any time without notice.



#### **Chassi Mount Brackets**

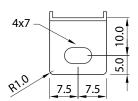
The chassi mount brackets are bypacked along with the following models:

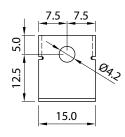
#### Order code: TXL-CMB

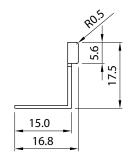
contains 4pcs brackets and screws

For series models:

- TXL 150; Case L
- TXL 230; Case N
- TXL 350; Case O
- TXL 750; Case P





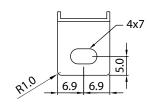


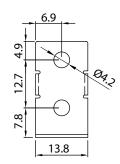
#### Order code: TXL-CMB1

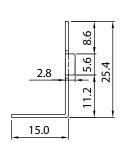
contains 4pcs brackets and screws

For series models:

• TXL 1000; Case Q







Note:

Material: S.P.C.C.
 Thickness: 0.8mm
 Treatment: Nickel plated

4. Unit: mm

### **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

#### TRACO Power:

TXL 060-0534TI TXL 025-05S TXL 060-12S TXL 070-24S TXL 035-0512D TXL 035-24S TXL 100-24S TXL 100-0522TI TXL 035-1212D TXL 100-0534TI TXL 060-0533TI TXL 350-48S TXL 060-24S TXL 025-24S TXL 035-0524D TXL 350-24S TXL 100-48S TXL 025-12S TXL 035-1515D TXL 060-0522TI TXL 150-05S TXL 060-0524DI TXL 150-24S TXL 060-0512DI TXL 070-15S TXL 070-48S TXL 150-48S TXL 015-05S TXL 035-15S TXL 100-15S TXL 150-12S TXL 015-15S TXL 060-15S TXL 230-24S TXL 015-3.3S TXL 060-3.3S TXL 060-05S TXL 100-0524DI TXL 015-12S TXL 750-24S TXL 035-05S TXL 025-3.3S TXL 050-05S TXL 100-12S TXL 100-05S TXL 100-3.3S TXL 025-15S TXL 015-24S TXL 100-0512DI TXL 100-0521TI TXL 100-0533TI TXL 035-12S TXL 060-0521TI TXL 1000-24S TXL 035-48S TXL 070-12S TXL 1000-48S TXL 025-48S TXL 230-48S TXL 035-3.3S TXL 230-12S TXL 015-48S