

## 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 enclosed 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	B	15 Watt	3.3 VDC	3.0 A
TXL 015-05S			5 VDC	3.0 A
TXL 015-12S			12 VDC	1.3 A
TXL 015-15S			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	C	25 Watt	3.3 VDC	6.0 A
TXL 025-05S			5 VDC	5.0 A
TXL 025-12S			12 VDC	2.1 A
TXL 025-15S			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	D	35 Watt	3.3 VDC	9.0 A
TXL 035-05S			5 VDC	7.0 A
TXL 035-12S			12 VDC	3.0 A
TXL 035-15S			15 VDC	2.4 A
TXL 035-24S		24 VDC	1.5 A	
TXL 035-48S		48 VDC	0.8 A	
TXL 050-05S		50 / 60 Watt	5 VDC	10.0 A
TXL 060-12S	12 VDC		5.0 A	
TXL 060-15S	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 TXL 060-05S TXL 070-12S TXL 070-15S TXL 070-24S TXL 070-48S	E	60 / 70 Watt	3.3 VDC 5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	15.0 A 12.0 A 6.0 A 4.8 A 3.0 A 1.5 A
TXL 100-3.3S TXL 100-05S TXL 100-12S TXL 100-15S TXL 100-24S TXL 100-48S	J	100 Watt	3.3 VDC 5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	23.0 A 20.0 A 8.5 A 7.0 A 4.3 A 2.3 A
TXL 150-05S TXL 150-12S TXL 150-24S TXL 150-48S	L	150 Watt	5 VDC 12 VDC 24 VDC 48 VDC	30.0 A 12.5 A 6.3 A 3.2 A
TXL 230-12S* TXL 230-24S* TXL 230-48S*	N	230 Watt	12 VDC 24 VDC 48 VDC	19.2 A 9.6 A 4.8 A
TXL 350-24S* TXL 350-48S*	O	350 Watt	24 VDC 48 VDC	14.7 A 7.5 A
TXL 750-24S* TXL 750-48S*	P	750 Watt	24 VDC 48 VDC	31.3 A 15.8 A
TXL 1000-24S* TXL 1000-48S*	Q	1000 Watt	24 VDC 48 VDC	40.0 A 21.0 A

\* with internal fan (see dimensions)

**Models with Multiple Output**

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

\* Total power must not exceed specified max. output power

**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>	<p>100 – 240 VAC              85 – 264 VAC for 15 to 350 Watt model              90 – 264 VAC for 750 &amp; 1000 Watt models              120 – 375 VDC for 15 to 350 Watt model              127 – 375 VDC for 750 &amp; 1000 Watt models</p>
Input voltage frequency		47 – 63 Hz
Input current (at full load)		<p><math>V_{in} = 115 \text{ VAC}</math>      <math>V_{in} = 230 \text{ VAC}</math></p> <p>TXL 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.</p>
Input current (at no load)		<p><math>V_{in} = 115 \text{ VAC}</math>      <math>V_{in} = 230 \text{ VAC}</math></p> <p>TXL 015/025 models: 10 mA typ.      17 mA typ.              TXL 035 models: 50 mA typ.      55 mA typ.              TXL 230/350 models: 115 mA typ.      140 mA typ.              TXL 750 models: 210 mA typ.      220 mA typ.              TXL 1000 models: 330 mA typ.      350 mA typ.              other models: 100 mA typ.      80 mA typ.</p>
Recommended circuit breaker (characteristic C) or slow blow fuse	<ul style="list-style-type: none"> <li>up to 70 Watt models:</li> <li>up to 350 Watt models:</li> <li>TXL 750 &amp; 1000 Watt models:</li> </ul>	<p>5 A              10 A              16 A</p>

**Output Specifications**

Output voltage adjustment range		<p><math>\pm 10\%</math>              – 35 Watt dual output models: range <math>V_{out} 1-2</math>              – other multi output models: <math>V_{out} 1</math></p>
Regulation	<ul style="list-style-type: none"> <li>– Input variation</li> <li>– Load variation (10–100%)</li> <li>– Minimum load on main output of multiple output models: (to provide the regulation on the auxiliary outputs)</li> </ul>	<p>1 % max.              single output models: 2 % max.              multiple output models: 4 % max. for main output              6 % max. for output 2/3 (20–100 % load)              0.3 A for TXL 035              1.0 A for TXL 060              1.5 A for TXL 100</p>
Ripple and noise (20 MHz bandwidth)	<ul style="list-style-type: none"> <li>3.3 VDC output</li> <li>Output 3 (on triple output models)</li> <li>all other output voltages</li> </ul>	<p>&lt; 50 mV              &lt; 1.5 % of <math>V_{out}</math>              &lt; 1.0 % of <math>V_{out}</math> nom.</p>
Output current limitation		105 % – 150 % of $I_{out}$ max.
Overload protection mode		Fold back, automatic recovery
Over voltage protection (only output 1)		115 % – 140 % of $V_{out}$ nom. (depending on model)
Capacitive load, max.		<a href="http://www.tracopower.com/products/txl-capload.pdf">www.tracopower.com/products/txl-capload.pdf</a>

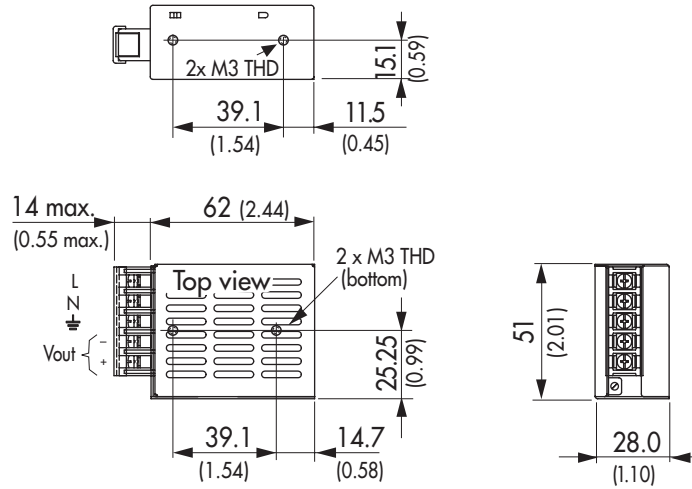
**General Specifications**

Temperature ranges	<ul style="list-style-type: none"> <li>- Operating</li> <li>- Load derating above +45°C</li> <li>- Storage (non operating)</li> </ul>	<p>-20°C to +70°C 2 %/°K (2.5 %/°K for TXL 120/230/1000) -14°C to +85°C</p>
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 style="list-style-type: none"> <li>- Input/Output</li> <li>- Input/Case</li> <li>- Output/Case</li> <li>- Output/Output</li> </ul>	<p>3'000 VAC 1'500 VAC 500 VAC</p> <p>60–100 Watt multiple output models: 500 VAC (for all outputs of triple output models!) 35 Watt dual output models: outputs not isolated</p>
Reliability /calculated MTBF (MIL-HDBK-217F, at +25°C typ., ground benign)		>250'000 h
Electromagnetic compatibility (EMC), Emissions	<ul style="list-style-type: none"> <li>- Conducted input RI suppression</li> <li>- Harmonic current emissions</li> <li>- Flicker</li> </ul>	<p>EN 55022, class B, FCC part 15, level B IEC/EN 61000-3-2, class D (TXL 120/150/220) IEC/EN 61000-3-2, class A (others) IEC/EN 61000-3-3</p>
Electromagnetic 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>	<p>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</p>
Safety standards		UL 60950-1, IEC/EN 60950-1 2nd edition
Safety approvals	<ul style="list-style-type: none"> <li>- UL/cUL</li> <li>- CB report</li> </ul>	<p><a href="http://www.ul.com">www.ul.com</a> -&gt; certifications -&gt; File: e188913</p> <p>TXL 015 models: <a href="http://www.tracopower.com/products/txl015-cb.pdf">www.tracopower.com/products/txl015-cb.pdf</a> TXL 025 models: <a href="http://www.tracopower.com/products/txl025-cb.pdf">www.tracopower.com/products/txl025-cb.pdf</a> TXL 035 models: <a href="http://www.tracopower.com/products/txl035-cb.pdf">www.tracopower.com/products/txl035-cb.pdf</a> TXL 060/070 models: <a href="http://www.tracopower.com/products/txl060-cb.pdf">www.tracopower.com/products/txl060-cb.pdf</a> TXL 100 models: <a href="http://www.tracopower.com/products/txl100-cb.pdf">www.tracopower.com/products/txl100-cb.pdf</a> TXL 150 models: <a href="http://www.tracopower.com/products/txl150-cb.pdf">www.tracopower.com/products/txl150-cb.pdf</a> TXL 230 models: <a href="http://www.tracopower.com/products/txl230-cb.pdf">www.tracopower.com/products/txl230-cb.pdf</a> TXL 350 models: <a href="http://www.tracopower.com/products/txl350-cb.pdf">www.tracopower.com/products/txl350-cb.pdf</a> TXL 750 models: <a href="http://www.tracopower.com/products/txl750-cb.pdf">www.tracopower.com/products/txl750-cb.pdf</a> TXL 1000 models: <a href="http://www.tracopower.com/products/txl1000-cb.pdf">www.tracopower.com/products/txl1000-cb.pdf</a></p>
Environmental compliance	<ul style="list-style-type: none"> <li>- Reach</li> <li>- RoHS</li> </ul>	<p><a href="http://www.tracopower.com/products/txl-reach.pdf">www.tracopower.com/products/txl-reach.pdf</a> RoHS directive 2011/65/EU</p>
Casing material	<ul style="list-style-type: none"> <li>TXL 025/035</li> <li>TXL 50/60/70/100</li> <li>others</li> </ul>	<p>nickel plated steel (chassis &amp; cover) aluminium (chassis), nickel plated steel (cover) aluminium (chassis &amp; cover)</p>

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

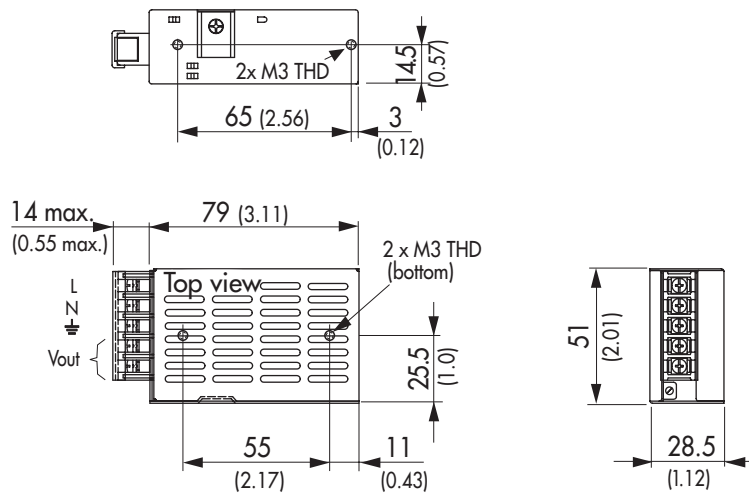
**Case Dimensions**

Case B



Weight: 0.13 kg (4.6 oz)

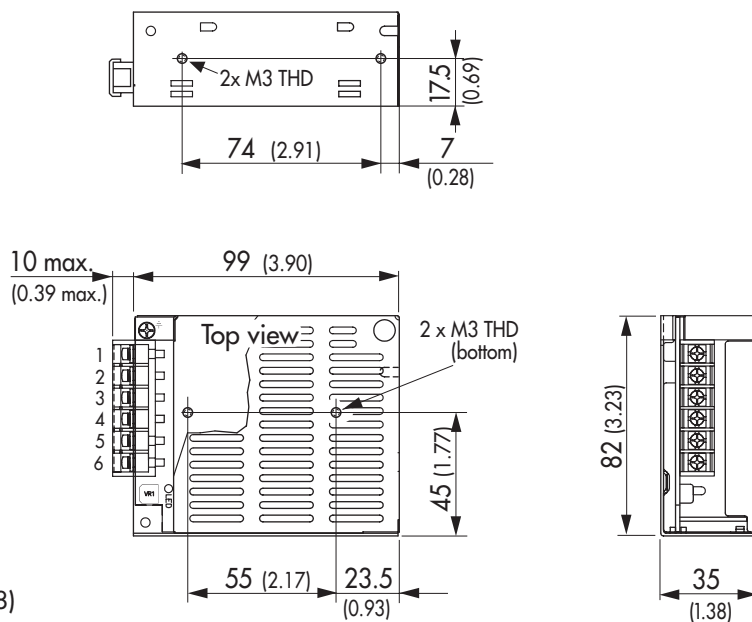
Case C



Weight: 0.19 kg (6.7 oz)

Case D

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



Weight: 0.3 kg (10 oz)

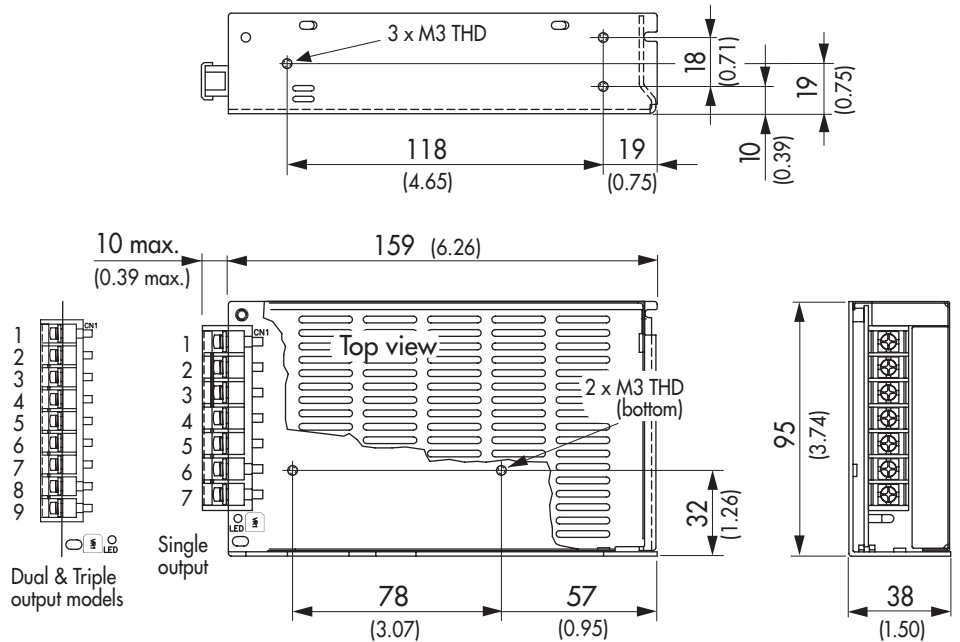
Max mounting screw penetration: 2.0 mm (0.08)

**Case Dimensions**

Case E

Connection			
	Single	Dual	Triple
1	AC L	AC L	AC L
2	AC N	AC N	AC N
3	AC FG	AC FG	AC FG
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

\* Opposite polarity for TXL 060-0534TI

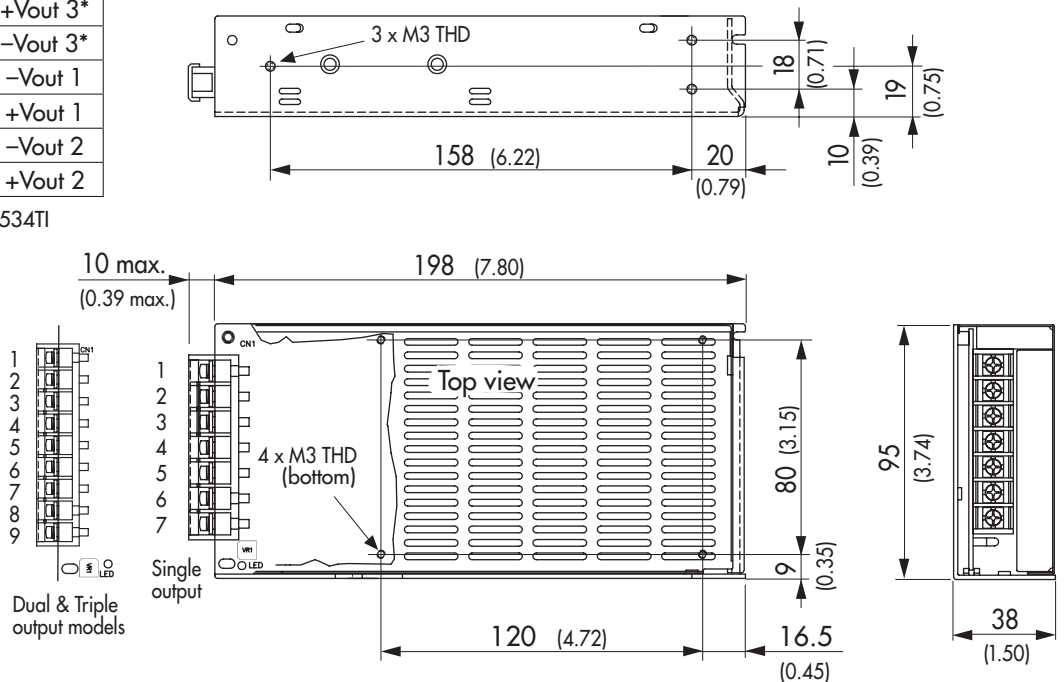


Weight: 0.7 kg (25 oz)

Case J

Connection			
	Single	Dual	Triple
1	AC L	AC L	AC L
2	AC N	AC N	AC N
3	AC FG	AC FG	AC FG
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

\* Opposite polarity for TXL 100-0534TI

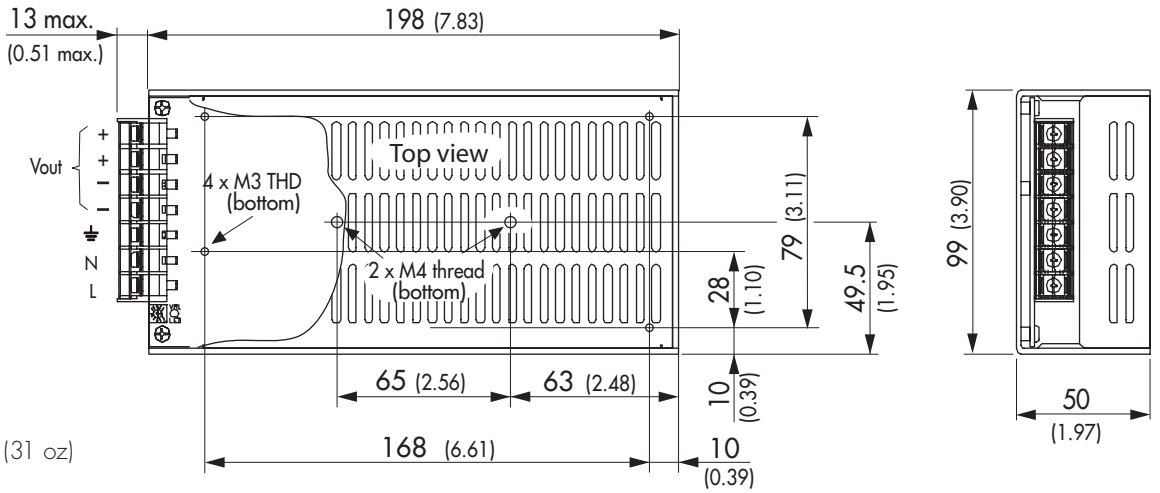
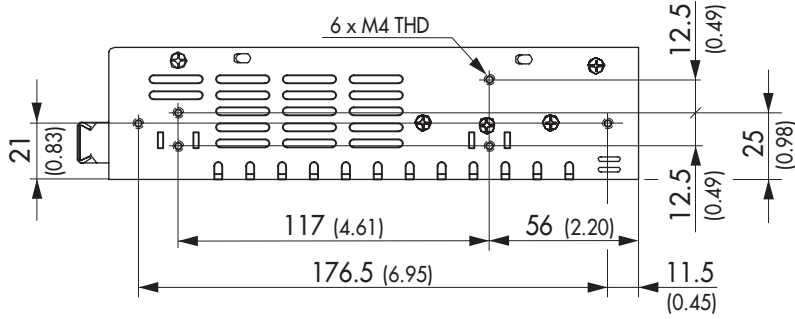


Weight: 0.8 kg (28 oz)

Max mounting screw penetration: 3.0 mm (0.12)

**Case Dimensions**

Case L



Weight: 0.89 kg (31 oz)

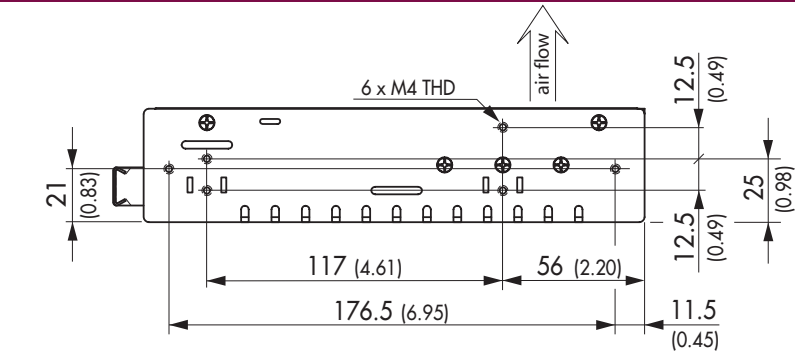
4x TXL-CMB chassis mount brackets included in shipment

Max mounting screw penetration: 3.0 mm (0.12)

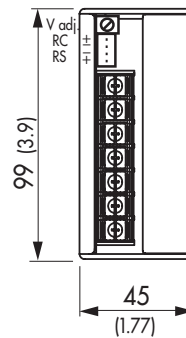
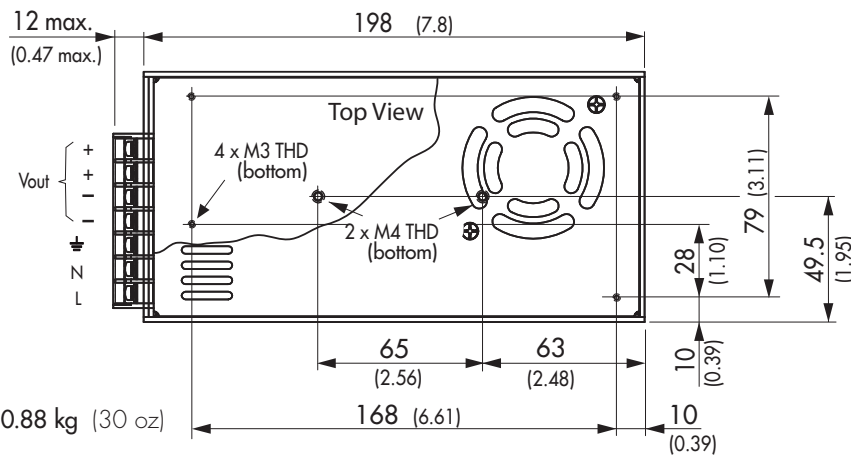


**Outline Dimensions**

Case N



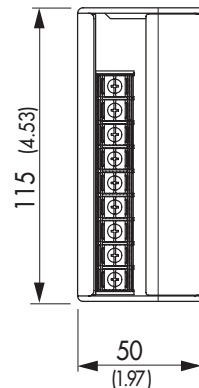
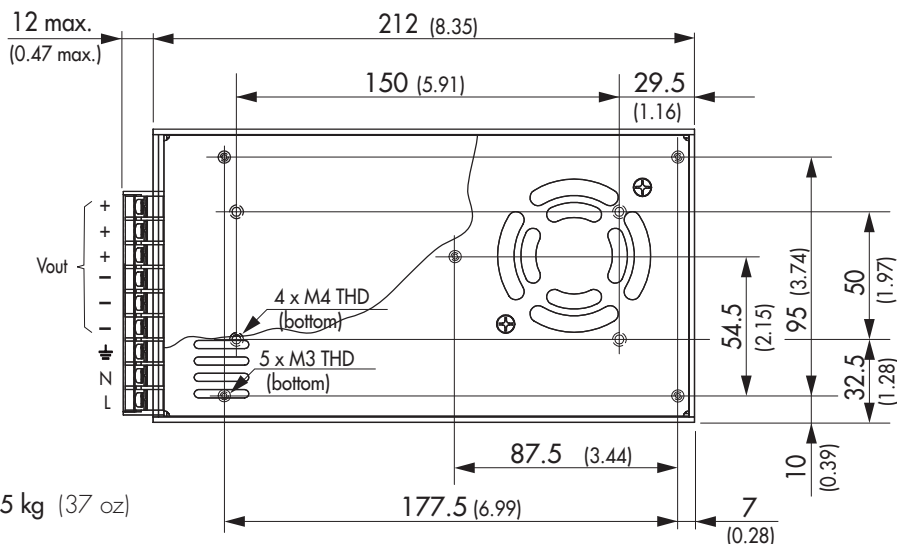
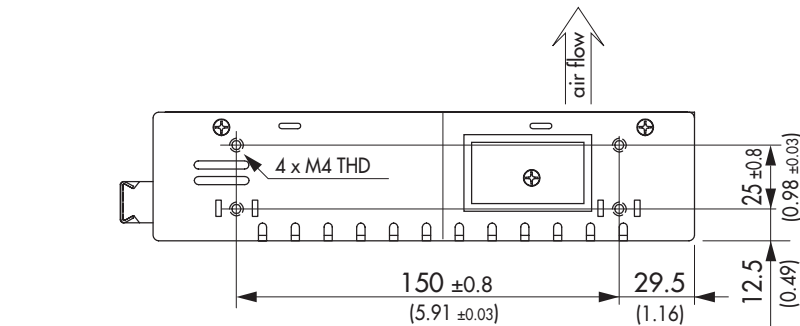
Connector	
RC	Remote Control On/Off: RC+/RC-: 0–0.7 V = On 3–10 V = Off.
RS	Remote Sense Can be open or connected to the load under regard of polarity



Weight: 0.88 kg (30 oz)

4x TXL-CMB chassis mount brackets included in shipment

Case O



Weight: 1.05 kg (37 oz)

4x TXL-CMB chassis mount brackets included in shipment

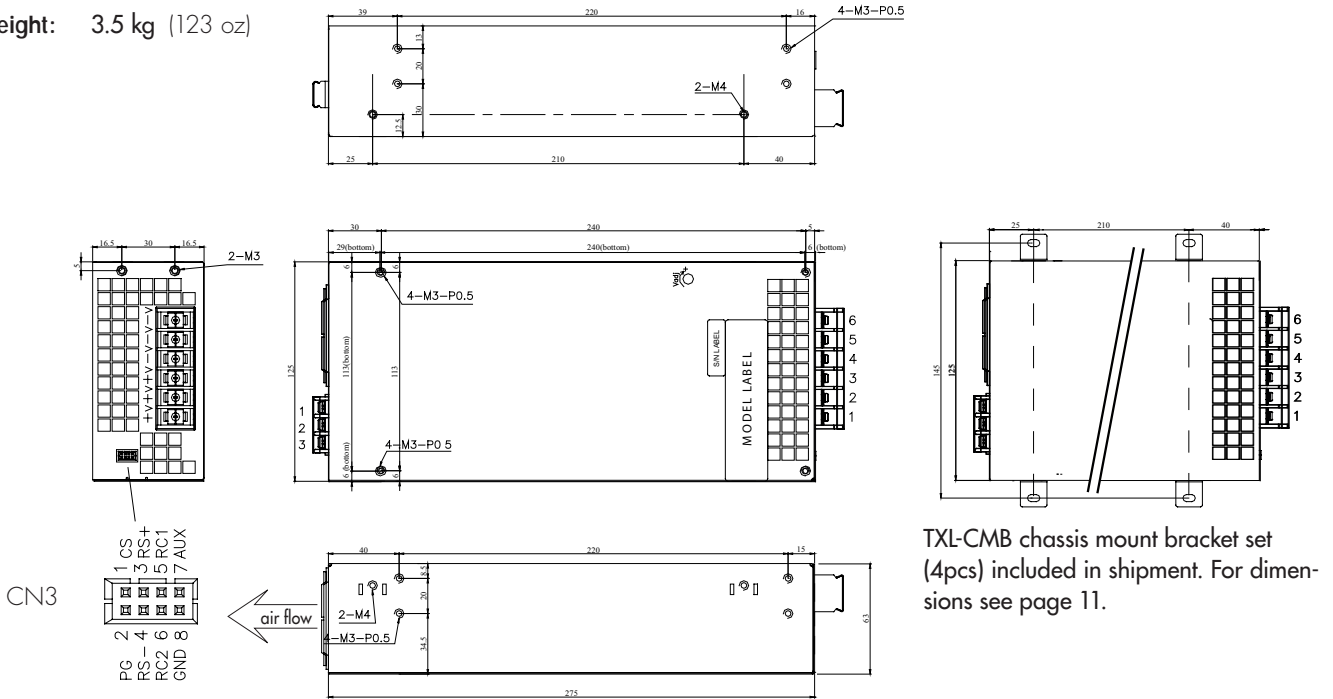
Max mounting screw penetration: 3.0 mm (0.12)



**Outline Dimensions**

Case P

Weight: 3.5 kg (123 oz)



Max mounting screw penetration: 3.0 mm (0.12)

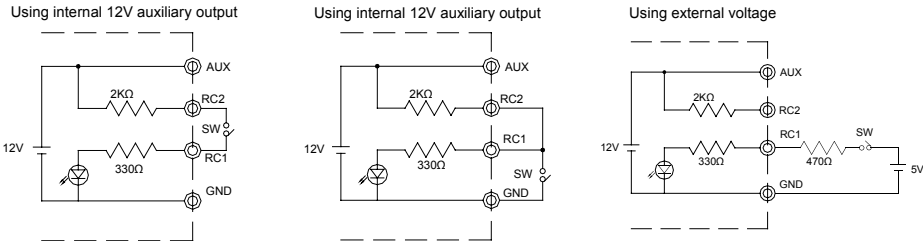
**CN3 pin consideration:**

- Pin 1: Current sharing to interconnect up to 3 units at parallel operation  
Max power = units x 0.9, max deviation of voltage adjustment among units = 100mV
- Pin 2: Power Good Signal. TTL (3mA max.): 0 – 1 VDC = DC-Off, 3.3 – 5.6 VDC = DC-OK
- Pin 3/4: Remote sense to be connected at load side under regard of polarity
- Pin 5/6: Remote control input RC1 & RC2
- Pin 7/8: Auxillary output 12VDC/0.1A for remote control function

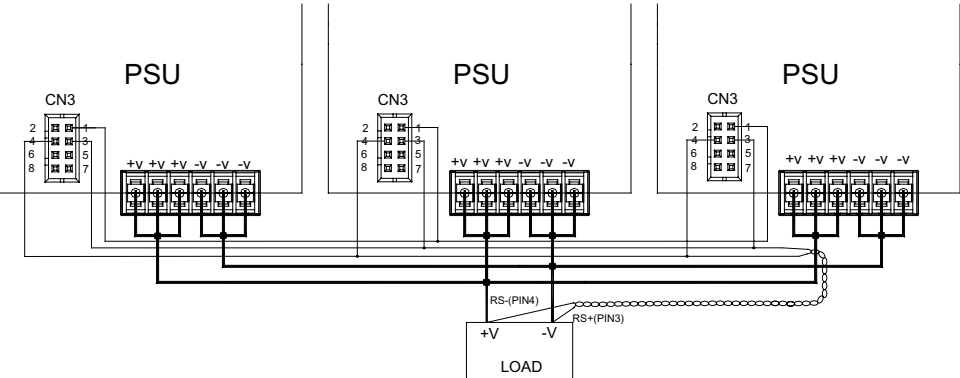
**Mating connector:**  
Housing: HRS DF11-08DS-2C  
Crimp: HRS DF11-EP22SCB

Connection cable with 500mm flyind leads included!

**Remote On/Off function:**

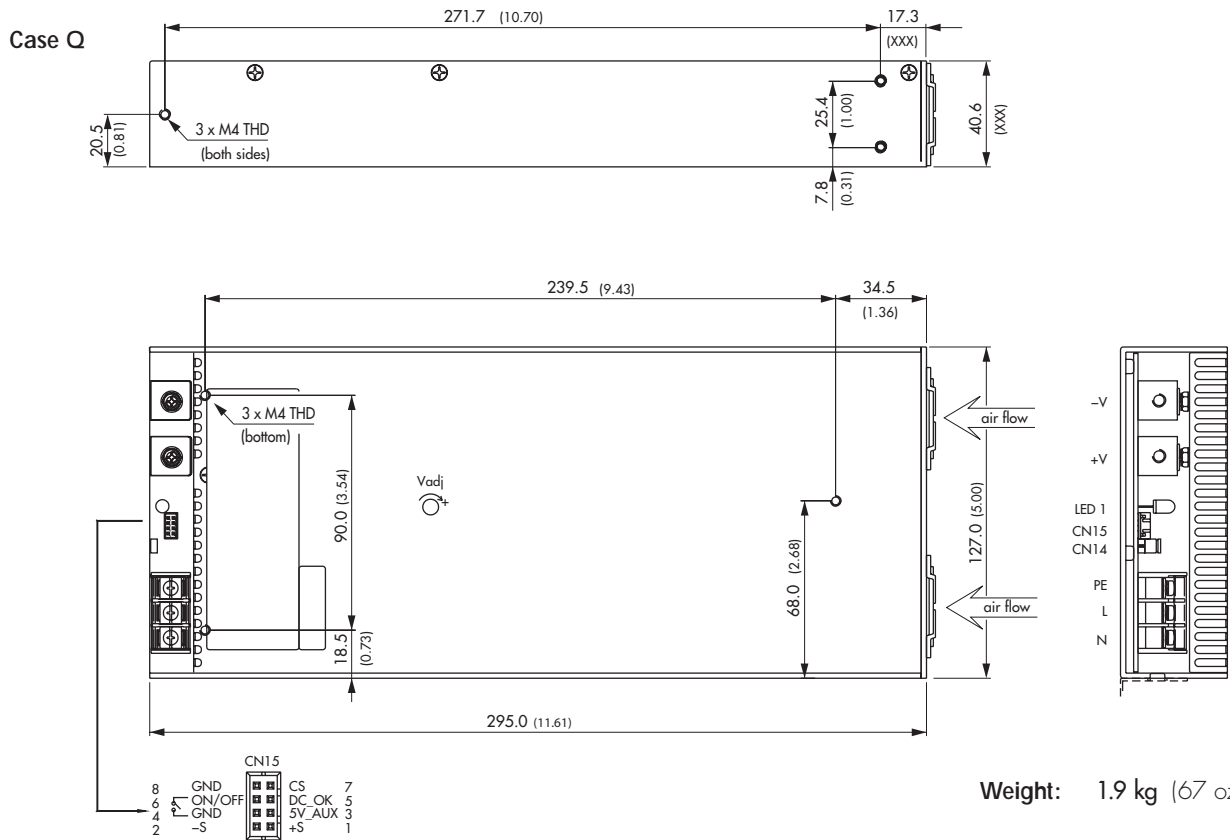


**Parallel operation:**



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

**Outline Dimensions**



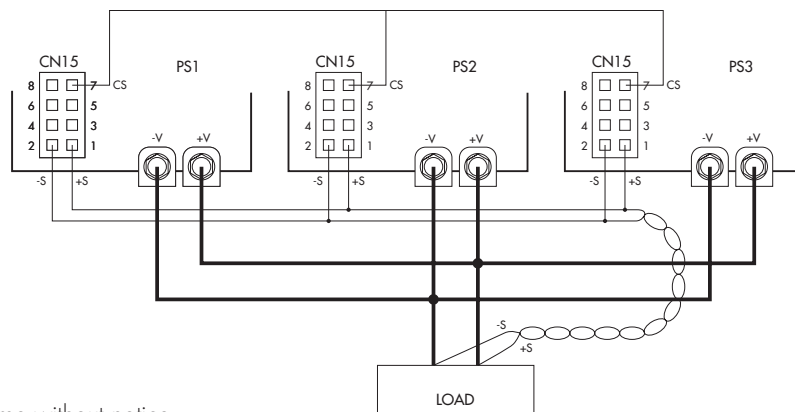
**Caution!** Max mounting screw penetration: 3.0 mm (0.12)

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

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

- 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 x 0.9, max deviation of voltage adjustment among units = 100mV

Parallel operation:



Specifications can be changed any time without notice.

**Chassi Mount Brackets**

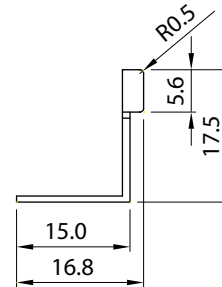
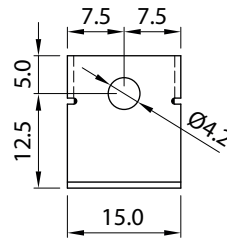
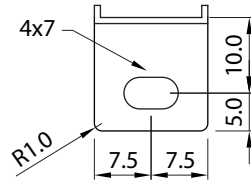
The chassi mount brackets are bypacked along with the following models:

**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

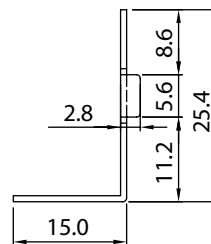
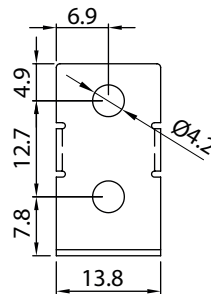
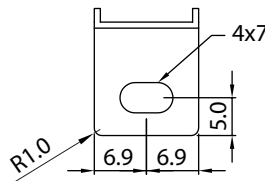


**Order code: TXL-CMB1**

contains 4pcs brackets and screws

For series models:

- TXL 1000; Case Q



Note:

1. Material: S.P.C.C.
2. Thickness: 0.8mm
3. Treatment: Nickel plated
4. Unit: mm