

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 69 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 TXL 015-05S TXL 015-12S TXL 015-15S TXL 015-24S TXL 015-48S	B	15 Watt	3.3 VDC 5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	3.0 A 3.0 A 1.3 A 1.0 A 0.63 A 0.32 A
TXL 025-3.3S TXL 025-05S TXL 025-12S TXL 025-15S TXL 025-24S TXL 025-48S	C	25 Watt	3.3 VDC 5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	6.0 A 5.0 A 2.1 A 1.7 A 1.1 A 0.57 A
TXL 035-3.3S TXL 035-05S TXL 035-12S TXL 035-15S TXL 035-24S TXL 035-48S	D	35 Watt	3.3 VDC 5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	9.0 A 7.0 A 3.0 A 2.4 A 1.5 A 0.8 A
TXL 050-05S TXL 060-12S TXL 060-15S TXL 060-24S TXL 060-48S		50 / 60 Watt	5 VDC 12 VDC 15 VDC 24 VDC 48 VDC	10.0 A 5.0 A 4.0 A 2.5 A 1.3 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 120-12S TXL 120-15S TXL 120-24S TXL 120-48S	K	120 Watt	12 VDC 15 VDC 24 VDC 48 VDC	10.0 A 8.0 A 5.0 A 2.5 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 300-24S TXL 300-48S	O	300 Watt	24 VDC 48 VDC	12.5 A 6.5 A
TXL 600-24S TXL 600-48S	P	600 Watt	24 VDC 48 VDC	25.0 A 12.5 A
TXL 1000-24S TXL 1000-48S	Q	1000 Watt	24 VDC 48 VDC	40.0 A 21.0 A

 Not recommended
for new design in

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	– nominal – AC range (universal input) – DC range	100 – 240 VAC 85 – 264 VAC for 15 to 300 Watt model 90 – 264 VAC for 600 & 1000 Watt models 120 – 375 VDC for 15 to 300 Watt model 127 – 375 VDC for 600 & 1000 Watt models																						
Input current (at full load)	TXL 015/025 models: TXL 035 models: TXL 060/070 models: TXL 100 models: TXL 120 models: TXL 150 models: TXL 230 models: TXL 300 models: TXL 600 models: TXL 1000 models:	<table border="0"> <tr> <td>V_{in} = 115 VAC</td> <td>V_{in} = 230 VAC</td> </tr> <tr> <td>0.50 A typ.</td> <td>0.22 A typ.</td> </tr> <tr> <td>0.70 A typ.</td> <td>0.42 A typ.</td> </tr> <tr> <td>1.00 A typ.</td> <td>0.60 A typ.</td> </tr> <tr> <td>1.65 A typ.</td> <td>0.95 A typ.</td> </tr> <tr> <td>1.30 A typ.</td> <td>0.65 A typ.</td> </tr> <tr> <td>2.10 A typ.</td> <td>1.10 A typ.</td> </tr> <tr> <td>3.20 A typ.</td> <td>1.70 A typ.</td> </tr> <tr> <td>3.30 A typ.</td> <td>1.70 A typ.</td> </tr> <tr> <td>6.30 A typ.</td> <td>3.10 A typ.</td> </tr> <tr> <td>11.0 A typ.</td> <td>5.0 A typ.</td> </tr> </table>	V _{in} = 115 VAC	V _{in} = 230 VAC	0.50 A typ.	0.22 A typ.	0.70 A typ.	0.42 A typ.	1.00 A typ.	0.60 A typ.	1.65 A typ.	0.95 A typ.	1.30 A typ.	0.65 A typ.	2.10 A typ.	1.10 A typ.	3.20 A typ.	1.70 A typ.	3.30 A typ.	1.70 A typ.	6.30 A typ.	3.10 A typ.	11.0 A typ.	5.0 A typ.
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Input current (at no load)	TXL 015/025 models: TXL 035 models: TXL 120 models: TXL 230/300 models: TXL 600 models: TXL 1000 models: other models:	<table border="0"> <tr> <td>V_{in} = 115 VAC</td> <td>V_{in} = 230 VAC</td> </tr> <tr> <td>10 mA typ.</td> <td>17 mA typ.</td> </tr> <tr> <td>50 mA typ.</td> <td>55 mA typ.</td> </tr> <tr> <td>135 mA typ.</td> <td>125 mA typ.</td> </tr> <tr> <td>115 mA typ.</td> <td>140 mA typ.</td> </tr> <tr> <td>210 mA typ.</td> <td>220 mA typ.</td> </tr> <tr> <td>330 mA typ.</td> <td>350 mA typ.</td> </tr> <tr> <td>100 mA typ.</td> <td>80 mA typ.</td> </tr> </table>	V _{in} = 115 VAC	V _{in} = 230 VAC	10 mA typ.	17 mA typ.	50 mA typ.	55 mA typ.	135 mA typ.	125 mA typ.	115 mA typ.	140 mA typ.	210 mA typ.	220 mA typ.	330 mA typ.	350 mA typ.	100 mA typ.	80 mA typ.						
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100 mA typ.	80 mA typ.																							
Recommended circuit breaker (characteristic C) or slow blow fuse	up to 70 Watt models: up to 600 Watt models: TXL 1000 models:	5 A 10 A 16 A																						

Output Specifications

Output voltage adjustment range		±10 % – 35 Watt dual output models: range V _{out} 1–2 – other multi output models: V _{out} 1														
Regulation	– Input variation – Load variation (10–100%) – Minimum load on main output of multiple output models: (to provide the regulation on the auxiliary outputs)	<table border="0"> <tr> <td>single output models:</td> <td>1 % max.</td> </tr> <tr> <td>multiple output models:</td> <td>2 % max.</td> </tr> <tr> <td></td> <td>4 % max. for main output</td> </tr> <tr> <td></td> <td>6 % max. for output 2/3 (20–100 % load)</td> </tr> <tr> <td></td> <td>0.3 A for TXL 035</td> </tr> <tr> <td></td> <td>1.0 A for TXL 060</td> </tr> <tr> <td></td> <td>1.5 A for TXL 100</td> </tr> </table>	single output models:	1 % max.	multiple output models:	2 % max.		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
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	1.0 A for TXL 060															
	1.5 A for TXL 100															
Ripple and noise (20 MHz bandwidth)	3.3 VDC output Output 3 (on triple output models) all other output voltages	< 50 mV < 1.5 % of V _{out} < 1.0 % of V _{out} nom.														
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.	3.3 VDC–12 VDC output models: TXL 070: 24 VDC & 48VDC output models: TXL 100/150: 24 VDC & 48VDC output models: TXL 035/120: 24 VDC & 48VDC output models: TXL 025/TXL 230 models: TXL 300 models: TXL 600 models: TXL 1000 models:	<table border="0"> <tr> <td>10'000 µF</td> </tr> <tr> <td>10'000 µF</td> </tr> <tr> <td>4'700 µF</td> </tr> <tr> <td>1'000 µF</td> </tr> <tr> <td>5'000 µF</td> </tr> <tr> <td>17'000 µF</td> </tr> <tr> <td>44'000 µF</td> </tr> <tr> <td>120'000 µF</td> </tr> </table>	10'000 µF	10'000 µF	4'700 µF	1'000 µF	5'000 µF	17'000 µF	44'000 µF	120'000 µF						
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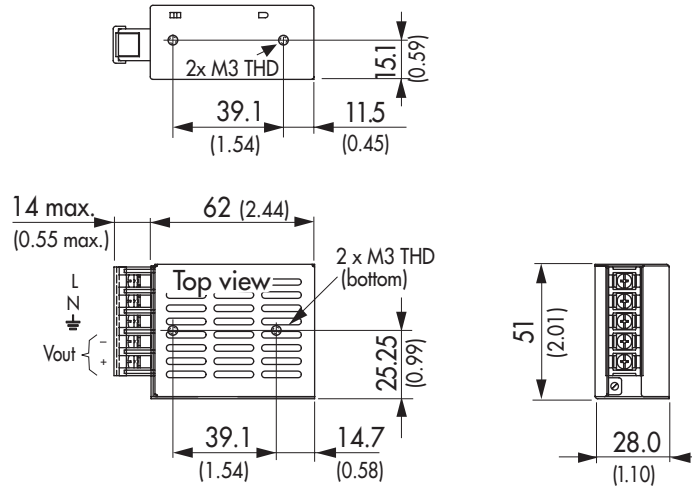
General Specifications

Temperature ranges	– Operating – Load derating above 45°C – Storage (non operating)	–10°C to +70°C 2 %/°K (2.5 %/°K for TXL 120/230/1000) –10°C to +75°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.)	– Input/Output – Input/Case – Output/Case – Output/Output	3'000 VAC 2'500 VAC 500 VAC
	60–100 Watt multiple output models: 35 Watt dual output models:	500 VAC (for all outputs of triple output models!) outputs not isolated
Reliability /calculated MTBF (MIL-HDBK-217F at +25°C typ., ground benign)		>250'000 h
Electromagnetic compatibility (EMC), Emissions	– Conducted input RI suppression – Harmonic current emissions – Flicker	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
Electromagnetic compatibility (EMC), Immunity	– Electrostatic discharge ESD – RF field immunity – Electrical fast transients/burst immunity – Surge – Conducted RF – Magnetic field – Voltage dip	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
Safety approvals	– UL/cUL – CB report	www.ul.com -> certifications -> File: e188913 TXL 015 models: www.tracopower.com/products/txl015-cb.pdf TXL 025 models: www.tracopower.com/products/txl025-cb.pdf TXL 035 models: www.tracopower.com/products/txl035-cb.pdf TXL 060/070 models: www.tracopower.com/products/txl060-cb.pdf TXL 100 models: www.tracopower.com/products/txl100-cb.pdf TXL 150 models: www.tracopower.com/products/txl150-cb.pdf TXL 230 models: www.tracopower.com/products/txl230-cb.pdf TXL 1000 models: www.tracopower.com/products/txl1000-cb.pdf
Environmental compliance	– Reach – RoHS	www.tracopower.com/products/txl-reach.pdf RoHS directive 2002/95/EC
Casing material	TXL 025/035 TXL 50/60/70/100 others	nickel plated steel (chassis & cover) aluminium (chassis), nickel plated steel (cover) aluminium (chassis & cover)

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

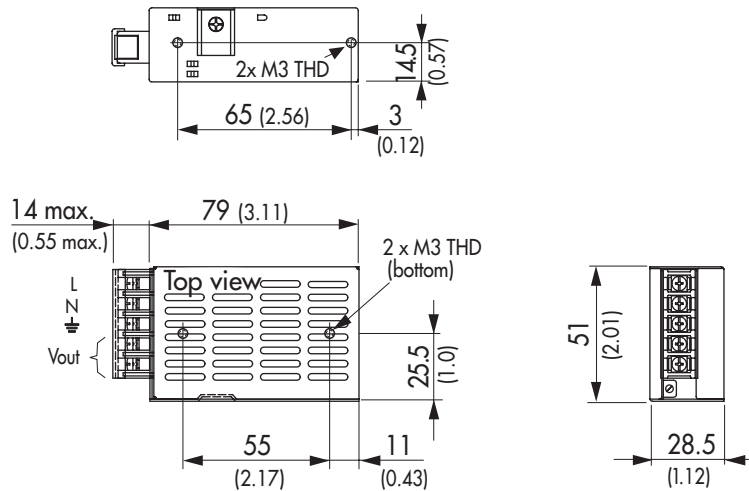
Case Dimensions

Case B



Weight: 0.13 kg (4.6 oz)

Case C

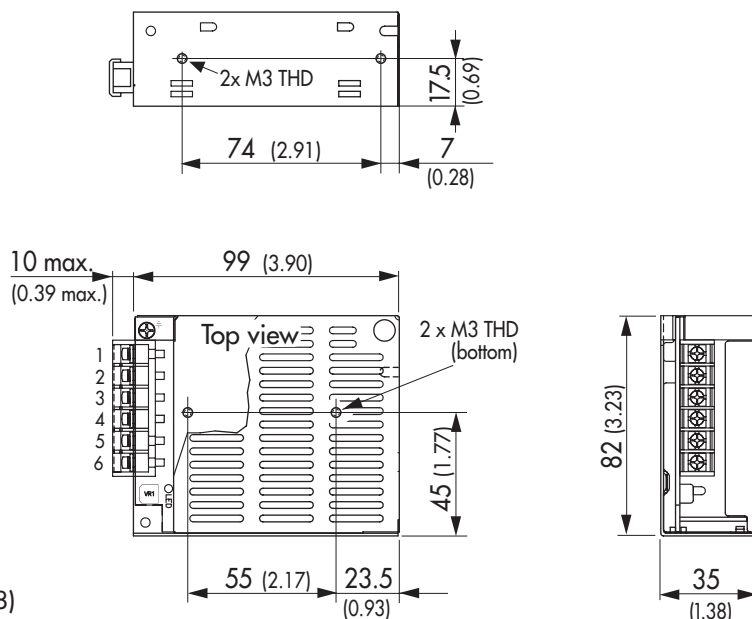


Weight: 0.19 kg (6.7 oz)

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)



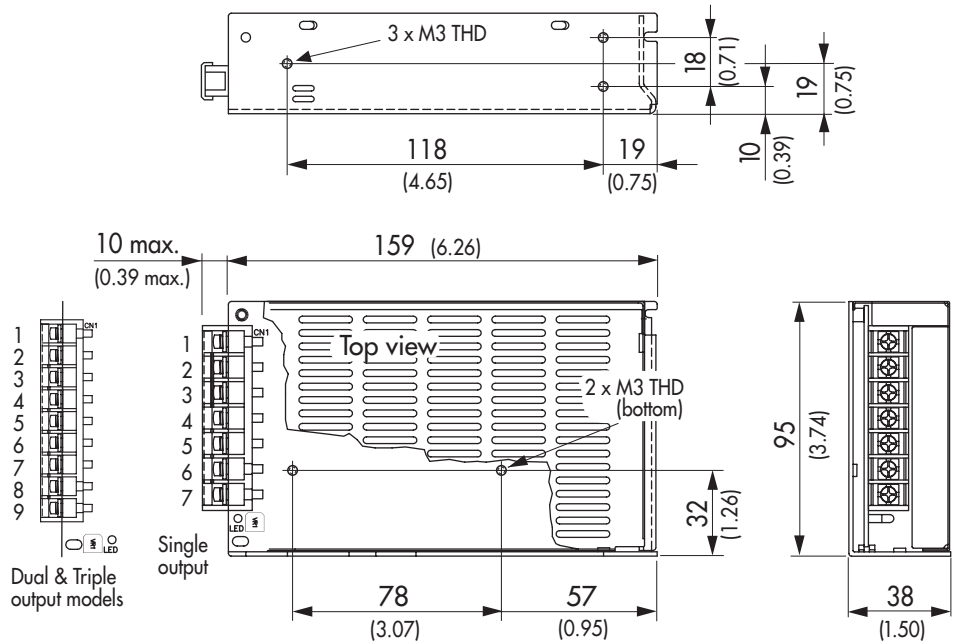
Max mounting screw penetration: 2.0 mm (0.08)

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

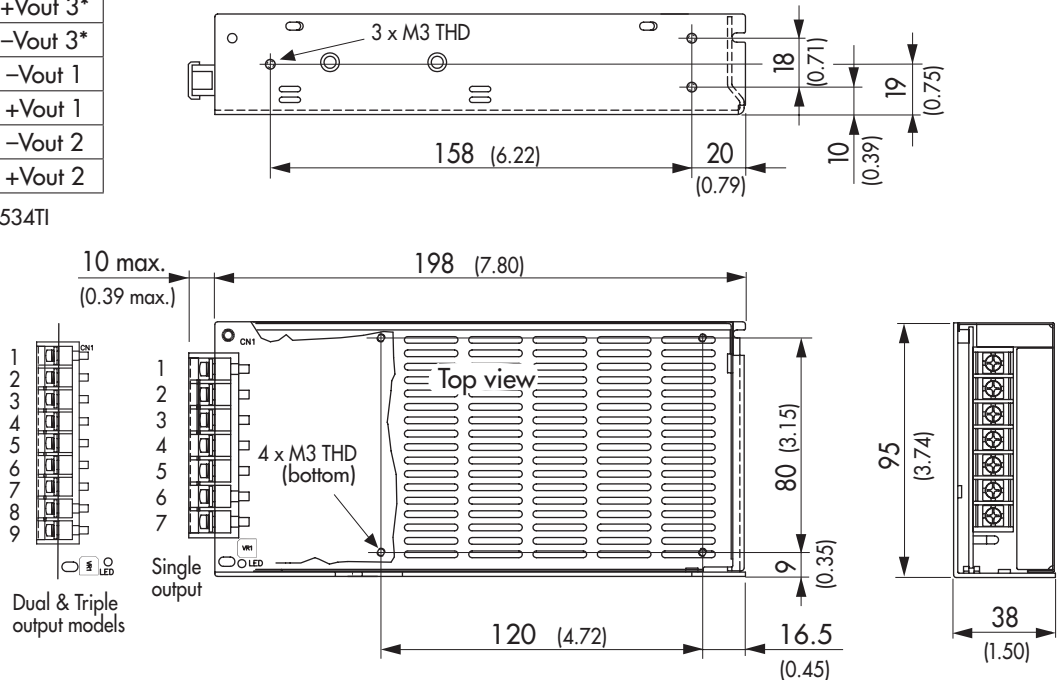


Weight: 0.7 kg (25 oz)

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

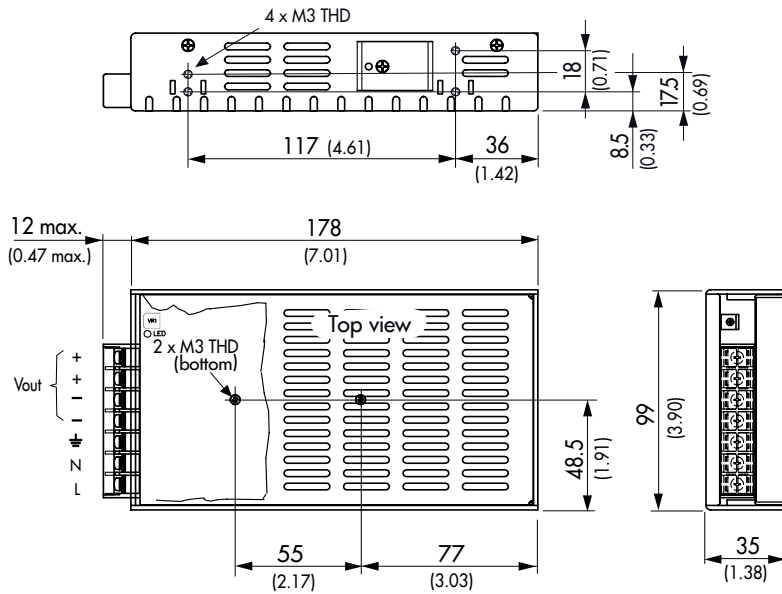


Weight: 0.8 kg (28 oz)

Max mounting screw penetration: 3.0 mm (0.12)

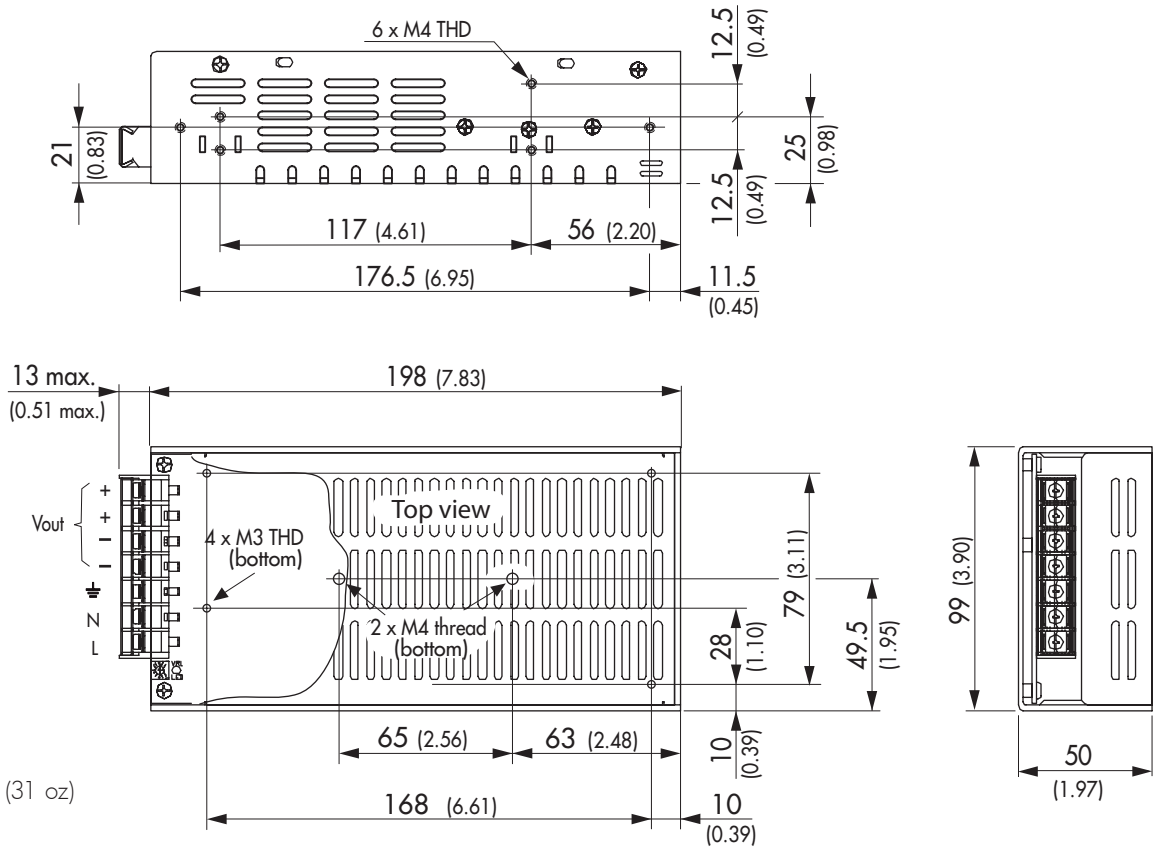
Case Dimensions

Case K



Weight: 0.82 kg (29 oz)

Case L

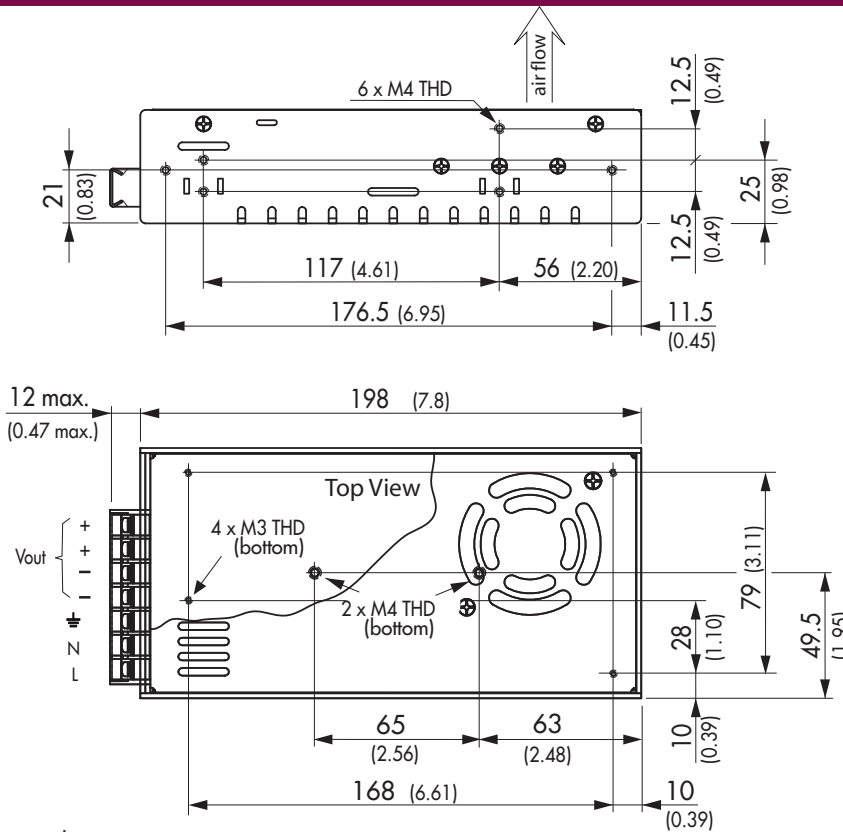


Weight: 0.89 kg (31 oz)

Max mounting screw penetration: 3.0 mm (0.12)

Outline Dimensions

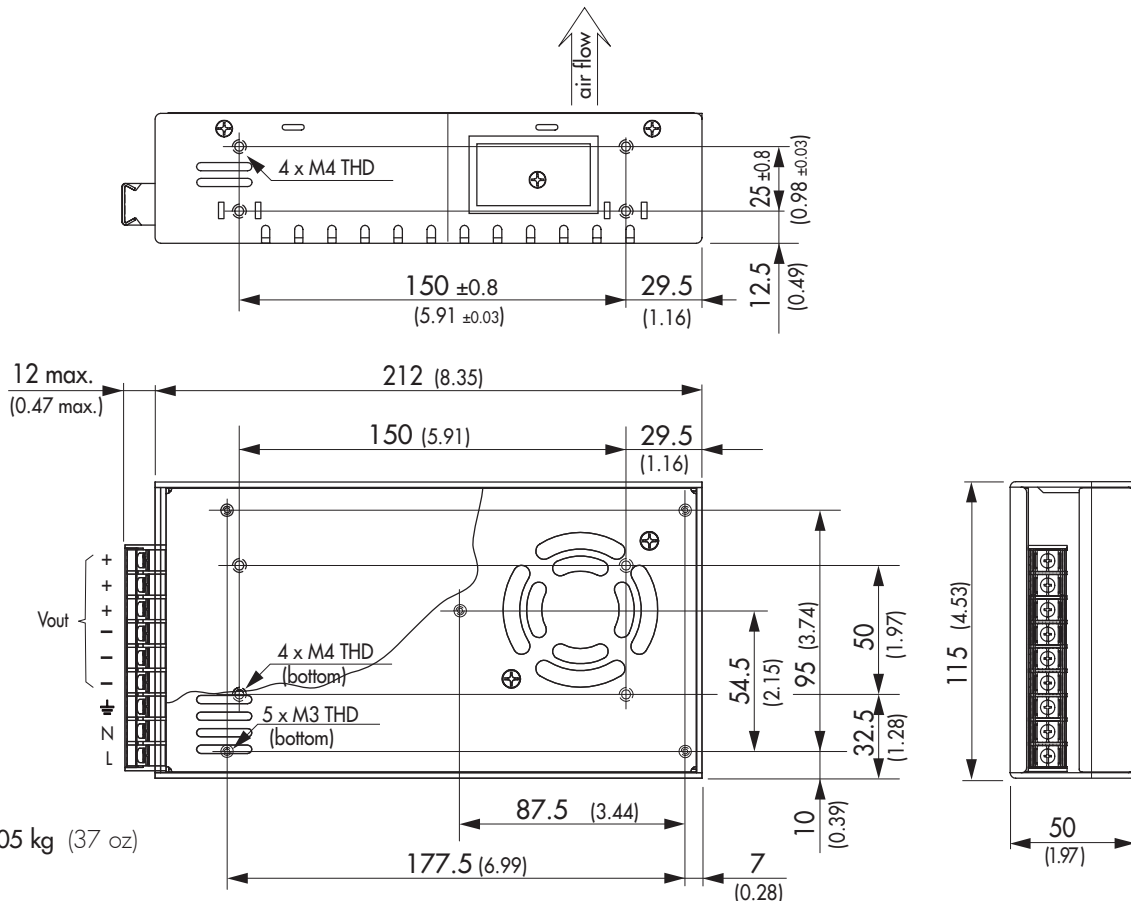
Case N



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)

Case O

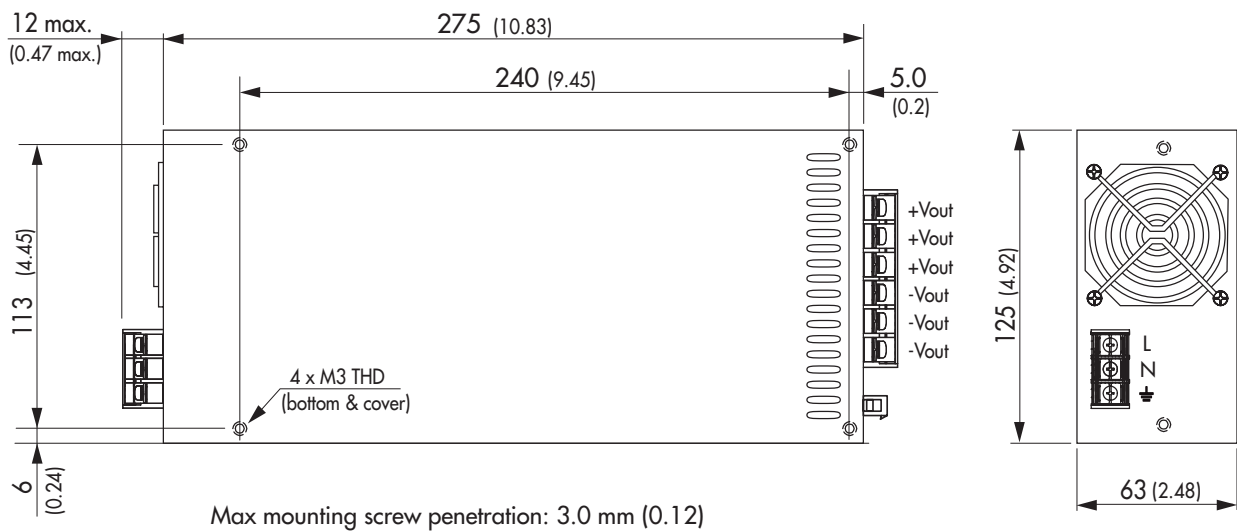
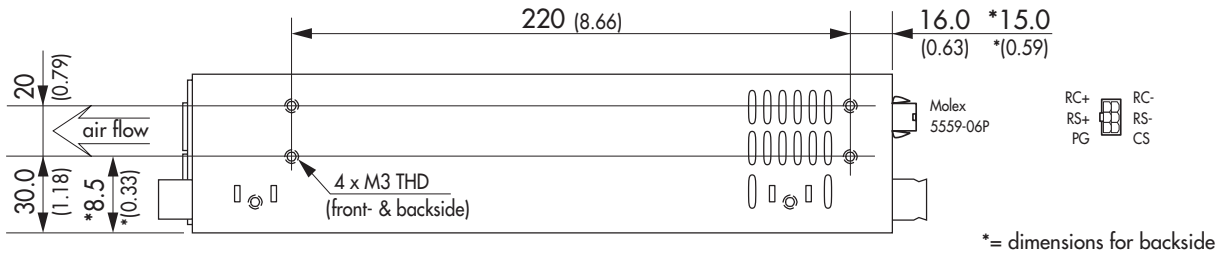


Weight: 1.05 kg (37 oz)

Max mounting screw penetration: 3.0 mm (0.12)

Outline Dimensions

Case P

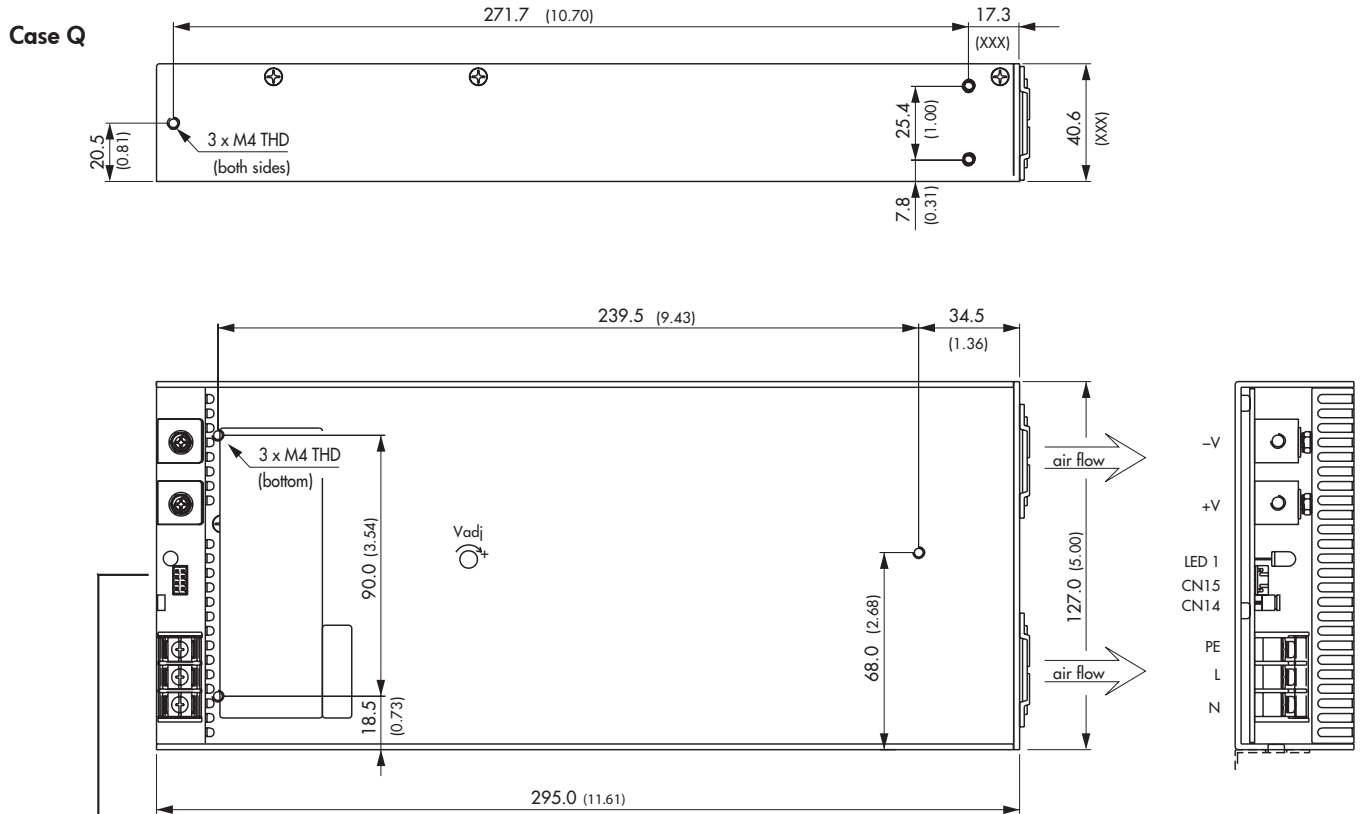


Weight: 2.3 kg (81 oz)

Molex Connector	
RC	Remote Control On/Off: RC+/RC-: 0–0.7 V = On 3–5 V = Off. Sink Current: 3–10 mA.
RS	Remote Sense Can be open or connected to the load under regard of polarity
PG	Power Good Signal: High level TTL signal within 100–500 ms after power On
CS	Current Sharing: For parallel operation

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

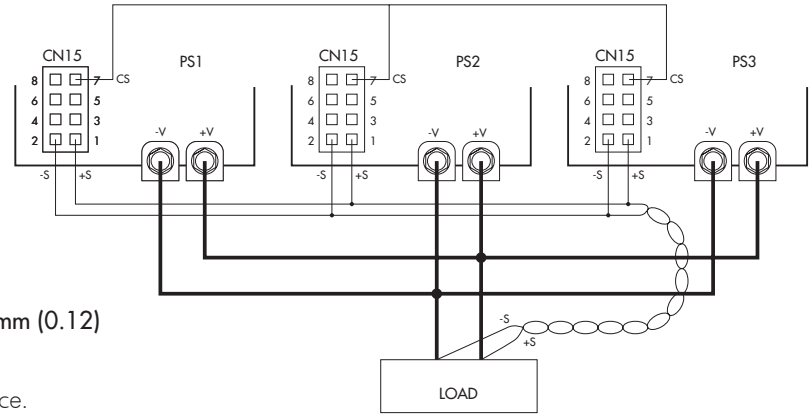
Outline Dimensions



- | | |
|--|--|
| <p>8 GND
6 ON/OFF
4 GND
2 -S</p> <p>7 CS
5 DC_OK
3 5V_AUX
1 +S</p> | <p>CN14 Jumper on CN14 disables the Remote Off function</p> <p>CN15 On/Off (pin 4 & 6): Contact closed = Power On, Contact open = Power Off</p> <p>CN15 -S/+S (pin 1 & 2): Remote sense to be connected at load side under regard of polarity</p> <p>CN15 5V_Aux (pin 3 & 8): Auxiliary output 5 VDC / 0.5 A</p> <p>CN15 DC_OK (pin 5 & 8): TTL signal 0 - 1 VDC = DC-Off, 3.3 - 5.6 VDC = DC-OK</p> <p>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</p> |
|--|--|

Weight: 1.9 kg (67 oz)

Parallel operation:



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

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

Specifications can be changed any time without notice.