DC/DC Converter

TZL Series, 60 to 300 Watt

Features

- Compact metal case with screw terminal block
- Wide 2:1 input range
- I/O isolation 1500VDC
- Input reverse polarity protection
- No minimum load required
- Soft start, low inrush current
- Overload and short circuit protection
- EMC compliance with EN 61000-6-1 and EN 50082-1
- Adjustable output voltage
- 3-year product warranty

not recommended for new designs

This range of boxed DC/DC converter are designed for all applications, where high reliability and long lifetime are important. They provide excellent electric specifications and full compliance to the European EMC and low voltage directive. With their low profile case and screw terminal block they are easy to install in any equipment.

Models

Order code	Output power	Input voltage	Output voltage nom.	Output current max.
TZL 060-2412	60 Watt	18 - 36 VDC	12 VDC	5.0 A
TZL 060-2424			24 VDC	2.5 A
TZL 060-4812		36 - 72 VDC	12 VDC	5.0 A
TZL 060-4824			24 VDC	2.5 A
TZL 100-2412	100 Watt	19 - 36 VDC	12 VDC	8.5 A
TZL 100-2424			24 VDC	4.2 A
TZL 100-4812		36 - 72 VDC	12 VDC	8.5 A
TZL 100-4824			24 VDC	4.2 A
TZL 150-2412 **	150 Watt	19 - 32 VDC	12 VDC	12.5 A
TZL 150-2424 **			24 VDC	6.3 A
TZL 150-4812 **		36 - 72 VDC	12 VDC	12.5 A
TZL 150-4824 **			24 VDC	6.3 A
TZL 300-4812	300 Watt	36 - 72 VDC	12 VDC	26.7 A
TZL 300-4824			24 VDC	13.4 A

Note * End of life

Input Specifications

Input current (at full load)		19 Vin	36 Vin
	TZL 060 models	**4.6 A typ.**	**2.4 A typ.**
	TZL 100 models	**8.0 A typ.**	**4.0 A typ.**
	TZL 150 models	**12 A typ.**	**6.3 A typ.**
	TZL 300 models	**--**	**30 A typ.**
Recommended circuit breaker (characteristic C) or slow blow fuse	TZL 060 models	**5 A**	
	TZL 100 models	**10 A**	
	TZL 150 models	**15 A**	
	TZL 300 models	**20 A**	

Output Specifications

Output voltage adjustment range		**±10 %**
Regulation	– Input variation	**1 % max.**
	– Load variation (10–100%)	**1 % max.**
Minimum Load		**not required**
Ripple and noise (20 MHz bandwidth)	12 VDC output	**<100mVpk-pk**
	24 VDC output	**<150mVpk-pk**
Output current limitation		**105 % – 150 % of Iout max.**
Overload protection mode		**Fold back, automatic recovery**
Over voltage protection (only output 1)		**115 % – 140 % of Vout nom.**
Short circuit protection		**foldback, automatic recovery**
Capacitive load, max.	TZL 060: 12 VDC / 24 VDC output models	**11'000 µF / 2'000 µF**
	TZL 100: 12 VDC / 24 VDC output models	**14'200 µF / 1'000 µF**
	TZL 150: 12 VDC / 24 VDC output models	**8'600 µF / 470 µF**
	TZL 300: 12 VDC / 24VDC output models	**2'700 µF / 1'000 µF**

General Specifications

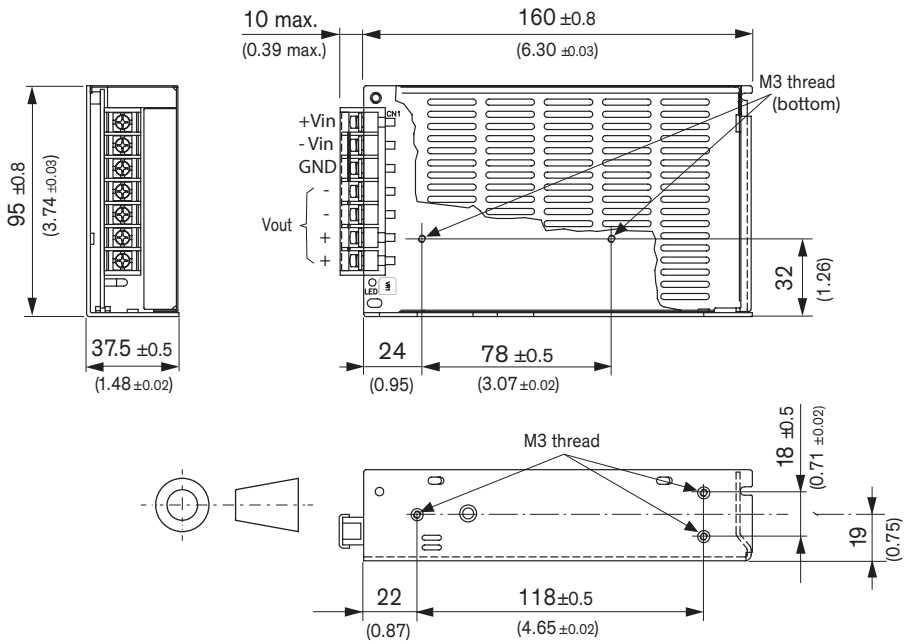
Temperature ranges	– Operating	**–10°C to +60°C**
	– Load derating above 50°C	**2.5 %/K**
	– Storage (non operating)	**–10°C to +75°C**
Temperature coefficient		**0.03 %/°C**
Efficiency		**~80 %** (depending on model and load)
Humidity (non condensing)		**85 % rel max.** (non condensing)
Switching frequency		**50 kHz typ.** (pulse width modulation)
Hold-up time		**20 ms min.**
Isolation voltage (60sec.)	– Input/Output	**1'500 VAC**
	– Input/Case	**1'500 VAC**
	– Output/Case	**500 VAC**
Reliability /calculated MTBF (MIL-HDBK-217F, at+25°C, ground benign)		**>250'000 h**
Electromagnetic compatibility (EMC)		**EN 61000-6-1**
Electromagnetic compatibility (EMC), radiated emission		**EN 55022, class B**
Casing material	cover:	**nickel plated steel**
	chassis:	**natural aluminium**
Environmental compliance	– Reach	www.tracopower.com/overview/tzl
	– RoHS	**RoHS directive 2011/65/EU**

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

Case Dimensions

TZL 060 Series

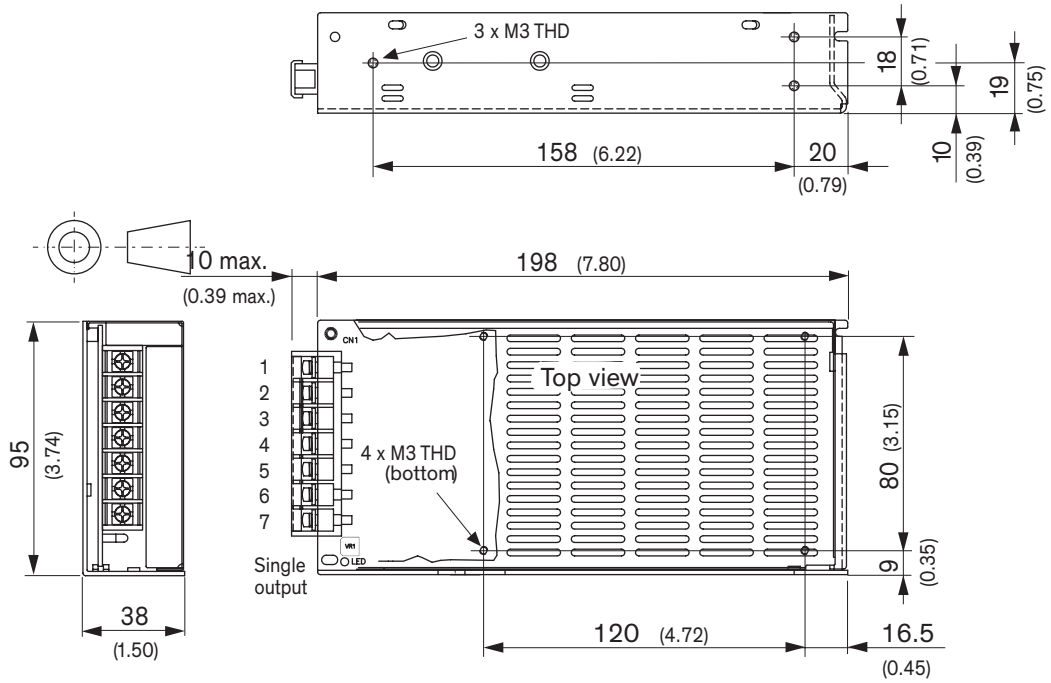
Connection	
1	+Vin
2	–Vin
3	NC
4	–Vout
5	–Vout
6	+Vout
7	+Vout



Weight: 0.7 kg (25 oz)

TZL 100 Series

Connection	
1	+Vin
2	–Vin
3	NC
4	–Vout
5	–Vout
6	+Vout
7	+Vout



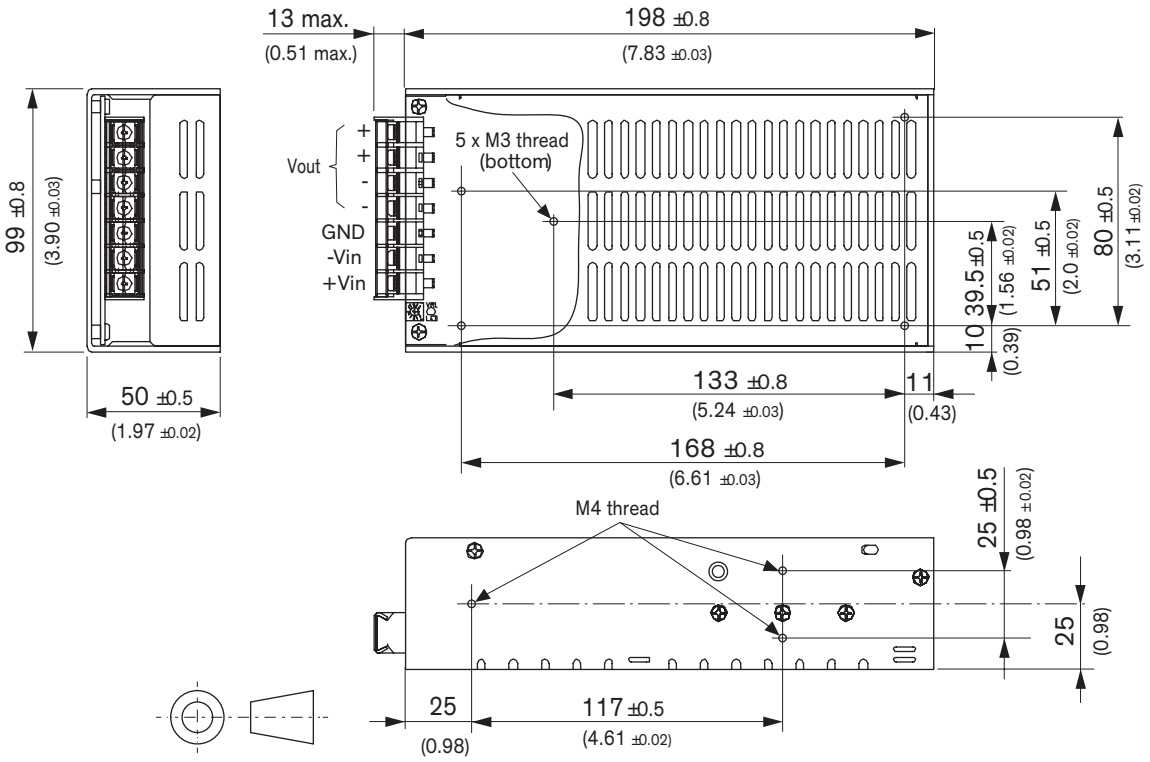
Caution! Max mounting screw penetration: 3.0 mm (0.12)

Weight: 0.8 kg (28 oz)

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

Case Dimensions

TZL 150 Series (End of life)



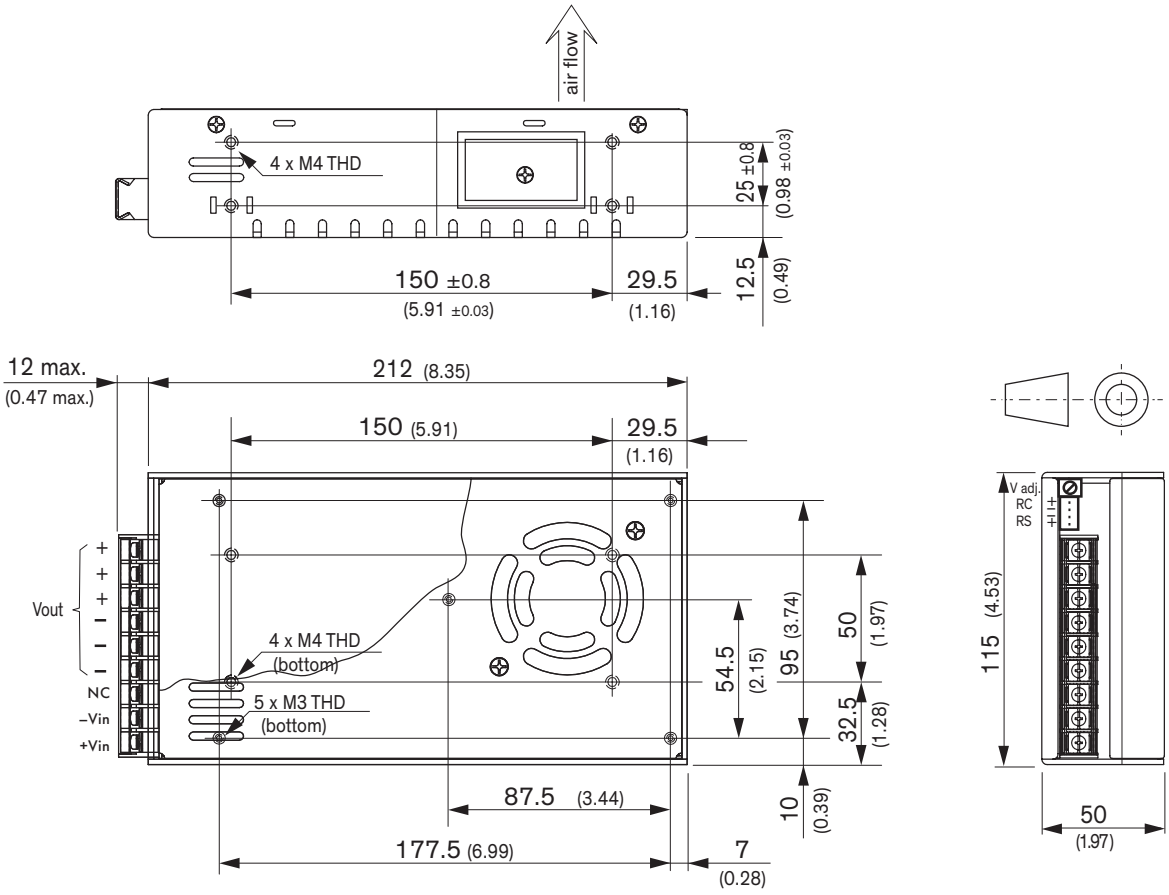
Caution! Max mounting screw penetration: 3.0 mm (0.12)

Weight: 0.89 kg (31 oz)

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

Outline Dimensions

TZL 300 Series



Weight: 1.05 kg (37 oz)

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

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