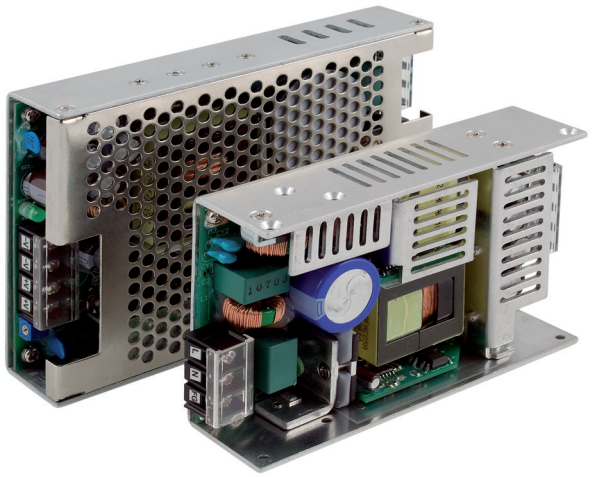
Metal Case Power Supplies

TXH Series, 120–480 Watt

CE CB Scheme cULus UL 60950-1

Features

- Compact U-bracket and enclosed power supplies
- Screw terminal block
- Very high efficiency up to 93 %
- No internal fan for 120 W & 240 W models.
- Universal input 90 – 264 VAC
- Adjustable output voltage
- 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
- 3-year product warranty



The TRACOPOWER TXH series is a family of power supplies in metal enclosure, designed for a wide range of cost critical applications. The very high efficiency of up to 93% admits of a compact design with free air convection cooling for the 120 and 240 Watt models. The units are equiped with screw terminal blocks and 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 with Single Output

Order code	Output power max.	Output voltage nom.	Output current max.	Efficiency typ. at 230 VAC
TXH 120-112	120 Watt	12 VDC	10 A	90 %
TXH 120-124		24 VDC	5.0 A	91 %
TXH 120-148		48 VDC	2.5 A	92 %
TXH 240-112	240 Watt	12 VDC	20 A	90 %
TXH 240-124		24 VDC	10 A	92 %
TXH 240-148		48 VDC	5.0 A	93 %
TXH 360-112	360 Watt	12 VDC	30 A	89 %
TXH 360-124		24 VDC	15 A	91 %
TXH 360-148		48 VDC	7.5 A	93 %
TXH 480-112	480 Watt	12 VDC	40 A	88 %
TXH 480-124		24 VDC	20 A	90 %
TXH 480-136		36 VDC	13.33 A	92 %
TXH 480-148		48 VDC	10 A	91 %

Input Specifications

Input voltage	– nominal		100 – 240 VAC
	– AC range (universal input)		90 – 264 VAC
	– DC range		120 – 370 VDC
Input frequency			47 – 63 Hz
Earth leakage current (240 VAC / 63 Hz)		360 W models:	300 µA max.
		other models:	500 µA max.
Input current at full load	– at 115 VAC / 230 VAC	120 W models:	2.0 A typ. / 1.0 A typ.
		240 W models:	3.0 A typ. / 1.5 A typ.
		360 W models:	4.0 A typ. / 2.0 A typ.
		480 W models:	5.5 A typ. / 3.0 A typ.
Recommended circuit breaker (characteristic C) or slow blow fuse		120 & 240 W models:	5 A
		360 & 480 W models:	10 A

Output Specifications

Voltage set accuracy			±2 % max.
Output voltage adjustment range		120 & 240 W models:	fixed
		360 & 480 W models:	±10 % with internal potentiometer
Regulation	– Input variation		1 % max.
	– Load variation (0–100%)		1 % max.
Minimum load			not required

Ripple and noise (20 MHz bandwidth) [mVp-p] max.

Models:	12 VDC	24 VDC	36 VDC	48 VDC
120 W	120	240	-	480
240 W	120	200	-	200
360 W	150	200	-	200
480 W	100	200	200	300

Hold-up time			10 ms min.
Current limitation			130 - 150 % foldback, auto recovery
Short circuit protection			indefinite,
		360 & 480 W models:	auto recovery
		120 & 240 W models:	no auto recovery (power disconnect required)
Overvoltage protection by Zener diode			120 % of Vout typ.
		360 & 480 W models:	auto recovery
		120 & 240 W models:	no auto recovery (power disconnect required)
Overtemperature protection			for 360 & 480 W models only, auto recovery

Capacitive load, [µF] max.

Models:	12 VDC	24 VDC	36 VDC	48 VDC
120 W	23'000	tba	-	470
240 W	23'000	tba	-	470
360 W	85'000	48'000	-	13'000
480 W	180'000	75'000	50'000	25'000

General Specifications

Temperature ranges	– Operating	480 W models:	–20°C to +70°C
		other models:	–10°C to +70°C
	– Storage (non operating)		–25°C to +85°C
Derating			2.5 %/K above +50°C (–20°C to +5°C operation also requires a derating for THX 480-112 model: 2%/K below 5°C)
Temperature coefficient			0.03 %/K
Humidity (non condensing)			95 % rel max.

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

General Specifications

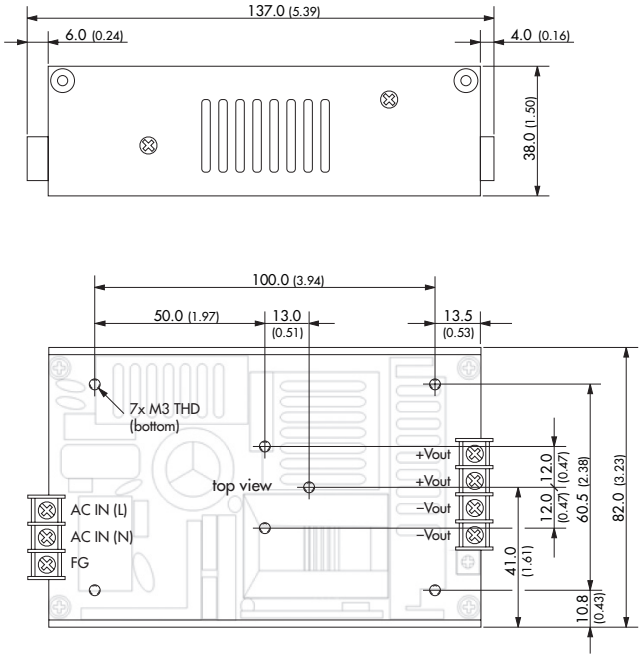
Switching frequency (pulse width modulation PWM)		120 & 240 W models:	100 kHz typ.
		360 W models:	75 kHz typ.
		480 W models:	62.5 kHz typ.
Isolation voltage (60 sec.)	– Input / Output	120 & 240 W models:	4'000 VAC
		360 & 480 W models:	3'000 VAC
	– Input / Case	120 & 240 W models:	2'000 VAC
		360 & 480 W models:	1'500 VAC
	– Output / Case		500 VAC
Reliability /calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		120 & 360 W models:	>120'000 h
		240 W models:	>50'000 h
		480 W models:	>100'000 h
Electromagnetic compatibility (EMC), Emissions	– Conducted input RI suppression		EN 55022, class B, FCC part 15, level B
	– Harmonic current emissions		IEC/EN 61000-3-2 class B
Electromagnetic compatibility (EMC), Immunity			EN 55024
Degree of protection			class I
Safety standards			UL 60950-1, IEC/EN 60950-1
Safety approvals	– UL/cUL 60950-1		www.ul.com -> certifications -> File e188913
	– CB report according to IEC 60950-1		www.tracopower.com/products/txh-cb.pdf
Environment	– Vibration		3 axes, sine sweep, 10–500Hz, 2g, 0.1 oct/min
	– Shock		tba.
Environmental compliance	– Reach		www.tracopower.com/products/txh-reach.pdf
	– RoHS		RoHS directive 2011/65/EU
Altitude during operation		120 / 240 & 360 W models:	up to 4'000 m (13'120 ft) approved
		480 W models:	up to 3'000 m (9'840 ft) approved

Outline Dimensions

TXH 120 models

Weight: 390 g (13.8 oz)

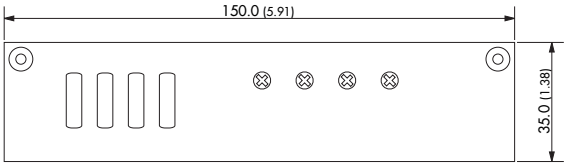
Optional Cover	
TXH 120–COV	Cover incl. screws for TXH 120 models



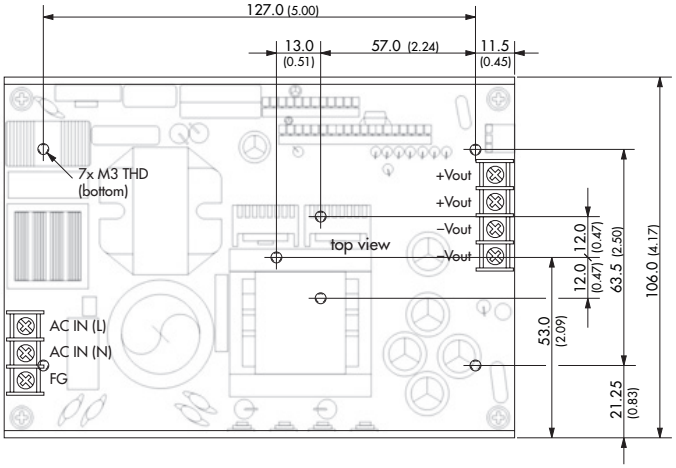
Outline Dimensions

TXH 240 models

Weight: 580 g (20.5 oz)

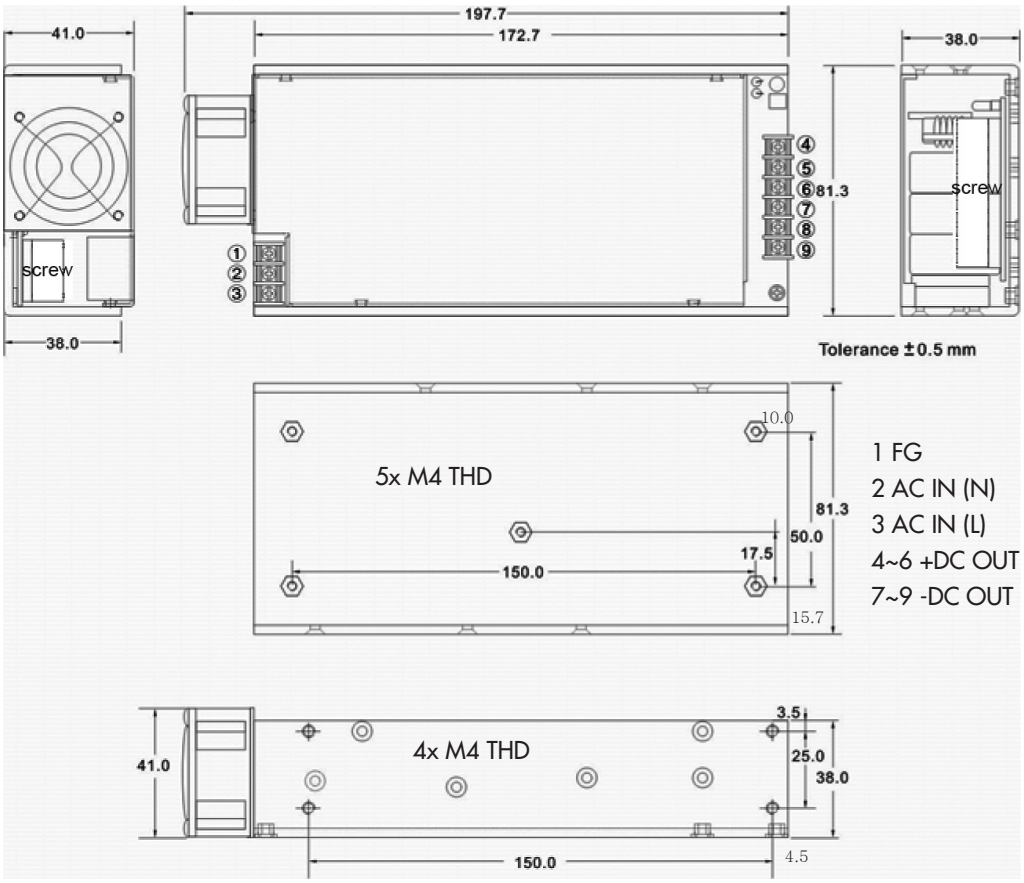


Optional Cover	
TXH 240–COV	Cover incl. screws for TXH 240 models



TXH 360 models

Weight: 750 g (26 oz)



Max mounting screw penetration: 3.0 mm (0.12)

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

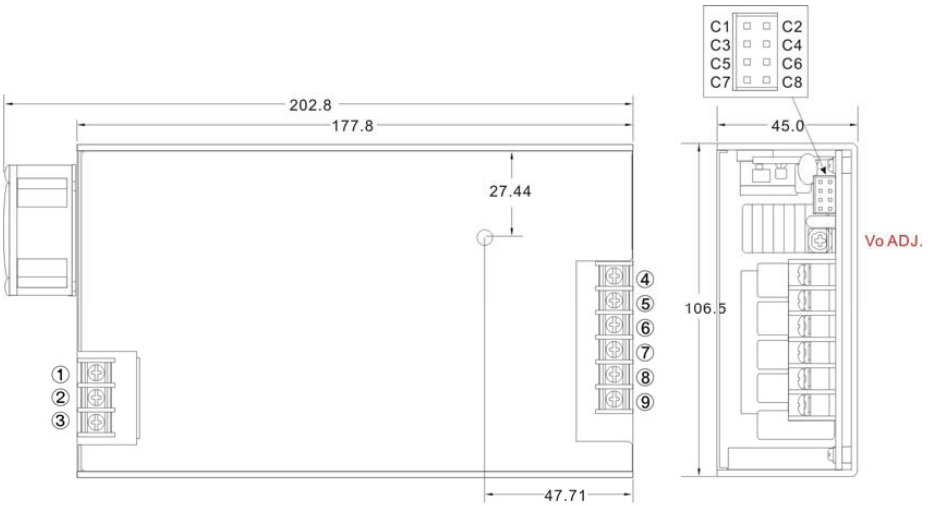
Outline Dimensions

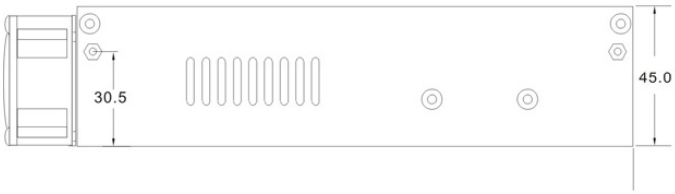
TXH 480 models

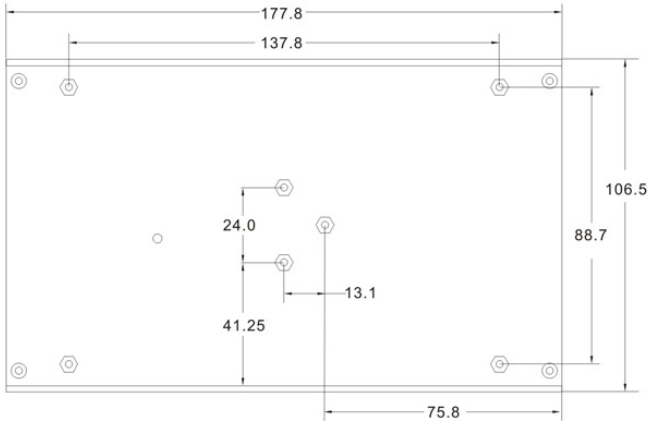
Mating connector:
Housing: JST PHDR-08VS
Crimp: JST SPHD-002T-P0.5

Connection cable with 500mm flying leads included!

Control connector	
C1	+ Sense
C2	- Sense
C3	Remote Control: open = On, short = Off
C4	
C5	DC-OK: 4-6 VDC = On, 0-1 VDC = Off
C6	GND
C7	+5 VDC aux. ±10%, 0.6 A max.
C8	GND aux.







Input terminal	
1	AC (N)
2	AC (L)
3	FG

Output terminal	
4-6	+ Vout
7-9	- Vout

Weight: 1050 g (37 oz)

Max mounting screw penetration: 2.5 mm (0.10)

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