

- Compact U-bracket power supplies with optional cover
- Universal input range 90 to 264 VAC
- 4000 VAC I/O-isolation
- High efficiency up to 93 %
- Operating temperature range: -25°C to +70°C max.
- Features active power factor correction
- Current limitation, short circuit and over voltage protection
- 3-year product warranty



UL 62368-1 IEC 62368-1

The 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 equipped 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				
Order Code	Output Power max.	Output Voltage nom. (adjustable)	Output Current max.	Efficiency typ.
TXH 120-112	120 W	12 VDC (11.4 - 13.2 VDC)	10'000 mA	90 %
TXH 120-124		24 VDC (22.8 - 26.4 VDC)	5'000 mA	93 %
TXH 120-148		48 VDC (45.6 - 52.0 VDC)	2'500 mA	93 %

Options	
TXH 120-COV	- Optional Cover: <a href="http://www.tracopower.com/products/txh120-cov.pdf">www.tracopower.com/products/txh120-cov.pdf</a>

### Input Specifications

Input Voltage	- AC Range	Operational Range: <b>90 - 264 VAC</b> (Full Range) Rated Range: <b>100 - 240 VAC</b> (Full Range)
	- DC Range	Operational Range: <b>120 - 370 VDC</b> (Designed for, no certification) Polarity: <b>irrelevant</b>
Input Frequency		Operational Range: <b>47 - 440 Hz</b> Certified: <b>50/60 Hz</b>
Power Consumption	- No load & Vin = 230 VAC	<b>2'000 mW max.</b>
	- No load & Vin = 115 VAC	<b>2'000 mW max.</b>
Input Current	- Full load & Vin = 230 VAC	<b>1'000 mA max.</b>
	- Full load & Vin = 115 VAC	<b>2'000 mA max.</b>
Input Inrush Current	- At 230 VAC	<b>60 A max.</b>
	- At 115 VAC	<b>30 A max.</b>
Power Factor	- At 230 VAC	<b>0.95 min.</b> (Active Power Factor Correction)
	- At 115 VAC	<b>0.99 min.</b> (Active Power Factor Correction)
Recommended Input Fuse		(The need of an external fuse has to be assessed in the final application.)

### Output Specifications

Output Voltage Adjustment		12 VDC model: <b>11.4 - 13.2 VDC</b> 24 VDC model: <b>22.8 - 26.4 VDC</b> 48 VDC model: <b>45.6 - 52.0 VDC</b> (By trim potentiometer) Output power must not exceed rated power!
Voltage Set Accuracy		<b>±2% max.</b>
Regulation	- Input Variation (Vmin - Vmax) - Load Variation (0 - 100%)	<b>1% max.</b> <b>1% max.</b>
Ripple and Noise (20 MHz Bandwidth)		12 VDC model: <b>50 mVp-p max.</b> (w/ 0.1 µF    47 µF) 24 VDC model: <b>100 mVp-p max.</b> (w/ 0.1 µF    47 µF) 48 VDC model: <b>200 mVp-p max.</b> (w/ 0.1 µF    47 µF)
Capacitive Load		12 VDC model: <b>40'000 µF max.</b> 24 VDC model: <b>20'000 µF max.</b> 48 VDC model: <b>1'200 µF max.</b>
Minimum Load		<b>1 % of Iout max.</b>
Temperature Coefficient		<b>±0.03 %/K max.</b>
Hold-up Time	- At 230 VAC	<b>20 ms min.</b>
	- At 115 VAC	<b>15 ms min.</b>
Start-up Time	- At 230 VAC	<b>650 ms max.</b>
	- At 115 VAC	<b>350 ms max.</b>
Short Circuit Protection		<b>Automatic recovery</b>
Output Current Limitation		<b>120 - 240% of Iout max.</b>
Overvoltage Protection		<b>105 - 145% of Vout nom.</b>
Transient Response	- Response Deviation	<b>2% max.</b> (75% to 100% Load Step)
	- Response Time	<b>500 µs typ.</b> (75% to 100% Load Step)

### Safety Specifications

Standards	- IT / Multimedia Equipment	EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1 UL 60950-1 UL 62368-1
	- Certification Documents	<a href="http://www.tracopower.com/overview/txh120">www.tracopower.com/overview/txh120</a>
Protection Class		<b>Class I (Prepared): Connection to PE</b>

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

Pollution Degree	PD 2
Over Voltage Category	OVC II

### EMC Specifications

EMI Emissions	<ul style="list-style-type: none"> <li>- Conducted Emissions</li> <li>- Radiated Emissions</li> <li>- Harmonic Current Emissions</li> <li>- Voltage Fluctuations &amp; Flicker</li> </ul>	EN 61000-6-3 (Generic Residential) EN 55032 class B (internal filter) EN 55032 class B (internal filter) EN 61000-3-2, class D EN 61000-3-3
EMS Immunity	<ul style="list-style-type: none"> <li>- Electrostatic Discharge</li> <li>- RF Electromagnetic Field</li> <li>- EFT (Burst) / Surge</li> <li>- Conducted RF Disturbances</li> <li>- PF Magnetic Field</li> <li>- Voltage Dips &amp; Interruptions</li> </ul>	EN 55024 (IT Equipment) EN 55035 (Multimedia) Air: EN 61000-4-2, ±8 kV, perf. criteria A Contact: EN 61000-4-2, ±4 kV, perf. criteria A EN 61000-4-3, 3 V/m, perf. criteria A EN 61000-4-4, ±1 kV, perf. criteria A L to L: EN 61000-4-5, ±1 kV, perf. criteria A L to PE: EN 61000-4-5, ±2 kV, perf. criteria A EN 61000-4-6, 3 Vrms, perf. criteria A Continuous: EN 61000-4-8, 1 A/m, perf. criteria A 230 VAC / 50 Hz: EN 61000-4-11 30%, 25 periods, perf. criteria C >95%, 0.5 periods, perf. criteria B >95%, 25 periods, perf. criteria C

### General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	<ul style="list-style-type: none"> <li>- Operating Temperature</li> <li>- Storage Temperature</li> </ul>	-25°C to +70°C -25°C to +85°C
Power Derating	<ul style="list-style-type: none"> <li>- High Temperature</li> <li>- Low Input Voltage</li> </ul>	3 %/K above 50°C Depending on model See application note: <a href="http://www.tracopower.com/overview/txh120">www.tracopower.com/overview/txh120</a>
Cooling System		Natural convection (20 LFM)
Altitude During Operation		4'000 m max.
Switching Frequency		90 - 200 kHz (PWM) 100 kHz typ. (PWM)
Insulation System		Reinforced Insulation
Working Voltage (rated)		279 VAC
Isolation Test Voltage	<ul style="list-style-type: none"> <li>- Input to Output, 60 s</li> <li>- Input to Case or PE, 60 s</li> <li>- Output to Case or PE, 60 s</li> </ul>	4'000 VAC 2'000 VAC 500 VAC
Creepage	- Input to Output	4.8 mm min.
Clearance	- Input to Output	4 mm min.
Leakage Current	<ul style="list-style-type: none"> <li>- Earth Leakage Current</li> <li>- Touch Current</li> </ul>	600 µA max. 500 µA max.
Reliability	- Calculated MTBF	120'000 h (MIL-HDBK-217F, ground benign)
Environment	- Vibration	2 g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle
Housing Type		U-Bracket
Mounting Type		Chassis Mount
Connection Type		Screw Terminal
Weight		382 g

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

Environmental Compliance - REACH Declaration

[www.tracopower.com/info/reach-declaration.pdf](http://www.tracopower.com/info/reach-declaration.pdf)

- RoHS Declaration

REACH SVHC list compliant

REACH Annex XVII compliant

[www.tracopower.com/info/rohs-declaration.pdf](http://www.tracopower.com/info/rohs-declaration.pdf)

Exemptions: 7a, 7c-I

(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule))

- SCIP Reference Number

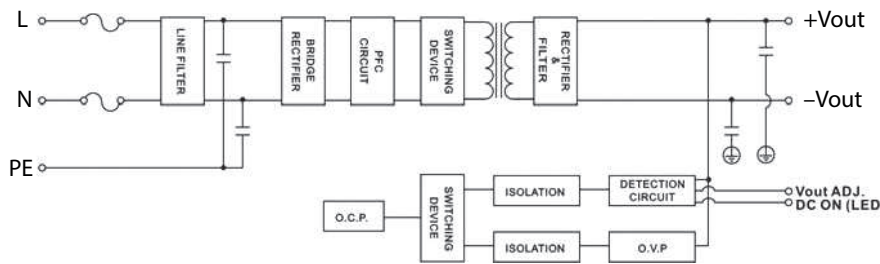
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### Supporting Documents

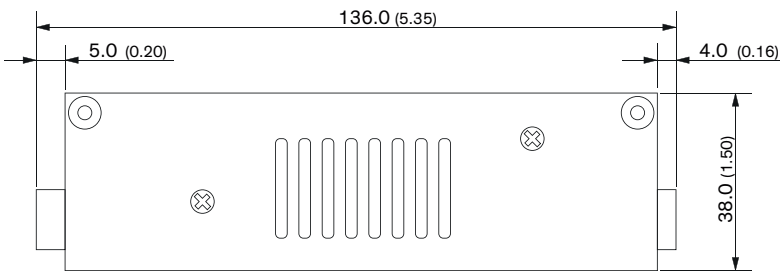
Overview Link (for additional Documents)

[www.tracopower.com/overview/txh120](http://www.tracopower.com/overview/txh120)

### Blockdiagram

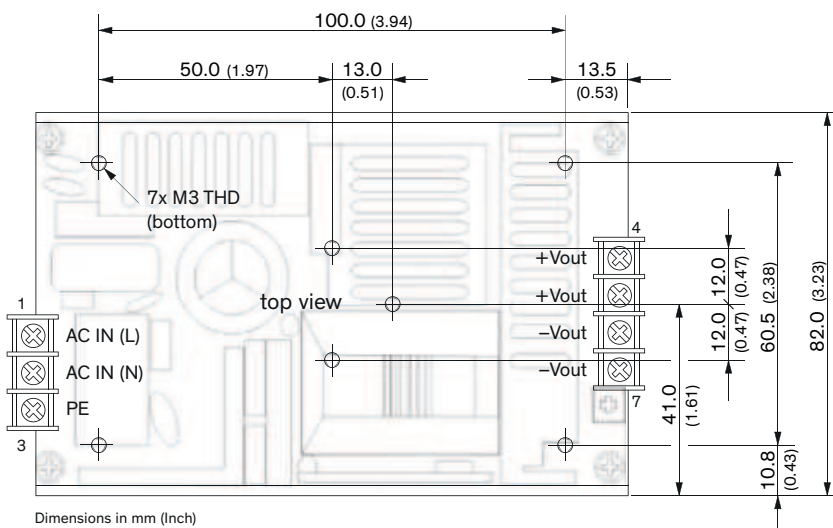


### Outline Dimensions



Pin Connections	
Pin	Function
1	AC IN (L)
2	AC IN (N)
3	PE
4, 5	+Vout
6, 7	-Vout

Mounting screw locked torque:  
0.29 Nm (3 kgfcm)



Dimensions in mm (Inch)  
Tolerances:  $\pm 0.8$  mm ( $\pm 0.03$ )  
Mounting hole pitch tolerances:  $\pm 0.5$  mm ( $\pm 0.02$ )  
Mounting screw locked torque: max. 5 Nm (0.49 kgfcm)  
Max mounting screw penetration: 2.5 mm (0.10)