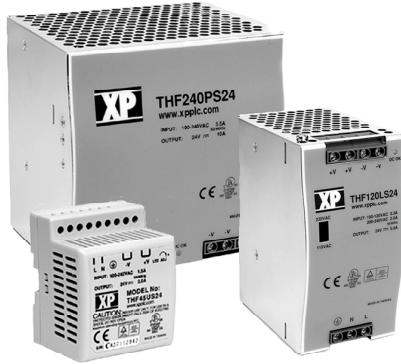


## THF Series



- Wide Adjustment Range
- Rugged for Industrial Use
- High Efficiency
- Overvoltage Protection
- Overcurrent Protection
- Overtemperature Protection
- Lightweight Design

## Specification

## Input

Input Voltage	<ul style="list-style-type: none"> <li>• 90-264 VAC except: 90-132/176-264 VAC switch-selectable (THF120 and THF480LSxx models) and 180-264 VAC (THF480PS models)</li> </ul>
Input Frequency	<ul style="list-style-type: none"> <li>• 47-63 Hz</li> </ul>
Input Current	<ul style="list-style-type: none"> <li>• 0.5 A at 230 VAC 45 W models, 0.8 A at 230 VAC 75 W models, 1.4 A at 230 VAC 120 W models, 1.8 A at 230 VAC 240 W models, 4.0 A at 230 VAC 480 W models</li> </ul>
Inrush Current	<ul style="list-style-type: none"> <li>• 60 A max</li> </ul>
Power Factor	<ul style="list-style-type: none"> <li>• All units EN61000-3-2 compliant, <math>\geq 0.95</math> THF240, <math>\geq 0.70</math> THF480</li> </ul>
Earth Leakage Current	<ul style="list-style-type: none"> <li>• &lt;1.0 mA max 45 and 75 W models, &lt;3.5 mA max 120, 240 &amp; 480 W models at 240 VAC</li> </ul>

## Output

Output Voltage	<ul style="list-style-type: none"> <li>• See tables</li> </ul>
Output Voltage Trim	<ul style="list-style-type: none"> <li>• <math>\pm 10\%</math></li> </ul>
Initial Set Accuracy	<ul style="list-style-type: none"> <li>• <math>\pm 2\%</math> max</li> </ul>
Start Up Delay	<ul style="list-style-type: none"> <li>• 800 ms max 45 and 240 W models, 1000 ms 75 W models, 500 ms 120 W models, 1200 ms 480 W models</li> </ul>
Start Up Rise Time	<ul style="list-style-type: none"> <li>• 60 ms max 45 &amp; 75 W models, 70 ms max 120 W models, 40 ms max 240 W &amp; 480 W models</li> </ul>
Hold Up Time	<ul style="list-style-type: none"> <li>• 50 ms at 230 VAC 45 &amp; 75 W models, 30 ms at 230 VAC 120 W models, 20 ms at 230 VAC max 240 W models, 16 ms at 230 VAC max 480 W models</li> </ul>
Line Regulation	<ul style="list-style-type: none"> <li>• <math>\pm 1.0\%</math> max 45 W models, <math>\pm 0.5\%</math> 75, 120, 240 &amp; 480 W models</li> </ul>
Load Regulation	<ul style="list-style-type: none"> <li>• <math>\pm 0.5\%</math> max, <math>\pm 1\%</math> max 45 W models</li> </ul>
Ripple & Noise	<ul style="list-style-type: none"> <li>• See tables</li> </ul>
Overvoltage Protection	<ul style="list-style-type: none"> <li>• 115-135%</li> </ul>
Overload Protection	<ul style="list-style-type: none"> <li>• 105-150%, constant current with auto recovery</li> </ul>
Temperature Coefficient	<ul style="list-style-type: none"> <li>• 0.03% /°C</li> </ul>

## General

Efficiency	<ul style="list-style-type: none"> <li>• 72-89% (see tables)</li> </ul>
Isolation	<ul style="list-style-type: none"> <li>• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground</li> </ul>
Switching Frequency	<ul style="list-style-type: none"> <li>• 100 kHz typical 45 &amp; 240 W models 70 kHz typical 480 W models 50 kHz typical 75 &amp; 120 W models</li> </ul>

## Environmental

Operating Temperature	<ul style="list-style-type: none"> <li>• See derating curves</li> </ul>
Operating Humidity	<ul style="list-style-type: none"> <li>• 90% RH, non-condensing</li> </ul>
Storage Temperature	<ul style="list-style-type: none"> <li>• -20 °C to +85 °C</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>• 2 G, 10 Hz to 500 kHz, 10 min/cycle for 60 minutes each axis</li> </ul>

## EMC &amp; Safety

Emissions	<ul style="list-style-type: none"> <li>• EN55022/55011, Class B conducted and radiated, EN61000-3-2, 3</li> </ul>
Voltage Flicker	<ul style="list-style-type: none"> <li>• EN61000-3-3</li> </ul>
ESD Immunity	<ul style="list-style-type: none"> <li>• EN61000-4-2, level 3 air, Perf Criteria B</li> </ul>
Radiated Immunity	<ul style="list-style-type: none"> <li>• EN61000-4-3, 10 V/m, Perf Criteria B</li> </ul>
EFT/Burst	<ul style="list-style-type: none"> <li>• EN61000-4-4, level 3, Perf Criteria B</li> </ul>
Surge	<ul style="list-style-type: none"> <li>• EN61000-4-5, level 3, Perf Criteria B</li> </ul>
Conducted Immunity	<ul style="list-style-type: none"> <li>• EN61000-4-6, 10 V rms, Perf Criteria B</li> </ul>
Safety Approvals	<ul style="list-style-type: none"> <li>• EN60950, UL508, (UL60950 on 120, 240 &amp; 480 W models)</li> </ul>

**Models and Ratings**

Maximum Output Power	Output Voltage Nominal	Output Voltage Adjustment	Output Current Maximum	Ripple and Noise <sup>(1)</sup>	Efficiency	Model Number
25 W	5.0 V	4.75-5.50 V	5.0 A	100 mV	72%	THF45US05
42 W	12.0 V	10.80-12.20 V	3.5 A	200 mV	77%	THF45US12
42 W	15.0 V	13.50-16.50 V	2.8 A	240 mV	77%	THF45US15
48 W	24.0 V	21.60-26.40 V	2.0 A	480 mV	80%	THF45US24

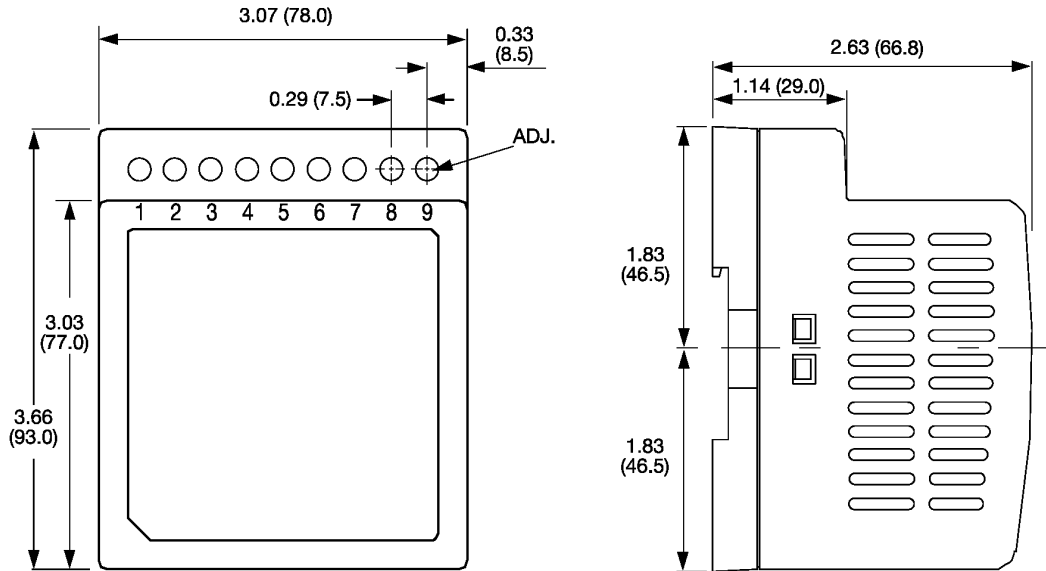
**Notes**

1. Measured at 20 MHz bandwidth using a 12" twisted pair terminated with a 0.1  $\mu$ F/47  $\mu$ F capacitor.

**Mechanical Details**

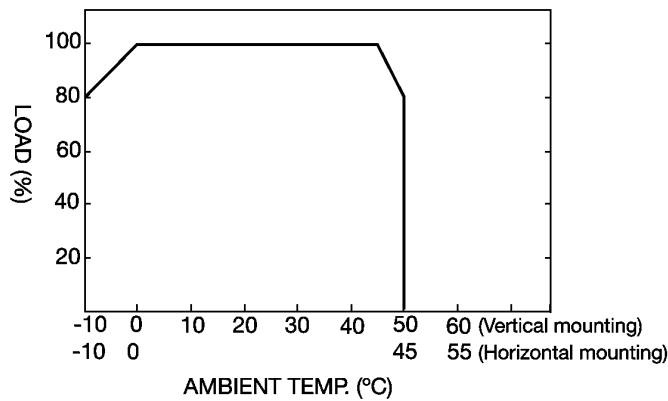
THF45 MODELS

PINOUT	
Pin	Function
1	AC Input
2	AC Input
3	Earth
4	DC Output -V
5	DC Output -V
6	DC Output +V
7	DC Output +V
8	LED
9	+V Adj



Weight 0.40 kg

**Derating Curve**



NB: The THF45 will operate at full load from 85-264 VAC input.

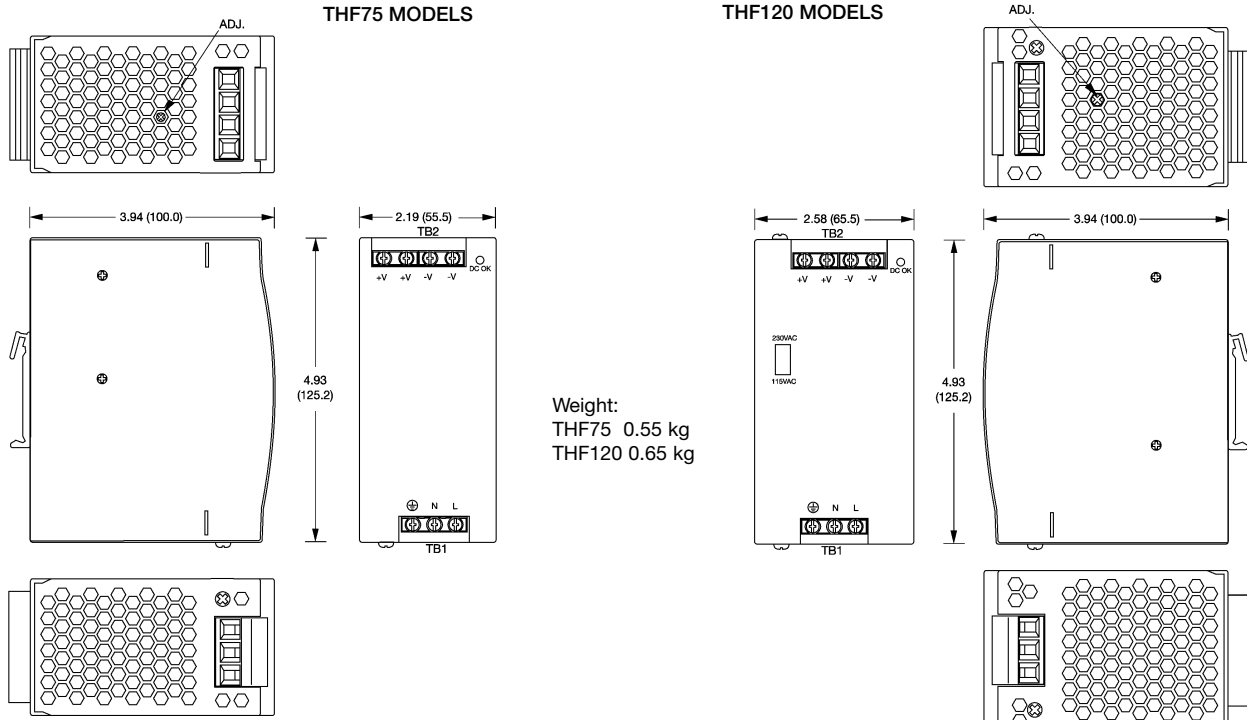
Models and Ratings

Maximum Output Power	Output Voltage Nominal	Output Voltage Adjustment	Output Current Maximum	Ripple and Noise <sup>(1)</sup>	Efficiency	Model Number
76 W	12.0 V	12.00-14.00 V	6.3 A	100 mV	76%	THF75US12
77 W	24.0 V	24.00-27.00 V	3.2 A	150 mV	80%	THF75US24
77 W	48.0 V	48.00-53.00 V	1.6 A	240 mV	81%	THF75US48
120 W	12.0 V	12.00-14.00 V	10.0 A	80 mV	80%	THF120LS12
120 W	24.0 V	24.00-28.00 V	5.0 A	80 mV	84%	THF120LS24
120 W	48.0 V	48.00-53.00 V	2.5 A	100 mV	85%	THF120LS48

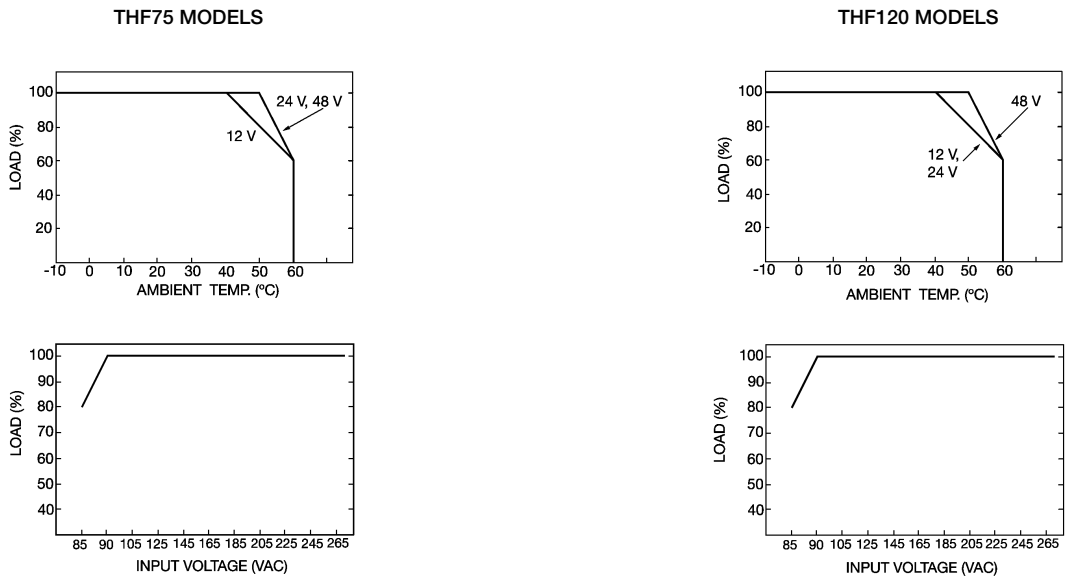
Notes

1. Measured at 20 MHz bandwidth using a 12" twisted pair terminated with a 0.1 μF/47 μF capacitor.

Mechanical Details



Derating Curves



**Models and Ratings**

Maximum Output Power	Output Voltage Nominal	Output Voltage Adjustment	Output Current Maximum	Ripple and Noise <sup>(1)</sup>	Efficiency	Model Number
240 W	24.0 V	24.00-28.00 V	10.0 A	80 mV	84%	THF240PS24
240 W	48.0 V	48.00-53.00 V	5.0 A	150 mV	85%	THF240PS48
480 W	24.0 V	24.00-28.00 V	20.0 A	240 mV	89%	THF480LS24
480 W	48.0 V	48.00-53.00 V	10.0 A	480 mV	89%	THF480LS48
480 W	24.0 V	24.00-28.00 V	20.0 A	240 mV	89%	THF480PS24
480 W	48.0 V	48.00-53.00 V	10.0 A	480 mV	89%	THF480PS48

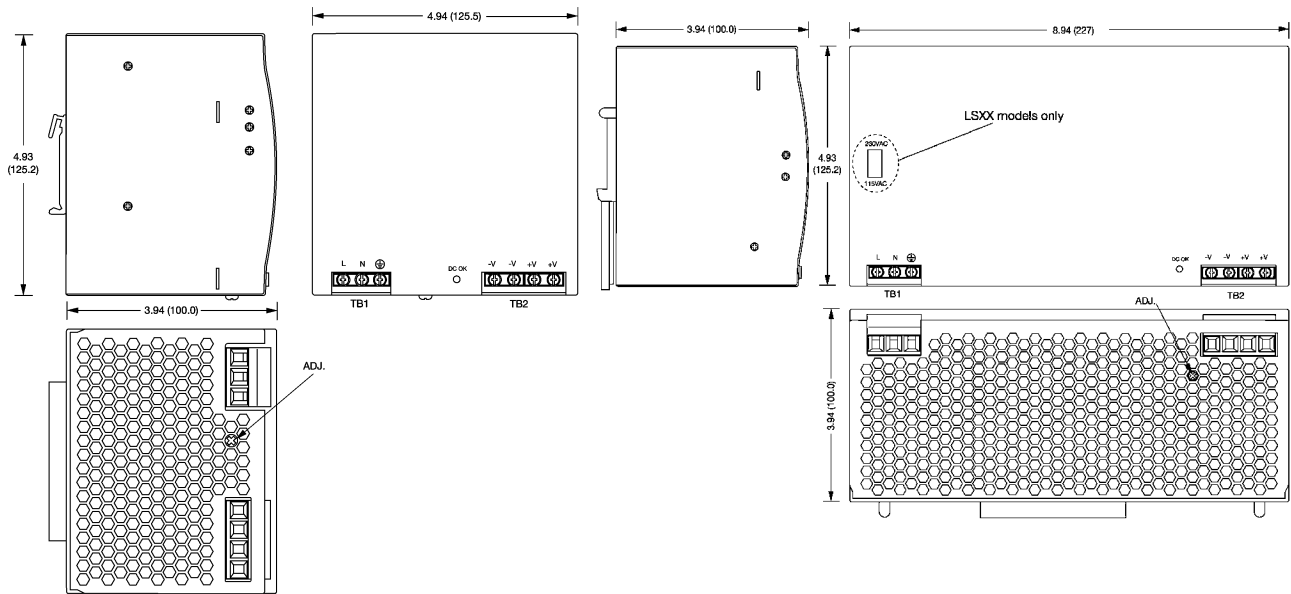
**Notes**

1. Measured at 20 MHz bandwidth using a 12" twisted pair terminated with a 0.1  $\mu$ F/47  $\mu$ F capacitor.

**Mechanical Details**

THF240 MODELS

THF480 MODELS

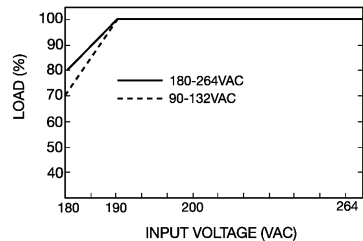
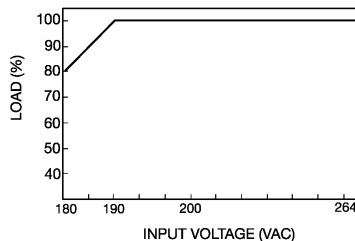
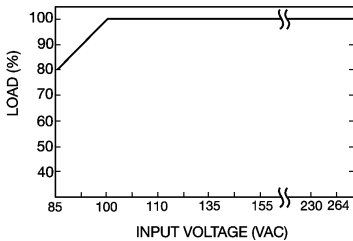
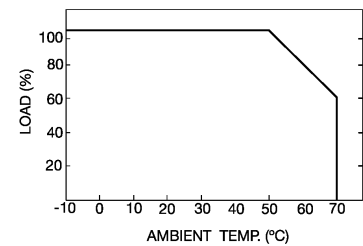
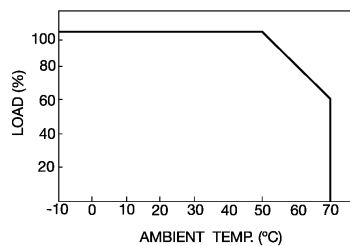
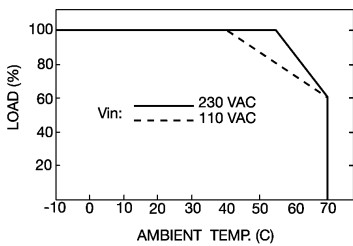


**Derating Curves**

THF240 MODELS

THF480PSXX MODELS

THF480LSXX MODELS



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