

HTM250FH-T92 Specification

1. General

This specification defines the performance characteristics of, 5Vsb&5V/5A,12V/3A, 24V/9A output AC-DC power. This specification also defines the worldwide safety requirements and EMC requirements.

2. Input Characteristics

a. AC Input Voltage

The power will operate over the entire input voltage range (90-264 V_{AC}).

Minimum	Maximum	Nominal/Rated
90 V _{AC}	264 V _{AC}	100/240 V _{AC}

Note: Chart of load condition. Please see below chart 1 & chart 2.

b. Frequency

The input frequency range will be 47Hz to 63Hz.

c. Input Current

The input current will not exceed 4Amp(rms.) for 90 V_{AC}.

d. Efficiency

The power efficiency (watts output/watts input) will not be less than 86% typically at full load condition.(at 230Vac)

e. Hold Up Time

The output hold up time (measured at the 90% point of normal voltage output) will be guaranteed 8msec at test condition which is full load,115 V_{AC} /60Hz, normally line, 25°C Ambient temperature,

f. Power Factor Correction > 0.9 at Full Load.

g. Power saving (Remote off) < 0.15W at 230Vac

3. Output Characteristics

a. DC Load Characteristics (Output total maximum power not exceed 277W)

Output Voltage	Min Current	Regulation Tolerance	Max Current	Ripple & Noise
+5Vsb&+5V	0A	±5%	5A	100mV

Note: 5Vsb & 5V Output total Power not exceed 25W

Mode-1 :

+12V	0.1A	±5%	4A	240mV
+24V	0.1A	±5%	8.5A	480mV

Mode-2 :

+12V	0.1A	±5%	3A	240mV
+24V	0.1A	±5%	9A	480mV

Note: Power Down Signal (PS On/Off) (CON02 Pin 4).

If High(2V~5V) All power Switch ON.

If Low (0V~0.6V) Only +5Vsb Switch ON.

b. Ripple & Noise

The power noise will be less than 100mV(+5Vsb&+5V),240mV (+12V),480mV(+24V).

Note: A0.1 μ F Ceramic and 10 μ F Tantalum capacitors should be put across output terminals during ripple & noise test. The oscilloscope bandwidth is set at 20MHz and co-axial probe will be used to measure it. The test condition is max. load and normally line.

c. Overshoot

The power use in overshoot at turn on or turn off AC input will be less than 10% of the nominal value and will decay itself within the regulation band in less than 50m sec.

4. Protection:**a. Primary (Input) Protection**

The input power line will be fused with a fuse 5.0A, 250 V_{AC}.

b. Secondary (Output) protection**b.1. Over Power (OP) Protection**

+12V&+24V	OPP Range 100%~170% 12V<10A(at 24V/9A) 24V<16.3A(at 12V/3A)	Auto-recovery mode or Latch mode
+5Vsb&+5V	5~9A max	Auto-recovery mode or Latch mode

b.2. Over Current (OC) Protection

+12V	5~10A max	Latch mode
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b.3 Over Voltage (OV) Protection

+24V	+42V max	Auto-recovery mode or Latch mode
+12V	+22V max	Auto-recovery mode or Latch mode
+5Vsb&+5V	+12V max	Auto-recovery mode or Latch mode

b.4 Short Circuit Protection

+5Vsb&+5V	Auto-recovery mode
+12V	Auto-recovery mode or Latch mode
+24V	Auto-recovery mode or Latch mode

5. Power Supply Sequencing**a. AC Power On**

When proper AC power is applied, the output will reach its regulation limits within 2.0 Second at 110 V_{AC}.

b. Output Rise Time

The output rise time (measured from the 10% point to the 90% point on the waveform) will be greater than 1m sec and less than 20m sec.

6. E.M.I.

a. Conduction

The power will conform to FCC Class B, VCCI Class B, and CISPR Class B.

b. Radiation

The power will conform to FCC Class B, VCCI Class B, and CISPR Class B.

7. Safety Characteristics

a. Safety Meet Requirements

UL : UL60950 Third Edition

UL : UL62368-1

TUV : EN60950

CCC : GB4943 & GB8898

b. Withstand Voltage

Primary to secondary : 1500V_{AC} 10mA for 3 seconds.

c. Provisions for Protective Earthing

While 12V/25A applied on between primary and secondary side together and provisions for protective earthing is less than 0.1 ohm for 3 seconds.

d. Inrush Current

The power inrush current is less than 80Amps(peak to peak) at the time of cold start at 230 V_{AC} Condition.

8. Environment

a. Operating

The power operating temperature is 0°C to 40°C.

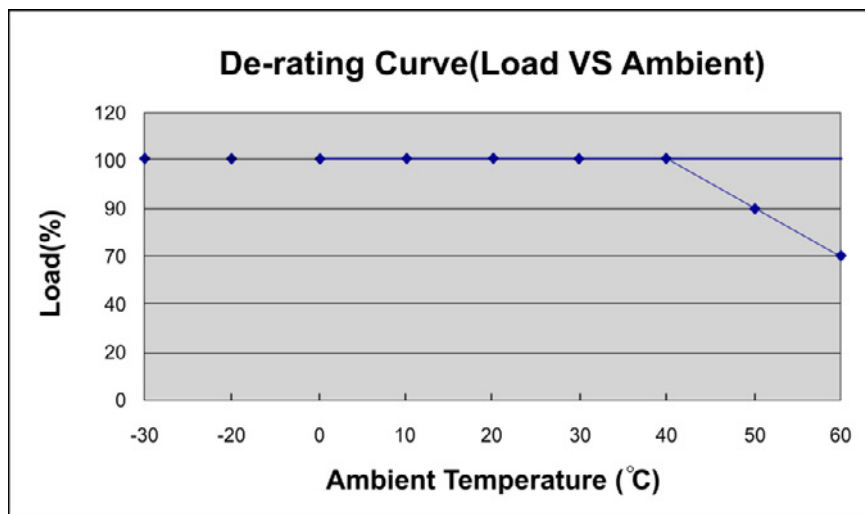
The power operating relative humidity is 20% to 85%.

b. Storage

The power storage temperature is -40°C to 70°C.

The power storage relative humidity is 10% to 95%.

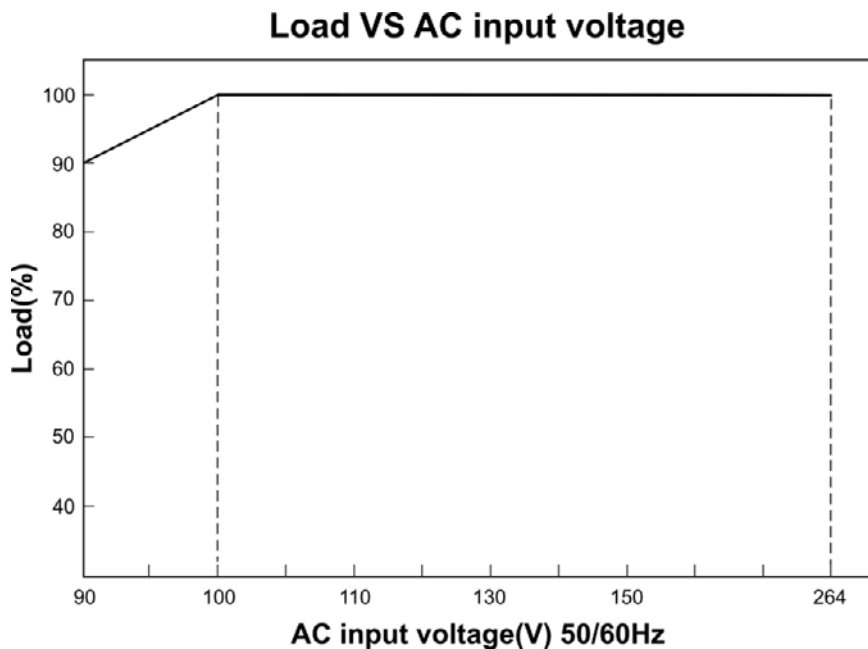
Chart 1



Ambient temperature :-20°C~-30°C, 5Vsb & 5V total max current are 2A.

Ambient temperature :50°C, Output total maximum power not exceed 250W

Chart 2



b. Storage

The power storage temperature is -40°C to 70°C.

The power storage relative humidity is 10% to 95%.

9. Life

a. On – off Life

To verify the power supply withstand 10,000 time on-off repetition of primary power without failure or damage at 110Vac input.

b. Operational life

The power will be designed for a minimum life of 50,000 power-on hours at 25°C Ambient temperature.

10. Dimension

210L x 130W x 30H mm Max.

