

Ultra Low Noise AC/DC Switching Power Supply

# HFS150A



Daitron's HFS150A is a Ultra Low Noise AC/DC Switching Power Supply Product designed for medical and industrial applications.

It features built-in proprietary based technology to reduce noise enough level for noise-sensitive systems.



Very Low leakage current feature can also minimize your external filter circuit design work and space. This is an ideal solution who needs very low noise, small, light weight and high efficiency power supply for your next challenging designs.

## ■ Features

- Ultra Low Ripple & Noise  
10mVp-p
- Low Leakage Current  
60uA to 200uA
- Universal Input
- Approved Safety Standards
- Meet EMC Safety Standards
- RoHS Free, Vinyl Chloride Free, Halogen Free (PCB)

## ■ Model No.

HFS150A - XX\*

\* Specify output voltage option 5/12/15/24/30/48

## ■ Specification

Model Number		HFS150A-5	HFS150A-12	HFS150A-15	HFS150A-24	HFS150A-30	HFS150A-48
Input	Input Voltage Range	Rating 100-240Vac Single Phase * Range : 85Vac to 264Vac					
	Frequency Range	Rating : 50/60Hz, * Range : 47Hz to 63Hz					
	Input Current 100VAC/200VAC * 1	5Vout: 1.4A / 0.7A at Full Load, 12/15/24/30/48Vout: 2.0A/1.0A at Full Load					
	Efficiency * 1	80% / 81%	85% / 87%	86% / 88%	87% / 89%	87% / 89%	87% / 89%
	Inrush Current 100VAC / 200VAC * 1	20A / 40A * When it operates under cold start					
	Leakage Current	60uA @ 100Vac, 60Hz / 150uA @ 240Vac, 60Hz / 200uA @ 264V, 60Hz					
Power Factor [ AC100Vin / 200Vin ]		0.98 / 0.91		0.98 / 0.93			
Output	DC Output Voltage	5V	12V	15V	24V	30V	48V
	Output Current	20.0A	12.5A	10A	6.3A	5.0A	3.2A
	Maximum Output Power	100.0W	150.0W	150.0W	151.2W	150.0W	153.6W
	Line Regulation / Load Regulation [Max]	40mV / 80mV	48mV / 96mV	60mV / 120mV	96mV / 150mV	120mV / 188mV	192mV / 300mV
	Ripple Noise * 2	10mVp-p					
Other Feature	OCP * 3	> 110% ( Shut down output)					
	OVP * 3	> 115% (Shut down output)					
	Remote Sensing	Available					
	Remote Control	Available					
	Operation Indicator	LED lighting					
Mechanical	Cooling System	Convection					
	Size	100 x 43 x 194 mm (Without terminal stand)					
	Weight	680 g					
	Input & Output Terminal / Signal Terminal	Screw terminal / Connector					
Others	Noise Immunity	EN61000-4-2, -3, -4, -5, -6, -8, -11					
	Conduction Noise	EN55022-B, FCC-B, VCCI-B					
	Safety Certifications	UL60601-1, EN60601-1, CSA-C22.2 NO. 601.1-M90 UL60950-1, CSA-C22.2, NO. 60950-1, EN60950-1 CE Marking (low voltage directive), Nemko					

### Environmental Condition

Operating Temperature / Humidity	- 10 degree C to + 60 degree C * With output / 30%RH to 90% RH * Non Condensing
Storage Temperature / Humidity	- 20 degree C to + 85 degree C / 10%RH to 95% RH * Non Condensing
Vibration Resistance	19.6m/s <sup>2</sup> 10 to 55Hz 1minute Period 1hour for each X, Y, Z direction
Shock Resistance	< 196.1m/s <sup>2</sup> 11ms 1 time for each X, Y, Z direction

### Isolation

Isolation Voltage	Input— Output : AC4KV for 1min Cut off current 20mA * Under normal temp & humidity condition
	Input— FG : AC2KV for 1min Cut off current 20mA * Under normal temp & humidity condition
	Output—FG : AC500V for 1min Cut off current 20mA * Under normal temp & humidity condition
Isolation Resistance	Input— Output , Input—FG, Output—FG DC500V >100M ohm

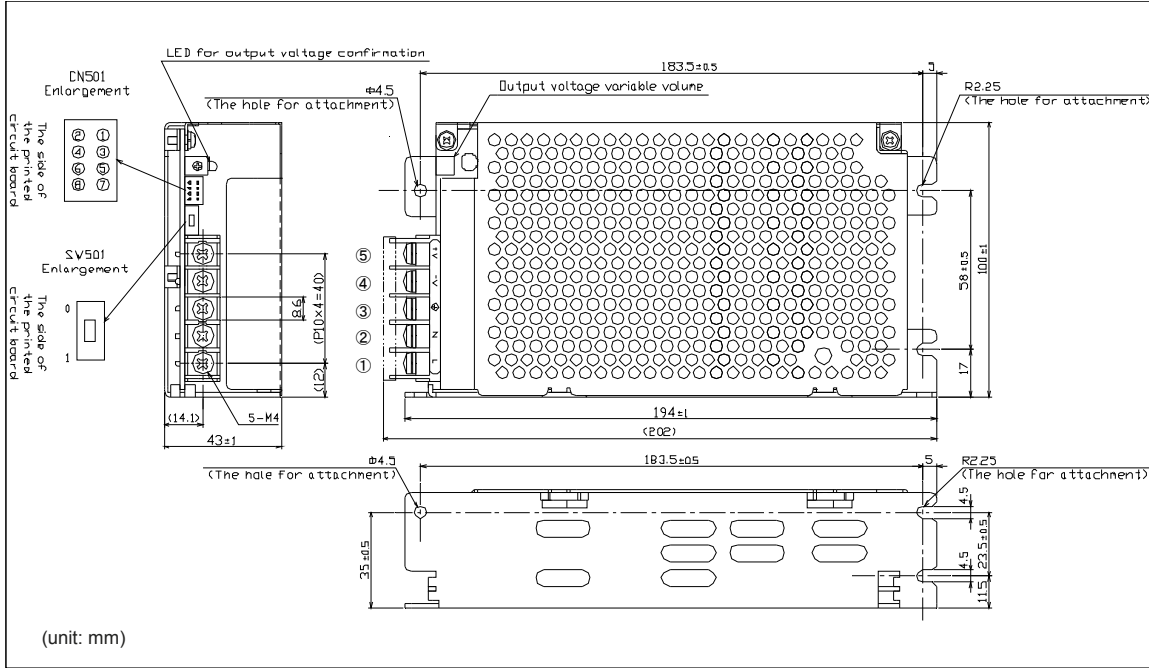
\*1 Conditions: Ta = 25 degree C

\*2 JEITA specified measuring method

\*3 Upon over voltage or over current conditions, input power must be removed to allow unit reset to occur within a few minutes.

Note: Derating is required by operating temperature. Follow the overload and specification in manual to avoid the damage of power supply.

**Mechanical Drawings**

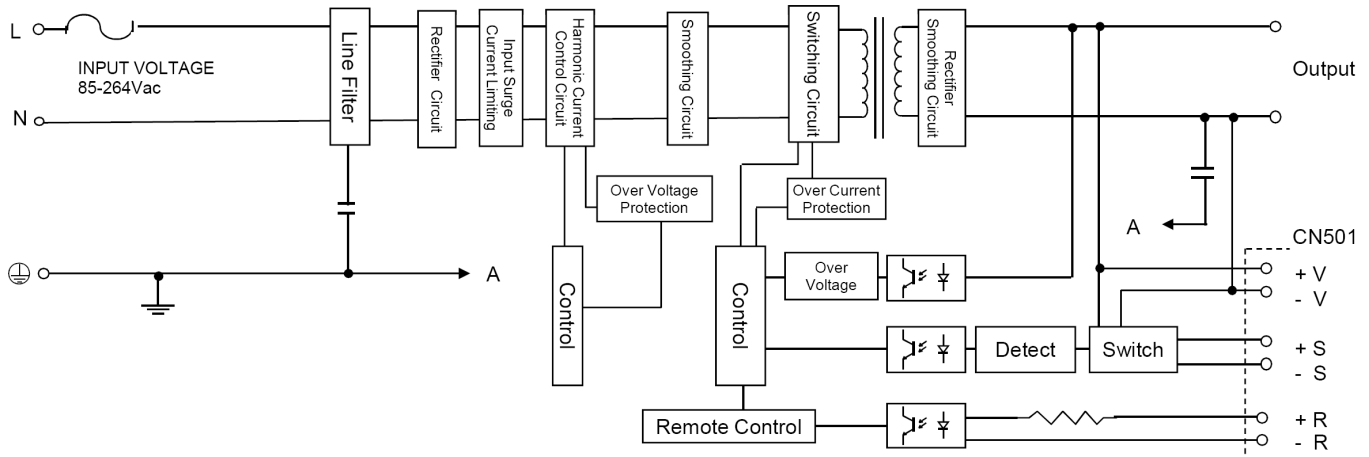


Pin	Terminal
1	Input (L)
2	Input (N)
3	PE
4	Output (-)
5	Output (+)

BOM	CN502	Pin #	SW501	Pin	CN501
Connector	S8B-PHDSS Manufacturer: JST	0	Remote sensing Off	1	+S Output remote sense
Housing	PHDR-08VS	1	Remote sensing On	2	+V : + Power monitoring Signal
Terminal	SPHD-001T-P0.5			3	- S Output remote sense
Crimping Tool	AP-K2N			4	- V : - Power monitoring Signal
				5	N.C
				6	N.C
				7	+ R : + remote control
				8	- R : - Remote control

- Warning: Large capacitive load should be applied or removed only with NO AC power applied. Large inrush current may result in damage.
- Incorrect operation will damage Power Supply.

**Block Diagram**



Circuit system	Half bridge current resonance system
Harmonics current control circuit	Active filter system
Fuse capacity	5A

- Specifications subject to change without notice