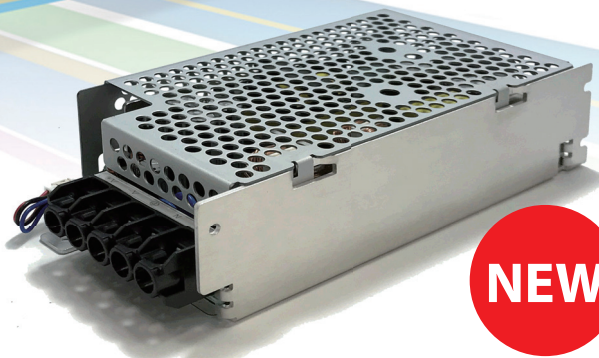


Daitron

50W Superior Ultra Low Noise
AC/DC Switching Power Supply

RFS50A

- ◆ Superior Ultra Low Ripple & Noise
- ◆ Significant Reduction of Common Mode Noise
- ◆ Low Conducted Emission, Low Radiated Emission
- ◆ Low Leakage Current (0.15mA/at 264Vac)
- ◆ Safety Standard: 62368-1
- ◆ Primary-Secondary Dielectric Strength 4kVac (1min)



RFS50A

Power Supply

2020.5

Daitron made Superior Ultra Low Noise AC/DC Switching Power Supply The RFS50A series, further reduces noise to the Superior Ultralow level and provides clean DC power with a complex resonant converter. The RFS50A switching power supply is an ideal for noise-sensitive applications, especially the equipment used in advanced hyperfine measurement, testing and medical & biotechnology fields.

Specification

Model Number		RFS50A-5	RFS50A-12	RFS50A-15	RFS50A-24	RFS50A-30	RFS50A-48
Input	Input Voltage Range	Rating 100~240Vac (Range:85~264Vac)					
	Frequency Range	Rating 50/60Hz (Range:47Hz~63Hz)					
	Input Current (*1)	ACIN 100V / 200V (Io=100%)					
	Inrush Current (*1)	ACIN 100V / 200V					
	Efficiency (*1)	ACIN 100V / 200V					
	Power Factor (*1)	ACIN 100V / 200V					
	Leakage Current	ACIN 100V/240V/264V(60Hz)					
Output	DC Output Voltage	5Vdc	12Vdc	15Vdc	24Vdc	30Vdc	48Vdc
	DC Output Voltage Variable Range	4.5~6.0V	10.8~13.2V	13.5~16.5V	21.6~26.4V	27.0~33.0V	43.2~52.8V
	Output Current	10A	4.2A	3.4A	2.1A	1.7A	1.1A
	Maximum Output Power	50.0W	50.4W	51.0W	50.4W	51.0W	52.8W
	Line Regulation/Load Regulation [Max]	40mV / 80mV	48mV / 96mV	60mV / 120mV	96mV / 150mV	120mV / 188mV	192mV / 300mV
	Ripple Noise (*2)	0.05mA typ / 0.12mA typ / 0.15mA max					
		1mV typ					
Other Feature	OCP (*3)	> 110% (Shut down output)					
	OVP (*3)	> 115% (Shut down output)					
	Other	Remote Sensing, Remote Control, Remote Output Voltage Control					
	Operation Indicator	LED lighting					
Mechanical	Cooling System	Convection					
	Size (W x H x D), Weight	82 x 42 x 178.5 mm (Without terminal stand), 500g					
	Input & Output Terminal / Signal Terminal	Screw terminal / Connector					
Environmental Condition	Operating Temperature / Humidity (*4)	-10 °C ~ 60 °C (With output) / 30%RH ~ 90%RH (Non Condensing)					
	Storage Temperature / Humidity	-20 °C ~ 85 °C / 10%RH ~ 95%RH (Non Condensing)					
	Vibration Resistance	19.6m/s ² (10~55Hz 1 minute Period 1hour for each X, Y, Z direction)					
	Shock Resistance	196.1m/s ² 11ms 1 time for X,Y,Z direction					
Isolation	Isolation Voltage	INPUT-FG : 2kVac (20mA) 1min, INPUT-OUTPUT : 4kVac (20mA) 1min, OUTPUT-FG : 708Vdc (10mA) 1min					
	Isolation Resistance	INPUT-FG , INPUT-OUTPUT , OUTPUT-FG 500V DC>100MΩ					
Others	Electrostatic Discharge Immunity Test	EN61000-4-2 Compliance					
	Radiated Radio-Frequency Electromagnetic Field Test	EN61000-4-3 Compliance					
	Electrical Fast Transient / Burst Immunity Test	EN61000-4-4 Compliance					
	Surge Immunity Test	EN61000-4-5 Compliance					
	Conducted Disturbances Inducted by Radio-frequency Immunity Test	EN61000-4-6 Compliance					
	Power Frequency Magnetic Field Immunity Test	EN61000-4-8 Compliance					
	Voltage Dips, short interruptions , voltage variations immunity tests	EN61000-4-11 Compliance					
	Conducted Emission	EN55022-B, FCC-B, VCCI-B compliant					
	Safety Certifications	UL62368-1, CAN/CSA-C22.2 NO.62368-1, EN62368-1 Certification PSE Compliance					
	UL File No	E237238 (UL62368-1)					
	CE Marking	Low voltage directive					
	Harmonic Current Characteristics	EN61000-3-2 (CLASS A) Compliance					

(*1) Conditions:Ta=25 degree C Typical value at maximum output power (Inrush current value doesn't include part of within 0.1 msec to input filter)

(*2) The typical ripple voltage in the standard specification is a value measured by our measuring method. (Condition:Ta=25 °C,Vin=100Vac Typical value at rated output)

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

(*4) Derating is required by operating temperature. Follow the overload and specification in manual to avoid the damage of power supply.

※ This power supply is intended to be used as a component of a larger system of electrical equipment. User is responsible for the safe design when this product is to be integrated in the equipment which requires particularly high quality and reliability and there is a possibility to endanger persons or property by a failure or malfunction of this product.

TB101

① L : AC Line

- ② N : AC Neutral
- ③  : Frame Ground
- ④ -V : -Output terminal
- ⑤ +V : +Output terminal

※Terminal screws are all M3.5

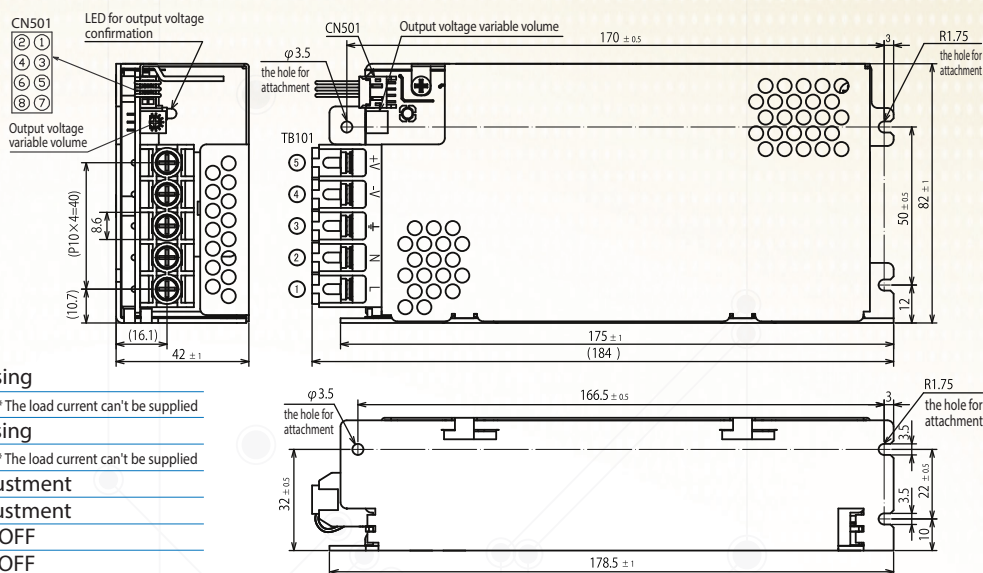
 CN501

① +S : +Output Remote Sensing

- | | | | | | |
|---|-----|---|--|--|--|
| 2 | +V | : +Output Voltage Check *The load current can't be supplied | | | |
| 3 | -S | : -Output Remote Sensing | | | |
| 4 | -V | : -Output Voltage Check *The load current can't be supplied | | | |
| 5 | VR+ | : +Remote Voltage Adjustment | | | |
| 6 | VR- | : -Remote Voltage Adjustment | | | |
| 7 | +R | : +Remote Control ON/OFF | | | |
| 8 | -R | : -Remote Control ON/OFF | | | |

Connector P/N	S8B-PHDSS(Manufacturer : JST)
Housing	PHDR-08VS

Terminal	SPHD-001T-P0.5
Crimping tool	AP-K2N



The diagram illustrates a power supply system with the following components and connections:

- Input:** L (Line) and N (Neutral) lines with a Fuse and Input Voltage (85-264VAC). FG (Ground Fault) is connected to ground.
- Power Processing:** Line Filter, Rectifier Circuit, Input Surge Current Limiting, Harmonic Current Control Circuit, Smoothing Circuit, Switching Circuit, and Rectifier Smoothing Circuit.
- Control and Protection:**
 - Control:** Receives signals from OCP, OVP, and Remote Control.
 - OCP, OVP:** Over Current Protection and Over Voltage Protection.
 - Remote Control:** Receives signals from the Control unit.
 - Detectors:** Includes a current detector (A) and a voltage detector (Detect).
- Output:** + and - terminals. The voltage detector (Detect) is connected to +V, -V, +S, -S, VR+, VR-, +R, and -R.
- Other Components:** A capacitor is connected between the Line Filter and FG. A diode is connected between the current detector (A) and the output + terminal.

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