

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

RFS50A


NEW

- ◆ 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)

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%)		0.8A / 0.5A				
	Inrush Current (*1)	ACIN 100V / 200V		20A / 40A				
	Efficiency (*1)	ACIN 100V / 200V		73% / 74%	78% / 79%	80% / 80%	80% / 80%	80% / 80%
	Power Factor (*1)	ACIN 100V / 200V		0.95 / 0.82				
	Leakage Current	ACIN 100V/240V/264V(60Hz)		0.05mA typ / 0.12mA typ / 0.15mA max				
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)	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 1 hour 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 Induced 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.



RFS50A

Mechanical Drawings

TB101

Pin#

- ① L : AC Line
 - ② N : AC Neutral
 - ③ \perp : Frame Ground
 - ④ -V : -Output terminal
 - ⑤ +V : +Output terminal
- ※ Terminal screws are all M3.5

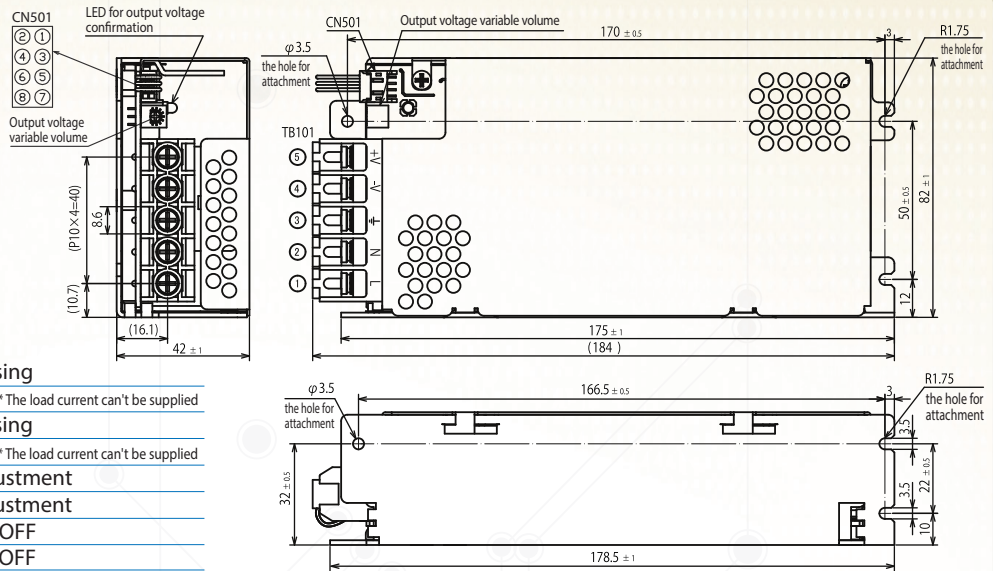
CN501

Pin#

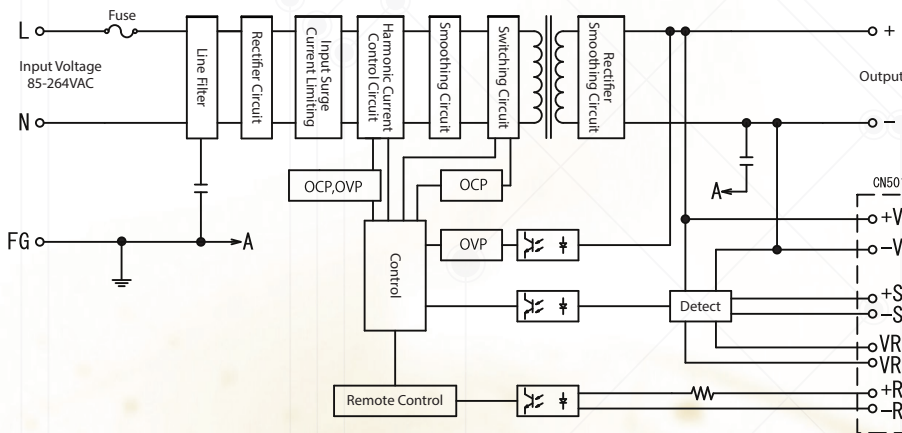
- ① +S : + Output Remote Sensing
- ② +V : + Output Voltage Check * The load current can't be supplied
- ③ -S : - Output Remote Sensing
- ④ -V : - Output Voltage Check * The load current can't be supplied
- ⑤ VR+ : + Remote Voltage Adjustment
- ⑥ VR- : - Remote Voltage Adjustment
- ⑦ +R : + Remote Control ON/OFF
- ⑧ -R : - Remote Control ON/OFF

Connector P/N S8B-PHDS5(Manufacturer : JST)
Housing PHDR-08VS

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



Block Diagram



DAITRON CO., LTD.

E-mail: ask-global@daitron.co.jp

Product: <http://www.daitronpower.com>

Corporate: <http://www.daitron>

HEAD OFFICE

6-11, Miyahara 4-chome, Yodogawa-ku, Osaka 532-0003 Japan

SALES PROMOTION DEPT.

15-1, Fujimidai 3chome, Kunitachi, Tokyo 186-0003, Japan
Phone: +81-42-571-8433

DAITRON INC.

9720 SW Hillman Court Suite 805, Wilsonville OR 97070, U.S.A.
Phone: +1-503-682-7560

DAITRON (KOREA) CO., LTD.

7th Floor, ENC Venture Dream Tower 6 cha, 41, Digital-ro 31-gil, Guro-Gu, Seoul, 08375, Korea
Phone: +82-2-6910-3300

DAITRON (SHANGHAI) CO., LTD.

Ruijin Building Annex, 7F 701, No.205 South Maoming Road, Huangpu district, Shanghai, 200020 China
Phone: +86-21-6093-2193

DAITRON (SHENZHEN) CO., LTD.

Room 1617, 16/F, Pacific Commercial&Trade Building, No.4028 Jiabin Road, Luohu District, Shenzhen, 518010 China
Phone: +86-755-2590-4712

DAITRON (H.K) CO., LTD.

Room 806-07, 9 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong
Phone: +852-2838-0682

DAITRON CO.,LTD. Taipei Branch

13F, No. 80, Sec. 2, Zhongxiao E. Rd., Zhongzheng Dist., Taipei City, 10050 Taiwan
Phone: +886-2-2394-5134

DAITRON CO.,LTD. Manila Representative Office

Unit 503, Alpap II Building, Trade St., Cor. Investment Drive, Madrigal Business Park, Ayala Alabang, Muntinlupa City, Metro Manila, Philippines
Phone: +63-2-8550-2832

DAITRON (THAILAND) CO., LTD.

75/105(Suite:A) 38th Fl., Ocean Tower 2, Soi Sukhumvit 19 (Wattana), Sukhumvit Road, Khlong Toey Nua, Wattana, Bangkok 10110, Thailand
Phone: +66-2-661-7265

DAITRON (MALAYSIA) SDN. BHD.

Level 25 Unit 8, Menara Permata Damansara (Oval Tower) No. 685, Jalan Damansara 60000 Kuala Lumpur, Malaysia
Phone: +60-3-7732-2081

DAITRON CO.,LTD. Hanoi Representative Office

5th Floor, Toserc Building, No. 273, Kim Ma Street, Giang Vo Ward, Ba Dinh District, Ha Noi City, Viet Nam
Phone: +84-28-7109-9832