Power Supplies With Integrated UPS
PSS Series

Overview

The RHINO SELECT PSS*-U panel mount power supplies, with integrated DC UPS function, prevents end-product downtime for the customer in the event of failure/disruption or unexpected loss of input AC power. The power supply will switch to battery operation (batteries not included) without interruption to increase operational reliability. The TTL compatible monitoring signals for AC OK, DC OK and Battery Low will alert the user in the event of failure. This convection-cooled single-phase power supply has a wide operating temperature range from -20ºC to + 70ºC and is suitable for security system, access control, automatic doors, alarm system and other similar products. In addition to having overvoltage, overload, over temperature, deep battery discharge, and reverse battery polarity protections on the main output, there are also short circuit and overload protections when operating in the buffering (battery discharging) mode. The PSS*-U design meets worldwide safety approvals, certified to Class B radiated and conducted emission requirements.

Features

- LED indicators for DC OK (Green) and Battery Reverse
- Zero cut-over time from loss of AC, to battery operation
- Protection against reverse polarity battery connection
- Conforms to harmonic current IEC/EN 61000-3-2, Class A
- High MTBF > 700,000 hrs. per Telcordia SR-332
- Monitoring Signals for AC OK, DC OK and Battery Low indication
- Overvoltage / Overcurrent / Over temperature / Short circuit protections
- Built-in over current and short circuit protection in buffering (battery discharging) mode operation
- Certified according to IEC/EN/UL 62368-1
- 3-year warranty

Power Supply With Integrated UPS				
Part Number	***Price***	***Output Voltage***	***Maximum Output Power***	***Drawing Link***
PSS12-155-U	$43.50	13.8 V	151W	PDF
PSS24-155-U	$43.50	27.6 V	151W	PDF

Power Supplies With Integrated UPS Specifications PSS Series

Technical Specifications					
Specifications		**PSS12-155-U**		**PSS24-155-U**	
		V+	**B+**	**V+**	**B+**
Input (AC)					
Input Voltage Range		90-132 VAC, 180-264 VAC [Selectable by Switch]			
Frequency		47-63 Hz			
Nominal Current		< 2.5 A @ 115VAC, < 1.5 A @ 230VAC			
Inrush Current Limitation I2t (+25 °C) typ		< 25A @ 115VAC & 230VAC			
Leakage Current		< 0.5 mA @ 264VAC			
Recommend Circuit Breaker (Characteristic B)		10A			
Output (DC)					
Nominal Output Voltage / Adjustment Range		13.8 VDC / 12 - 14 VDC	13.3 VDC	27.6 VDC / 24 - 28 VDC	27.1 VDC
Output Power		151W [max]			
Output Current	***Normal Mode***	905 A [0 - 11A]	1.5 A [0.5 - 1.5 A]	4.0 A [0 - 5.5 A]	1.5 A [0.5 -1.5 A]
	Buffering Mode	–	0 - 11A	–	0 - 5.5 A
PARD ripple and noise (20MHz)	***V+***	< 150mVpp @ 0 to -20°C < 100mVpp @ > 0 to 70°C			
Start-up Time	***V+***	< 1,000ms [115VAC @ 90% load, 230VAC @ 100% load]			
Hold-up Time	***V+***	> 20ms [115VAC @ 90% load, 230VAC @ 100% load]			
Rise Time	***V+***	< 50ms [100VAC @ 90% load, 200VAC @ 100% load]			
Efficiency		> 85.0% @ 115VAC / > 86.0% @ 230VAC		> 88.0% @ 115VAC / > 89.0% @ 230VAC	
Line Regulation	***V+***	< 0.5% [90-132VAC @ 100% load, 180-264VAC @ 100% load]			
Load Regulation	***V+***	< 1.0% [90-132VAC @ 0-90% load,180-264VAC @ 0-100% load]			
Voltage Drop Between V+ and B+	***Normal Mode***	0.5 V typ.			
	Buffering Mode	0.2 V typ.			
General Data					
Case Chassis / Cover		AL / SGCC			
Weight		0.60 kg [1.32 lb]			
MTBF		> 700,000 hrs. as per Telcordia SR-332, I/P: 115VAC, Ta: 25°C, O/P: 13.8 V/9.9 A for 13V model and 27.6 V / 4.95 A for 27V model			
Noise		Sound Pressure Level [SPL] < 30dBA			
Cooling		Convection			
Input / Output Terminal		Terminal block M3.5 x 7-Pin [Rated 300V/15A]			
Wire Size / Torque		AWG 16-14 / 11.3 lbf-in			
Status Connector		400mm length, 4-pin JST: XHP-4 Mating connector: B4B-XH-A(LF)(SN) Statuses available: DC OK, Low Battery, AC OK			
Shock Test		IEC 60068-2-27, 30G (300m/S²) for a duration of 18ms,3 times per direction, 9 times in total			
Vibration		IEC 60068-2-6, 10Hz to 150Hz @ 50m/S² (5G peak); displacement of 0.35 mm; 20 min per axis for all X, Y, Z direction			

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Power Supplies With Integrated UPS Specifications PSS Series

Technical Specifications				
Specifications	PSS12-155-U		PSS24-155-U	
	V+	B+	V+	B+
Safety / Environmental				
EMC / Emissions	CISPR 22, CISPR 32, EN 55022, EN 55032, FCC Title 47: Class B GB9254.1			
Immunity	EN 55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-12			
Voltage Dips	Conform to IEC 61000-4-11			
Galvanic Isolation	Input to Output : 3.0K VAC, Input to Ground : 1.5K VAC, Output to Ground : 0.5K VAC			
RoHS Compliant	Yes			
Operating Temperature	-20 to 70°C [-4 to 158°F]			
Storage Temperature	-40 to 85°C [-40 to 185°F]			
Humidity at +25 °C, no condensation	5 to 95% RH [Non-Condensing]			
Approvals	SIQ Bauart: EN 62368-1 UL 62368-1 and CSA C22.2 No. 62368-1; File No. E508040 CB scheme: IEC 62368-1, CE (In conformance with EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU)			

Battery Input / Output Characteristics					
Specifications		PSS12-155-U		PSS24-155-U	
		V+[4]	B+	V+	B+
Nominal Battery Voltage (Battery not included with Power Supply)		12VDC SLA Sealed lead acid battery		24VDC SLA Sealed lead acid battery 2x12 VDC SLA Sealed lead acid battery	
Battery Voltage Range	Continuously Operating	11.0 to 13.8 VDC [nominal at 12V]		22.0 to 27.6 VDC [nominal at 24V]	
	Maximum Allowed Voltage	16VDC Max		32VDC Max	
	Battery Low Voltage [1]	11.5 VDC typ		22.5 VDC typ	
	Minimum Voltage [2]	9.0 VDC +/- 0.5 VDC		18.0 VDC +/- 0.5 VDC	
Battery Capacity		3.3 AH/ 7AH/ 12AH/ 15AH			
Buffering Time		Approx. 1 hr 15 mins for battery 12V/15AH		Approx. 2 hrs 30 mins for battery 24V/15AH	
Charging Time [3]		2-10 hrs @ charging current of 1.5A			
Recommended Extended Fuse for Battery		Automotive 30A / 80V FK3 type from Littelfuse, or similar, in the battery B+ path. The battery fuse protects the wires between the battery and the unit.			
Battery Charging (Normal Mode)		CC-CV mode [constant current-constant voltage] at 0 to 1.5 A			
End-Of-Change Voltage		The unit always charges battery to a fixed voltage value.			

1. The voltage level of battery to enable "Battery Low" function.
2. Minimum battery voltage required for power supply to detect battery in order to begin charging. Battery must be connected to power supply, with the correct polarity, across B+ and B- terminals; and, with input and output loads disconnected.
3. Charging time depends on the state/condition of battery discharge; and will depend on the amount of buffering/discharging time, and load current that battery was discharged at.
4. V+ and V- terminals are for power supply voltage output.

Wiring Diagram