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AC–DC

130 Watts

JPS Series

xppower.com



- High Efficiency – up to 90%
- Medical Approval (JPS130–M Versions)
- 3”x 5”Footprint
- 100 W Convection–cooled
- 130 W Forced–cooled
- Single & Multi Outputs
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC (130-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 2.0/1.0 A max at 115/230 VAC (JPS130) 2.6/1.3 A max at 115/230 VAC (JPS130-M)
Inrush Current	• 30 A at 115 VAC, 60 A at 230 VAC, cold start at 25 °C
Power Factor	• 0.9 typical
Earth Leakage Current	• 1.5 mA max at 264 VAC/60 Hz (JPS130) 260 µA max at 275 VAC/63 Hz (JPS130-M)
Input Protection	• JPS130 internal T3.15 A/250 VAC fused line, JPS130-M fused line & neutral

Output

Output Voltage	• See table
Output Voltage Trim	• ±10% on single output models, ±5% on multi output models, auxiliary outputs will track by the same percentage
Initial Set Accuracy	• At 60% rated load ±1% single outputs, ±3% on V1 for multi outputs
Minimum Load	• Single output: no minimum load required Multi-outputs: (see note 1)
Start Up Rise Time	• <20 ms
Hold Up Time	• 16 ms typical at 115 VAC & rated load (JPS130) 20 ms typical at 115 VAC & rated load (JPS130-M)
Drift	• <±0.2% after 20 mins warm up
Line Regulation	• ±0.5% Vmin to Vmax
Load Regulation	• ±1%, ±5% for auxiliary outputs, 20%-100% of rated load
Transient Response	• 4% max deviation, recovery to within 1% in 500 µs for a 25% load change
Ripple & Noise	• ±1% max pk-pk (see note 4)
Overvoltage Protection	• 110-140% Vnom on V1 only, recycle input to reset
Overload Protection	• 110-150%, auto recovery
Short Circuit Protection	• Trip & restart (hiccup mode), auto recovery
Temperature Coefficient	• 0.05%/°C
Remote Sense	• Single output models only, compensates for up to 0.5 V drop
Fan Output	• 12 V, 450 mA multi-output models only

General

Efficiency	• Up to 90% nominal line, full load
Isolation	• 3000 VAC Input to Output (JPS130), 4000 VAC Input to Output (JPS130-M 2 x MOPP), 1500 VAC Input to Ground (JPS130-M 1 x MOPP), 500 VAC Output to Ground
Switching Frequency	• 120 kHz, ±10% for both active PFC & PWM
Power Density	• 6.7 W/In^3
MTBF	• 200 kHrs to MIL-HDBK-217F at 50 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, (see derating curves)
Cooling	• JPS130PS03 83 W convection-cooling, 100 W, with 18 CFM airflow. All others, 100 W with convection cooling,130 W with 18 CFM airflow
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C (JPS130) -20 °C to +85 °C (JPS130-M)
Operating Altitude	• 3000 m

EMC & Safety

Emissions	• EN55032, Class B conducted FCC 20780, level B conducted EN60601-1-2, (JPS130-M)
Harmonic Currents	• EN61000-3-2 Class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 contact, level 3 air, Perf Criteria A
Radiated Immunity	• EN61000-4-3, 10 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, Installation Class 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 2, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 95% 5000 ms Perf Criteria A, B, B
Safety Approvals	• JPS130: EN60950-1, UL60950-1, CSA C22.2 No. 60950-1, JPS130-M: UL60601-1, EN60601-1, CSA C22.2 No. 601.1 CE & UKCA meets all applicable directives & legislation

Models and Ratings

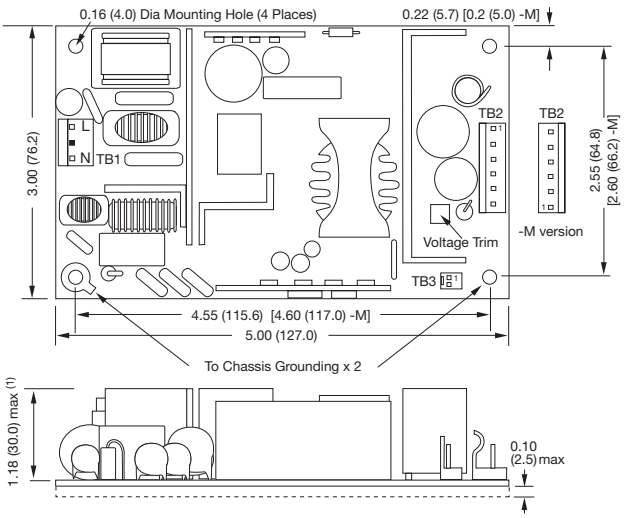
JPS130 XP

Output Power[3]	Output Voltage	Output Current		Ripple & Noise Pk-Pk[4]	Standard Model Number	Medical Model Number
		Convection-cooled	18 CFM			
100 W	3.3 V	25.0 A	30.0 A	50 mV	JPS130PS03	
130 W	5.0 V	20.0 A	26.0 A	50 mV	JPS130PS05	JPS130PS05-M
	12.0 V	9.0 A	10.8 A	120 mV	JPS130PS12	JPS130PS12-M
	15.0 V	7.0 A	8.7 A	120 mV	JPS130PS15	JPS130PS15-M
	24.0 V	4.5 A	5.4 A	200 mV	JPS130PS24	JPS130PS24-M
	28.0 V	3.8 A	4.6 A	200 mV		JPS130PS28-M
	48.0 V	2.1 A	2.7 A	200 mV	JPS130PS48	JPS130PS48-M
130 W	+5.0 V[1]	11.5 A	15.0 A	50 mV	JPS130PT31	
	+12.0 V[2]	3.0 A	5.0 A	100 mV		
	-12.0 V[2]	0.5 A	0.5 A	100 mV		
130 W	+3.3 V[1]	10.0 A	15.0 A	50 mV	JPS130PT30	
	+5.0 V[2]	8.0 A	15.0 A	50 mV		
	+12.0 V[2]	0.5 A	0.5 A	100 mV		
130 W	+5.0 V[1]	10.0 A	15.0 A	50 mV		JPS130PT31-M
	+12.0 V[2]	3.0 A	4.1 A	120 mV		
	-12.0 V[2]	0.8 A	1.1 A	120 mV		
130 W	+5.0 V[1]	10.0 A	15.0 A	50 mV		JPS130PT32-M
	+15.0 V[2]	2.5 A	4.1 A	150 mV		
	-15.0 V[2]	0.8 A	1.1 A	150 mV		
130 W	+5.0 V[1]	2.5 A	4.0 A	50 mV		JPS130PT34-M
	+24.0 V[2]	2.8 A	4.0 A	240 mV		
	+12.0 V[2]	0.7 A	1.0 A	120 mV		

Notes

1. *20% minimum load required on V1 to maintain stated regulation for auxiliary rails.*
2. *Load regulation of auxiliary rails is defined over the range of 20%-100% of rated load.*
3. *Maximum power with 18 CFM of forced air.*
4. *Ripple and noise measured over 15 MHz bandwidth with a 47 µF electrolytic capacitor and 0.47 µF ceramic capacitor.*
5. *Covers available, order part number 'JPS130-M COVER' or add suffix '-C' to receive the unit with cover fitted. Overall dimensions 89.5 x 143.0 x 40.0 mm. For industrial units order part number 'JPS130 COVER' or add suffix '-C' to receive the unit with cover fitted. Overall dimensions 90.6 x 142.9 x 39.8 mm. Fixing screws M3, maximum penetration depth 3mm from cover outer surface.*
6. *Connector kits and cable harnesses available. Consult sales for options.*

Mechanical Details



All dimensions are in inches (mm).
Tolerance: 0.02 (0.4) max.
Weight: 0.5 lbs (240 g) approx.

TB3 PIN CONNECTIONS		
Pin	Single	Multi
1	- Sense	0 V
2	+ Sense	+12 V Fan

Notes

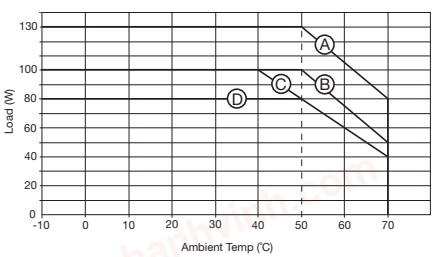
1. Single output industrial model shown, add extra 0.08" (2.0 mm) to overall height for multi-output models. Dimensions followed by '-M' apply for medical units (note output connector orientation).
2. AC input connector (TB1): Molex 5277-02A or equivalent. Mates with 5196-N housings/5194/5225 crimps.
3. DC output connector (TB2): Molex 5273 or equivalent, mates with 5195-N housing/5194/5225 crimps and 5239-N housing/5167/5168/2478/2578 crimps. Except JPS130PS03 which has a 6-position terminal screw block: Dinkle part number EHK508V Series accepts 24-12 AWG wire. Terminal screw tightening torque 4 lbs-in (0.45 Nm) maximum.
4. TB3: Molex 5045-02A or equivalent. Mates with KK 51191 housings/50802 crimps and KK 5051 housings/2759/5159 crimps. Single output units - TB3 is remote sense. Multi-output units - TB3 is 12 V, 450 mA fan output.

JPS130-M PIN CONNECTIONS					
TB2	PS05	PS 12 - 48	PT31	PT32	PT34
1	Return	Return	-12 V	-15 V	+12 V
2	Return	Return	+12 V	+15 V	+24 V
3	Return	Return	Return	Return	Return
4	Return	+V	Return	Return	Return
5	+V	+V	Return	Return	Return
6	+V	+V	Return	Return	Return
7	+V		+5 V	+5 V	+5 V
8	+V		+5 V	+5 V	+5 V
9			+5 V	+5 V	+5 V
Type	*5273-08A	*5273-06A	*5273-09A		

JPS130 PIN CONNECTIONS				
TB2	PS05	PS03, 12 - 48	PT31	PT30
1	+V	+V	+5 V	+3.3 V
2	+V	+V	+5 V	+3.3 V
3	+V	+V	+5 V	Return
4	+V	Return	Return	Return
5	Return	Return	Return	Return
6	Return	Return	Return	Return
7	Return		Return	Return
8	Return		+12 V	+5 V
9			-12 V	+5 V
10				+12 V
Type	*5273-08A	*5273-06A	*5273-09A	*5273-10A

* Note: MOLEX connector type

Derating Curves



Ⓐ JPS130 and '-M' with 18 CFM fan (except JPS130PS03).

Ⓑ JPS130PS12, PS15, PS24 and PS48 and '-M' with convection cooling. JPS130PS03 with 18 CFM fan.

Ⓒ JPS130PS05, PT30, PT31, PT32 and PT34 and '-M' with convection cooling.

Ⓓ JPS130PS03 with convection cooling.