

AC/DC U-Channel

350 Watts JPS350 Series



THE **XP**ERTS IN POWER

- 300 W Convection Cooled
- Meets EN61000-3-2, -3
- High Efficiency
- Meets 1U, Low Profile Requirements
- Current Sharing
- AC OK & DC OK Signals
- Zero Voltage Switching Technology

Specification

Input

- | | |
|-----------------|---|
| Input Voltage | • 85-264 VAC (170-370 VDC) |
| Input Current | • 4 A max at 115 VAC
2 A max at 230 VAC |
| Inrush Current | • 30 A max at 115 VAC,
60 A max at 230 VAC |
| Input Frequency | • 47-63 Hz |

Output

- | | |
|----------------------------|---|
| Output Voltage | • See Table |
| Output Voltage Adjustment | • $\pm 10\%$ single output models only |
| Output Power | • 350 Watts |
| Hold Up Time | • 20 ms min at low line |
| Line Regulation | • $\pm 0.5\%$ |
| Load Regulation | • $\pm 1\%$, $\pm 5\%$ for V3 and V4 |
| Tolerance | • $\pm 1\%$ |
| Transient Response | • 4% max deviation, 2 μ s recovery time for a 25% load change |
| Ripple & Noise | • $\pm 1\%$ max (pk-pk) |
| Overvoltage Protection | • 110% to 140%, on output 1 only recycle input to reset |
| Overcurrent Protection | • 120% to 150%, hiccup mode |
| Overtemperature Protection | • Shuts down at 110 °C measured internally, auto recovers |
| Temperature Coefficient | • $\pm 0.05\%/^{\circ}\text{C}$ |
| Remote Sense | • Compensates for up to 0.5 V drop |
| Remote On/Off | • On = Logic LOW, or open circuit
Off = Logic HIGH |
| Current Share | • Single wire current sharing (4 supplies can be paralleled) |

General

- | | |
|----------------------|--|
| Efficiency (Typical) | • Up to 90% |
| Isolation | • 3000 VAC Input to Output
1500 VAC Input to Ground
500 VAC Output to Ground |
| Power Density | • 4.9 W/in ³ |
| AC OK | • TTL HIGH for normal operation |
| DC OK | • TTL HIGH for normal operation |
| MTBF | • 100,000 hrs min to MIL-HDBK-217F |
| Fan Output | • 12 V at 300 mA
(5 V at 400 mA for JPS350PS05) |
| Size | • 5.0" x 9.0" x 1.6" |
| Weight | • 960 g |

Environmental

- | | |
|-----------------------|---|
| Operating Temperature | • 0 °C to +70 °C See Derating Curve
Full power to +50 °C |
| Storage Temperature | • -20 °C to +85 °C |
| Cooling | • 350 W with 18 CFM airflow
300 W Convection Cooling |
| Operating Altitude | • 10,000 feet (3,200 M) |

EMC & Safety

- | | |
|------------------|--|
| EMI/EMC | • EN61000-3-2, -3,
EN55022 Class B & FCC 20780
Level B conducted |
| Immunity & Surge | • EN50082-2,
(EN61000-4-2, -3, -4, -5)
Performance criteria A |
| Safety Approvals | • UL60950, CSA C22.2 No 234, EN60950,
CE Mark LVD |

OUTPUT VOLTAGE & CURRENT RATINGS

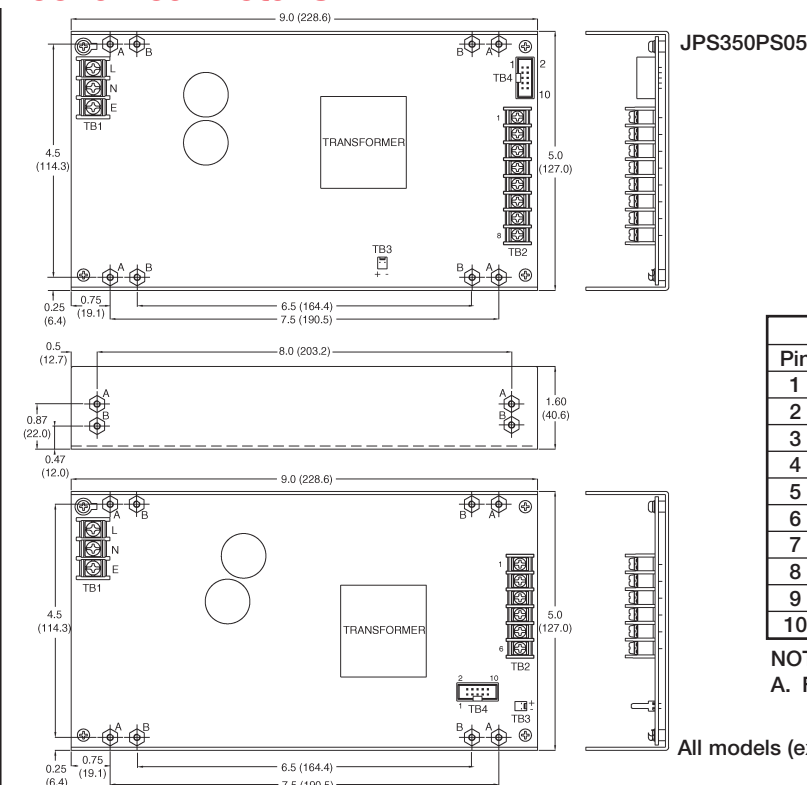
JPS350

Maximum Power	Output Voltage	Output Current		Ripple & Noise Pk-Pk ⁽²⁾	Model Number ⁽¹⁾
		Convection Cooled	18 CFM		
315 W	+5 V	54.0 A	63.0 A	50 mV	JPS350PS05C
350 W	+12 V	25.0 A	30.0 A	120 mV	JPS350PS12C
	+15 V	20.0 A	24.0 A	120 mV	JPS350PS15C
	+24 V	13.0 A	15.0 A	200 mV	JPS350PS24C
	+48 V	6.5 A	7.3 A	200 mV	JPS350PS48C

Notes

1. For non-current share version delete suffix 'C' from model number.
2. Ripple and noise measured over 15 MHz bandwidth with a 47 μ F electrolytic capacitor and 0.47 μ F ceramic capacitor.
3. No minimum load required.

Mechanical Details



TB2 CONNECTIONS		
Pin	JPS350PS05C	All other Models
1	+5 V	V1
2	+5 V	V1
3	GND	V1
4	GND	GND
5	GND	GND
6	GND	GND
7	+5 V	
8	+5 V	

TB4 CONNECTIONS			
Pin	JPS350PS05C	JPS350PS05	All other Models
1	NC	NC	N/C
2	NC	NC	N/C
3	RS+	R S +	RS+
4	DC OK	DC OK	DC OK
5	RS -	RS-	RS-
6	N/C	N/C	N/C
7	Current Share ^(A)	N/C	Current Share ^(A)
8	Remote On/Off	Remote On/Off	Remote On/Off
9	AC OK	AC OK	AC OK
10	GND	GND	GND

NOTE:

A. For non 'C' models pin 7 is not used.

All models (except JPS350PS05)

NOTES:

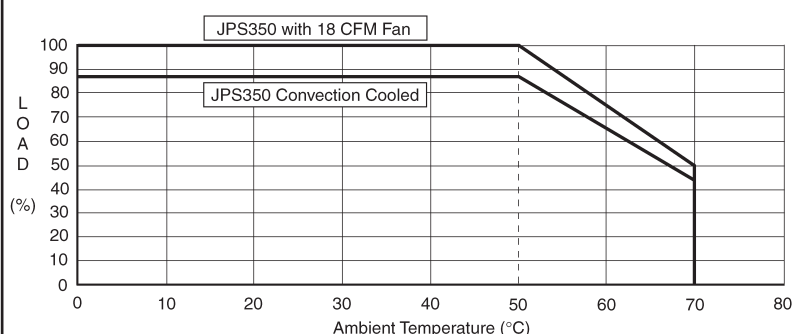
1. Dimensions shown in inches (mm).
2. Tolerance is ± 0.8 mm max.
3. TB3 is for fan, 12 V/300 mA with Molex 5045-02A or equivalent (5 V/400 mA for JPS350PS05).
4. TB1 (AC input) and TB2 (DC output) are terminal blocks.
5. TB4 signal connector is Molex 70246-10 or equivalent.
6. Maximum mounting screw penetration is 0.16 (4.0)
7. Fan/Cover option available, order part number JPS350 F/CVR 5V for 5 V models, JPS350 F/CVR for all other models or alternatively add suffix '-E' to receive cover fitted to the unit.

Mounting Holes:

A = #6-32 Screw Mounting Holes

B = M3 x 0.5 Screw Mounting Holes

Derating Curve & Application Notes



Application Notes

1. To turn off the output, apply 5 V to the remote ON/OFF.
2. AC OK is a TTL signal which goes LOW when input falls below 60 VAC at rated load.
3. DC OK is a TTL signal which goes LOW when PSU is in an overcurrent condition, overvoltage condition, disabled or when output falls out of regulation.
4. For AC OK and DC OK signals, source current is 1 mA, sink current is 6 mA.

OUTPUT VOLTAGE & CURRENT RATINGS - MULTI OUTPUT MODELS

JPS350

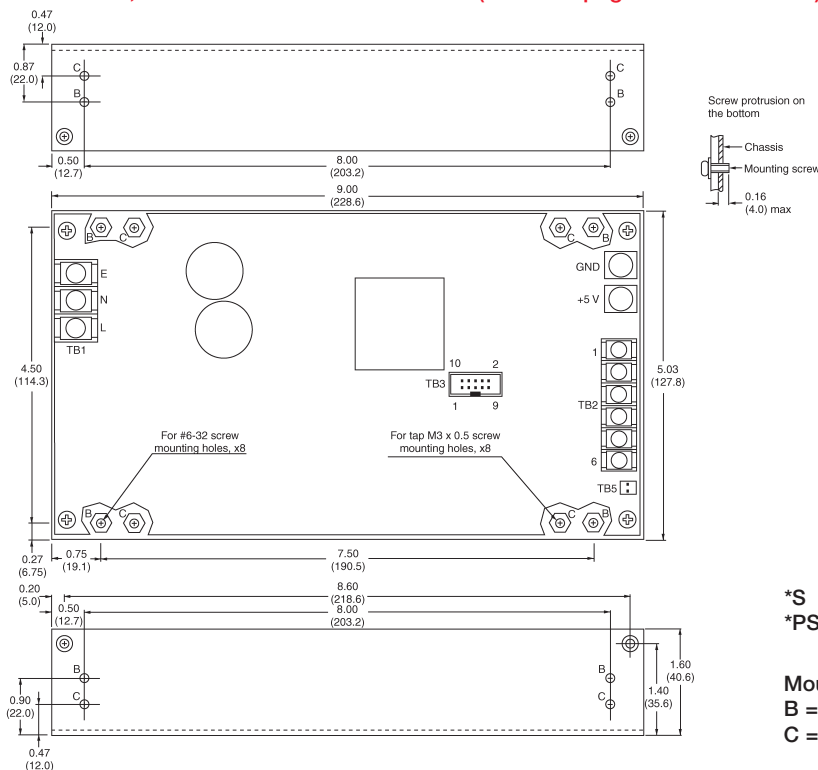
Output 1			Output 2			Output 3			Output 4			Model Number
Output V1	Conv. Cooled	Max 18 CFM	Output V2	Conv. Cooled	Max 18 CFM	Output V3	Conv. Cooled	Max 18 CFM	Output V4	Conv. Cooled	Max 18 CFM	
+3.3 V	20 A	35 A	+5 V	20 A	35 A	+12 V	4.5 A	6 A	-12 V	1 A	3 A	JPS350PQ46*2
+5.0 V	25 A	35 A	+12 V	10 A	14 A	-12 V	2.0 A	3 A	-5 V	1 A	2 A	JPS350PQ41
+5.0 V	25 A	35 A	+12 V	6 A	8 A	+24 V	3.0 A	4 A	-12 V	2 A	3 A	JPS350PQ47
+5.0 V	25 A	35 A	+15 V	5 A	7 A	+24 V	3.0 A	4 A	-15 V	1.6 A	3 A	JPS350PQ48

Notes

- Maximum power with 18 CFM forced air is 350 Watts, or 300 Watts with convection cooling.
- JPS350PQ46 requires 22 Max CFM. OVP on V2 (5 V output) not V1.
- For current share option add suffix "C" to part number.
- Current share models are built to order.
- All models require 2 A minimum load on V1. On V2, JPS350PQ46 requires 1 A, and JPS350PQ41 requires 0.5 A, and PQ47/PQ48 requires 2 A.

Mechanical Details - Multi Output Models

JPS350PQ41, JPS350PQ47 and JPS350PQ48 (See next page for JPS350PQ46).



TB2 Connections Charts			
Pin	PQ41	PQ47	PQ48
1	-12 V	-12 V	-15 V
2	-5 V	+24 V	+24 V
3	GND	GND	GND
4	GND	GND	GND
5	GND	GND	GND
6	+12 V	+12 V	+15 V

TB3 CONNECTIONS			
Pin	PQ41	PQ47	PQ48
1	+5 V +S*	+5 V +S*	+5 V +S*
2	+5 V +PS*	+5 V -PS*	+5 V PS*
3	+12 V +S*	+12 V +S*	+15 V +S*
4	DC OK	DC OK	DC OK
5	+12 V -S*	+12 V -S*	+15 V -S*
6	+5 V -S*	+5 V -S*	+5 V -S*
7	+12 V PS*	+12 V PS*	+15 V PS*
8	ENABLE	ENABLE	ENABLE
9	AC OK	AC OK	AC OK
10	GND	GND	GND

*S = Remote Sense

*PS = Current Share on "C" models only. No connection on standard models.

Mounting Holes:

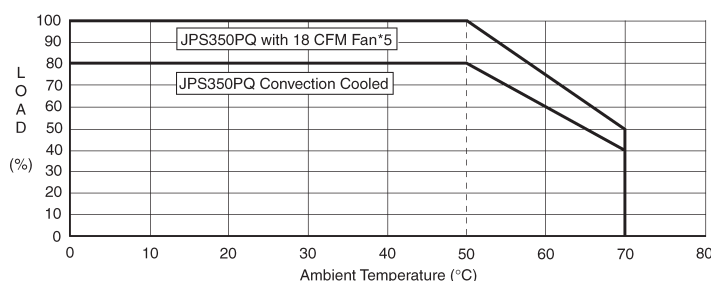
B = #6-32 Screw Mounting Holes

C = M3 x 0.5 Screw Mounting Holes

NOTES:

- Dimensions shown in mm.
- Tolerance is ± 0.8 mm max.
- TB5 is for fan, with Molex 5045-02A or equivalent. Fan output is 12V/300mA for PQ41 or 24V/150mA for PQ47 and PQ48
- TB1 (AC input) and TB3 (DC output) are terminal blocks.
- DC signal connector is Molex 70246-10 or equivalent.
- TB3 signal connector is Molex 70246-10 or equivalent.

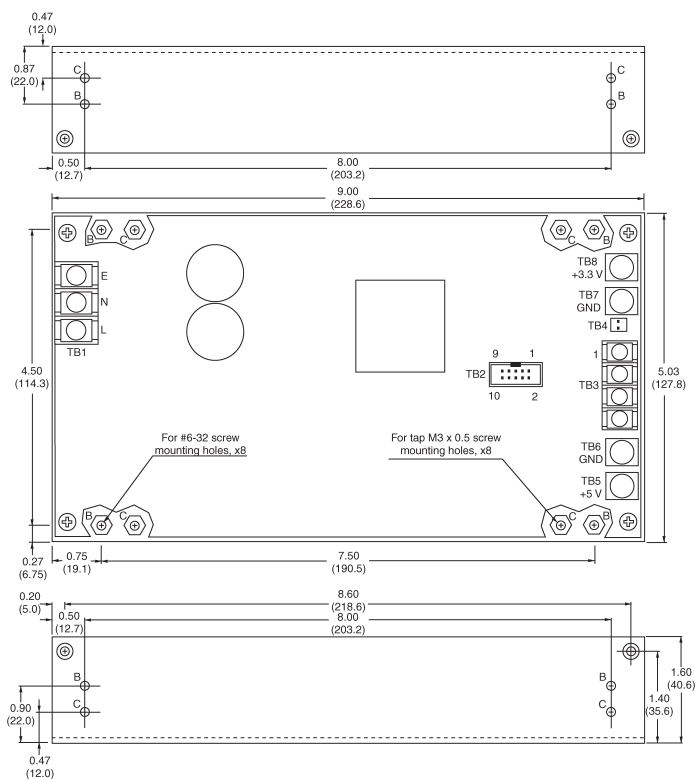
Derating Curve & Application Notes - Multi Output Models



Application Notes

- To turn off the output, apply 5 V to the remote ON/OFF.
- AC OK is a TTL signal which goes LOW when input falls below 60 VAC at rated load.
- DC OK is a TTL signal which goes LOW when PSU is in an overcurrent condition, overvoltage condition, disabled or when output falls out of regulation.
- For AC OK and DC OK signals, source current is 1 mA, sink current is 6 mA.
- JPS350PQ46 requires 22 Max CFM.

Mechanical Details - Multi Output Model JPS350PQ46



TB2 Connections Charts

Pin	PQ46
1	+5 V +S*
2	+5 V PS*
3	+3.3 V +S*
4	+DC OK
5	+3.3 V -S*
6	+5.0 V -S*
7	+3.3 V PS*
8	+Enable
9	+AC OK
10	GND

TB3 Connections Charts

Pin	PQ46
1	GND
2	+12 V
3	-12 V
4	GND

*S = Remote Sense

*PS = Current Share on "C" models only.

No connection on standard models.

NOTES:

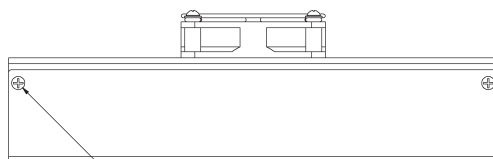
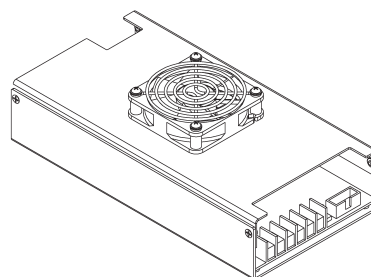
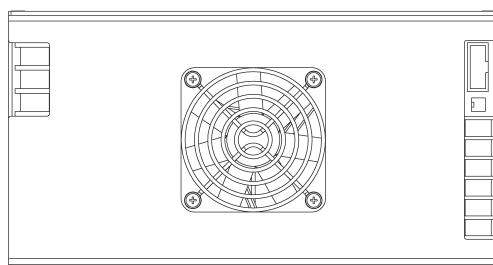
1. Dimensions shown in inches (mm).
2. Tolerance is ± 0.8 mm max.
3. TB4 is for fan, 12 V/300 mA with Molex 5045-02A or equivalent.
4. TB1 (AC input) and TB3 (DC output) are terminal blocks.
5. TB2 signal connector is Molex 70246-10 or equivalent.
6. Maximum mounting screw penetration is 0.16 (4.0).

Mounting Holes:

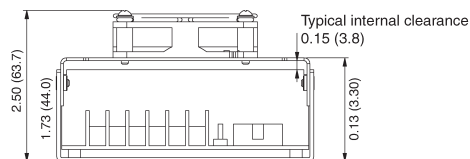
B = #6-32 Screw Mounting Holes

C = M3 x 0.5 Screw Mounting Holes

JPS350 with Fan/Cover Option



4 off M3 x 6 C/S head fixing screws
in existing countersunk holes



Typical internal clearance
0.15 (3.8)