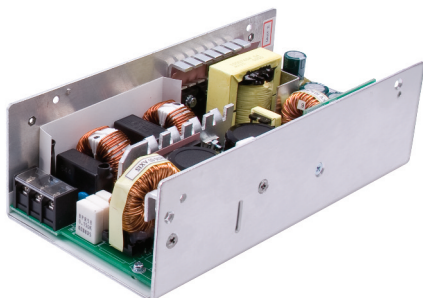


SHP650PS12-XB0507



- Additional RTV for Ruggedization
- IEC61010-1 (3rd edition)
- -40 °C to +70 °C Operation
- AC OK, Remote On/Off and Active Current Share
- 5 V Standby
- Screw Terminals
- 3 Year Warranty

Specification

Input

Input Voltage	• 80-264 VAC, derate output power 10% <90 VAC, and 20% <85 VAC
Input Frequency	• 47-63 Hz, 400 Hz (see models & ratings note 2)
Input Current	• 6.5 A typical at 115 VAC, 3.2 A typical at 230 VAC
Inrush Current	• 40 A max at 264 VAC
Power Factor	• >0.9
Earth Leakage Current	• 0.5 mA max 264 VAC/60 Hz ⁽¹⁾
Input Protection	• T16 A/250 V

Output

Output Voltage	• 12 VDC
Output Voltage Trim	• ±10% V1
Initial Set Accuracy	• ±1% V1, ±5% V3
Minimum Load	• No minimum load required
Start Up Delay	• 500 ms max
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 20 ms minimum
Drift	• ±0.2% after 20 min warm up
Line Regulation	• ±0.5%
Load Regulation	• ±1% V1, ±5% V3
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change
Ripple & Noise	• 1% pk-pk typical V1, 20 MHz bandwidth
Overvoltage Protection	• 115-145% Vnom, recycle input to reset
Overload Protection	• 110-140%, V1 only
Overtemperature Protection	• Auto reset
Short Circuit Protection	• Constant current characteristic ⁽¹⁾
Temp. Coefficient	• 0.05% / °C
Remote Sense	• Compensates for 0.5 V total voltage drop
Remote On/Off	• Uncommitted isolated optocoupler diode, powered diode inhibits V1 and fan supply ⁽¹⁾
Current Share	• Single wire current share ⁽¹⁾

⁽¹⁾ See longform datasheet for more information

General

Efficiency	• 85% typical
Isolation	• 3000 VAC input to output, 1500 VAC input to ground, 500 VDC output to ground
Switching Frequency	• PFC 70 kHz, main converter 200 kHz, standby 130 kHz typical
Power Density	• 8.2 W/in ³
Signals	• AC OK, remote on/off, current share ⁽¹⁾
MTBF	• 216-275 Khrs to MIL-HDBK-217F at 25 °C, GB ⁽¹⁾

Environmental

Operating Temperature	• -20 °C to +70 °C, derate linearly from +50 °C at 2.5% / °C to 50% at +70 °C, -40 °C start up ⁽¹⁾
Cooling	• U-channel requires 5.5 m/s minimum airflow
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 4600 m
Shock	• 30 g pk, half sine, 6 axes EN60068-2-27, -2-47
Vibration	• 2 g rms, 5-500 kHz, 3 axes EN60068-2-6

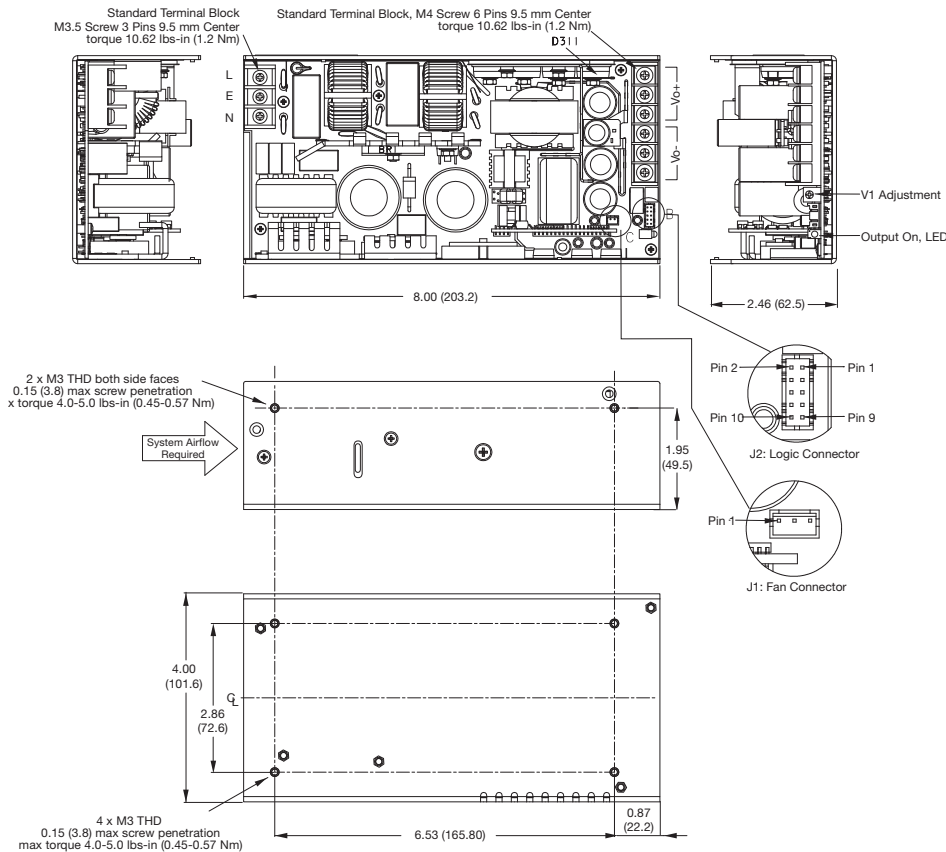
EMC & Safety

Emissions	• EN55022 class B conducted EN55022 class A radiated
Harmonic Currents	• EN61000-3-2 class A, class C for loads ≥20%
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 contact, level 3 air, Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 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 3, Perf Criteria A
Dips & Interruptions	• EN61000-4-11: 100% dip for 10 ms, 100% dip for 20 ms, 30% dip for 500 ms, 60% dip for 200 ms, 100% interruption for 5000 ms, Perf Criteria A, A, B, B, B
Safety Approvals	• IEC60950-1 CB report, CSA 22.2 No. 60950-1, UL60950-1, TUV, EN60950-1, IEC61010-1 (3rd Edition)

Output Voltage V1	Output Current V1	Fan Supply V2	Standby Supply V3	Output Power ⁽³⁾	Model Number
12 V	50.0 A	12 V / 0.5 A	5 V / 0.2 A	607 W	SHP650PS12-XB0507

Notes

1. Added RTV to C1, C4, C314, TFR51, U201, U202, U203 and daughterboard (10007661)
2. Unit certified for 400 Hz operation at 100-120 VAC. Operating range is 90 -132 VAC at 360 - 440 Hz
3. U Channel models require a minimum of 5.5 m/s airflow from the system.

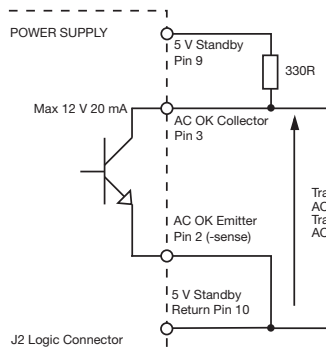
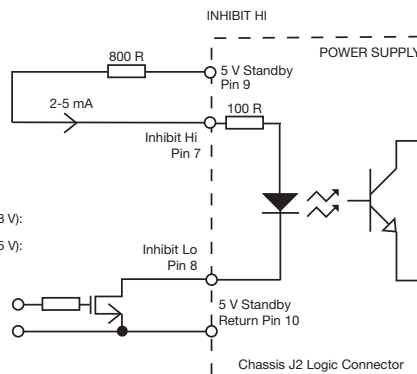
Mechanical Details

J1 Fan Connector (JST B2B-PH-KL (LF) (SN))	
Pin	Function
1	+V
2	NC
3	-V

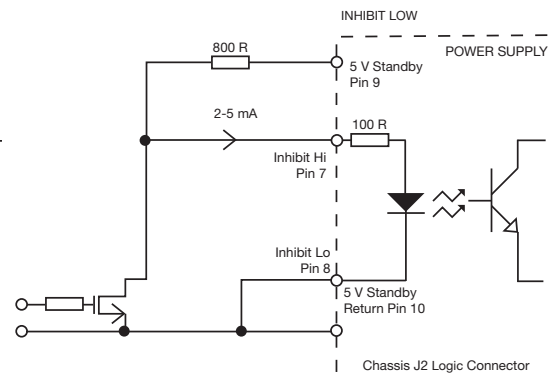
J2 Logic Connector (JST B10B-PHDSS)	
Pin	Function
1	+ Sense
2	- Sense
3	AC OK/Power Fail
4	- Sense
5	Current Share
6	Current Share
7	+ Inhibit
8	- Inhibit
9	+5 V Standby (V3)
10	5 V Standby Return (V3)

Notes

1. Dimensions shown in inches (mm).
2. Weight: 2.4 lb (1.1 kg).
3. Requires system airflow, see thermal considerations.
4. J1 Mating plug: JST part no. PHR-2, contact: JST part no. SPH-002T-P0.5S.
5. J2 Mating plug: JST part no. PHDR-10VS, contact: 26-22 AWG JST part no. SPHD-001T-P0.5.

Signals**AC OK/Power Fail****Remote On/Off (Inhibit)**

Signal High: Power Supply OFF
Low or Floating: Power Supply ON



Signal High: Power Supply ON
Low or Floating: Power Supply OFF

For U Channel and Thermal Considerations please see longform datasheet.