



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SHP Series



- Rugged Industrial Construction
- Variable Fan Speed for Noise Reduction
- -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	• 650 W: 80-264 VAC, derate output power 10% <90 VAC, and 20% <85 VAC 350 & 1000 W: 85-264 VAC, derate output power 10% <90 VAC
Input Frequency	• 47-63 Hz
Input Current	• 350 W: 3.8 A typical at 115 VAC, 2.1 A typical at 230 VAC, 650 W: 6.5 A typical at 115 VAC, 3.2 A typical at 230 VAC, 1000 W: 10.9 A typical at 115 VAC, 5.1 A typical at 230 VAC
Inrush Current	• 650 W: 40 A max at 264 VAC 350 & 1000 W: 60 A max at 264 VAC
Power Factor	• >0.9
Earth Leakage Current	• 0.5 mA max 264 VAC/60 Hz ⁽¹⁾
Input Protection	• 350W: T10 A/250 V, 650W: T16 A/250 V, 1000W: T20 A/250 V internal fuse in line and neutral, 350W: single internal fuse in line.

Output

Output Voltage	• 12-48 VDC (see tables)
Output Voltage Trim	• ±10% V1
Initial Set Accuracy	• 650 W: ±1% V1, ±5% V3, 350 & 1000 W: ±1% V1, ±5% V2
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	• 650 W: ±1% V1, ±5% V3, 350 & 1000 W: ±1% V1, ±5% V2
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	• 350 W: 6.6 W/in ³ , 650 W: 8.2 W/in ³ , 1000 W: 8.9 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	• 650 W: Forced cooled, '-TF' & '-EF' models have integral dual voltage level fan, which is load dependant, U Channel requires 5.5 m/s minimum airflow, 350 & 1000 W: Forced cooled via integral multi voltage level fan which is load dependant ⁽¹⁾
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 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, 650 W: class C for loads ≥20% 350 & 1000 W: class C for loads ≥10%
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, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• IEC60950-1 CB report, CSA 22.2 No. 60950-1, UL60950-1, TUV, EN60950-1, SEMI F47

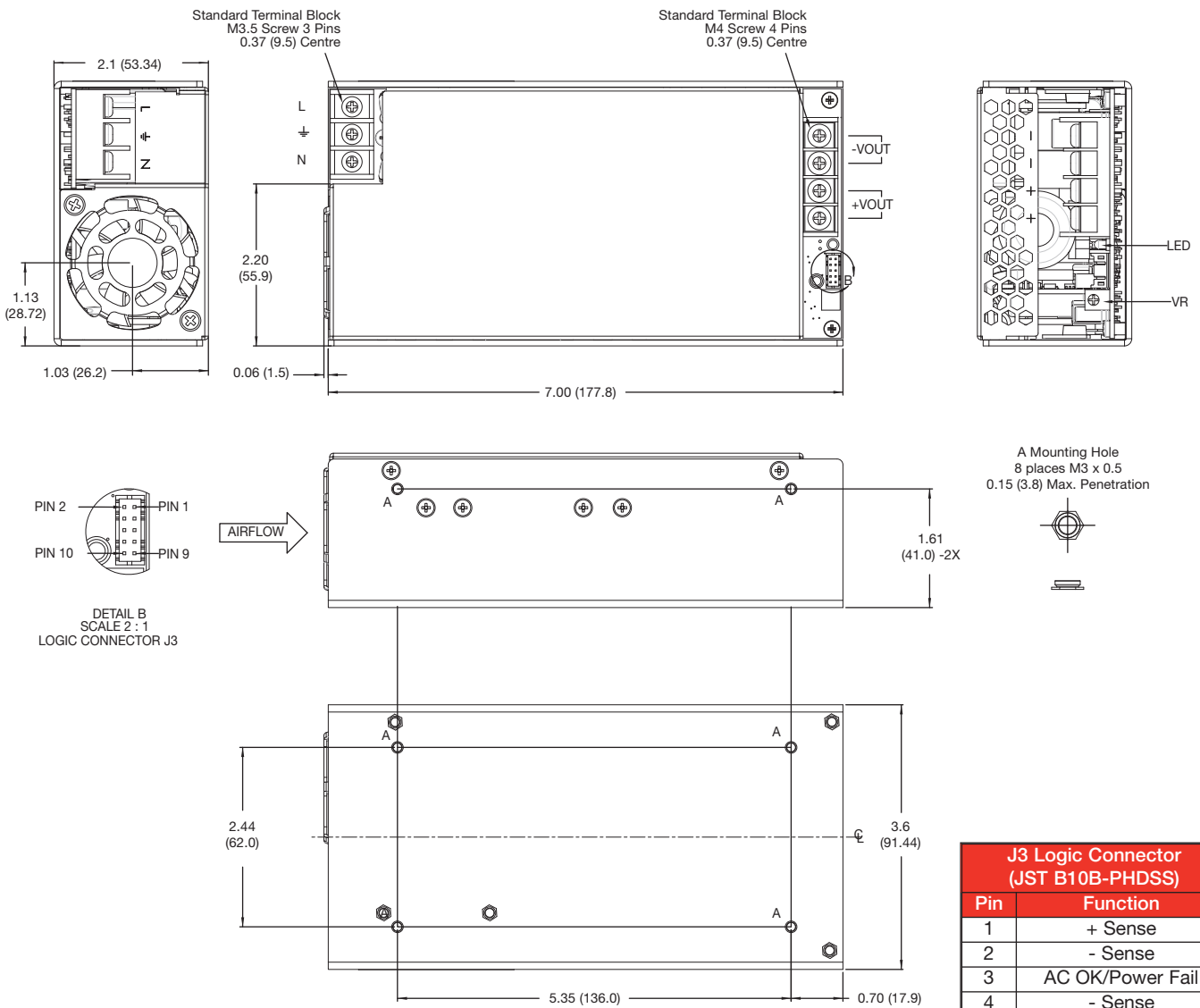
Output Voltage V1	Output Current V1	Standby Supply V2	Output Power		Model Number
			Continuous	Peak	
12 V	26.5 A	5 V / 0.2 A	318 W		SHP350PS12
15 V	22.0 A	5 V / 0.2 A	330 W		SHP350PS15
24 V	14.5 A	5 V / 0.2 A	348 W	417 W	SHP350PS24
28 V	12.5 A	5 V / 0.2 A	350 W	420 W	SHP350PS28
36 V	9.7 A	5 V / 0.2 A	350 W	420 W	SHP350PS36
48 V	7.3 A	5 V / 0.2 A	350 W	420 W	SHP350PS48

Notes

1. Peak power available for 10 seconds with 35% duty cycle.

Mechanical Details

End Fan



J3 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
10	5 V Standby Return

Notes

1. Dimensions shown in inches (mm).
2. Weight: 1.73 lb (0.788 kg).

3. Logic connector J3 mates with JST housing PHDR-10VS and SPHD-001T-P0.5 Crimp Terminals

Models and Ratings

Output Voltage V1	Output Current V1	Fan Supply V2 ⁽⁴⁾	Standby Supply V3	Output Power ⁽³⁾	Model Number ^(1,2)
12 V	50.0 A	12 V / 0.5 A	5 V / 0.2 A	607 W	SHP650PS12-EF
15 V	40.0 A	12 V / 0.5 A	5 V / 0.2 A	607 W	SHP650PS15-EF
24 V	27.0 A	12 V / 0.5 A	5 V / 0.2 A	655 W	SHP650PS24-EF
28 V	23.0 A	12 V / 0.5 A	5 V / 0.2 A	655 W	SHP650PS28-EF
36 V	18.0 A	12 V / 0.5 A	5 V / 0.2 A	655 W	SHP650PS36-EF
48 V	13.5 A	12 V / 0.5 A	5 V / 0.2 A	655 W	SHP650PS48-EF

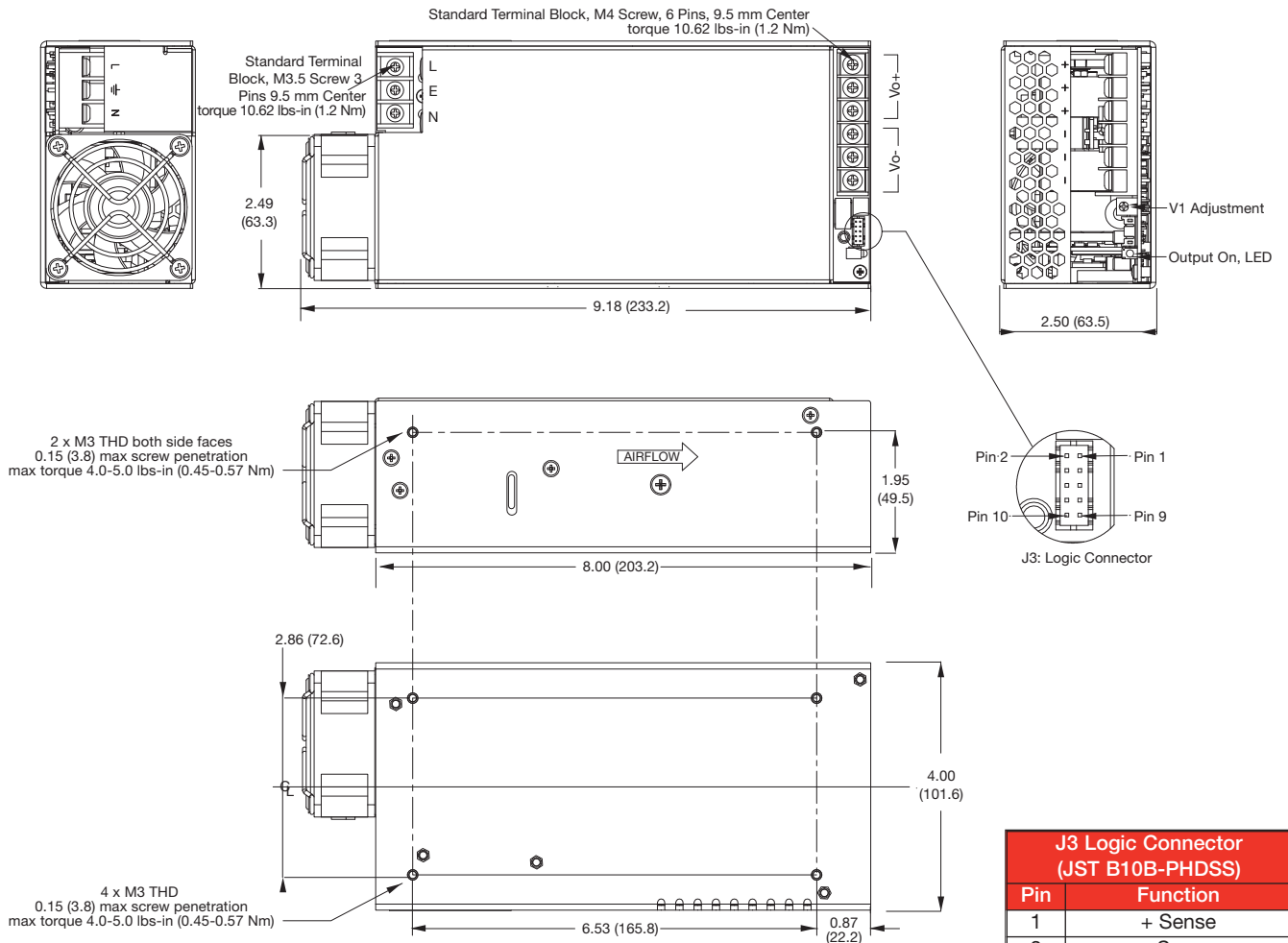
Notes

- For top fan version replace '-EF' in model number with '-TF', e.g. SHP650PS12-TF
- For U Channel version remove suffix.

- U Channel models require a minimum of 5.5 m/s airflow from the system.
- Not available for '-TF' and '-EF' models as used by integral fan.

Mechanical Details

End Fan (See Longform Datasheet for U-Channel Version)



J3 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)

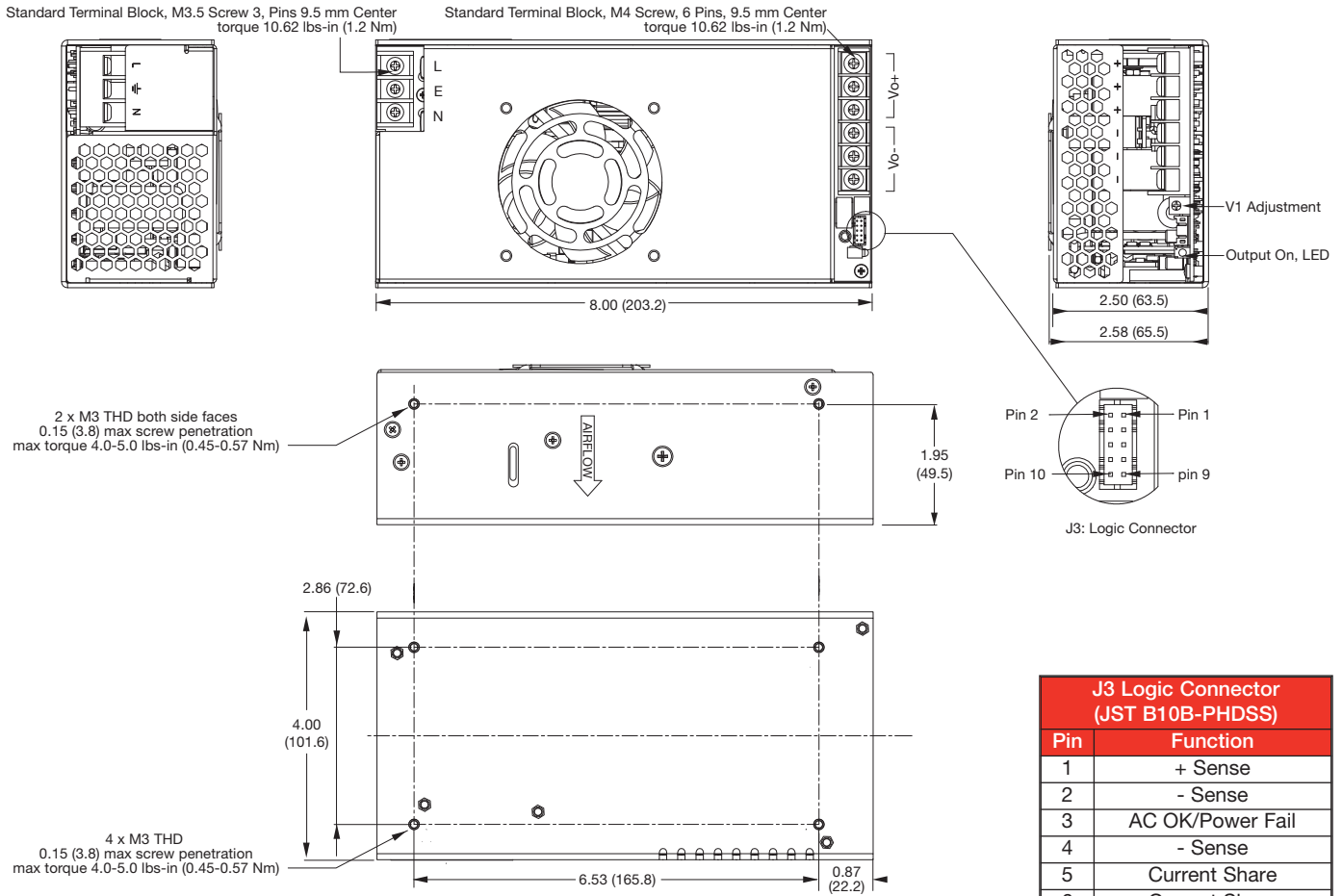
Notes

- Dimensions shown in inches (mm).
- Weight: 2.8 lb (1.27 kg).

- J3 Mating Plug: JST part no. PHR-2, contact: JST part no. SPH-002T-P0.5S; J3 Mating Plug: JST part no. PHDR-10VS, contact: 26-22AWG JST part no. SPHD-001T-P0.5

Mechanical Details

Top Fan (Suffix -TF)



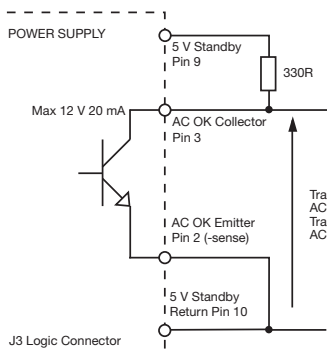
J3 Logic Connector (JST B10B-PHDSS)	
Pin	Function
1	+ Sense
2	- Sense
3	AC OK/Power Fail
4	- Sense
5	Current Share
6	Current Share
7	+ Inhibit
8	- Inhibit
9	+5 V Standby (V3)
10	5 V Standby Return (V3)

Notes

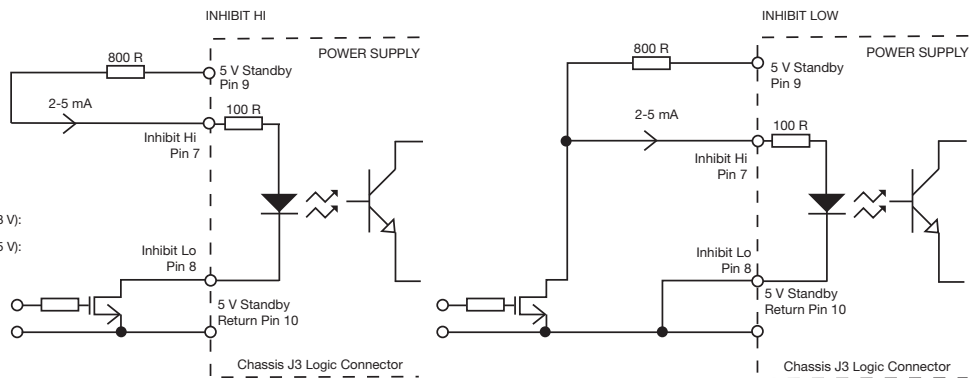
- Dimensions shown in inches (mm).
- Weight: 2.8 lb (1.27 kg).
- J3 Mating plug: JST part no. PHDR-10VS, contact: 26-22 AWG JST part no. SPHD-001T-P0.5.

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.

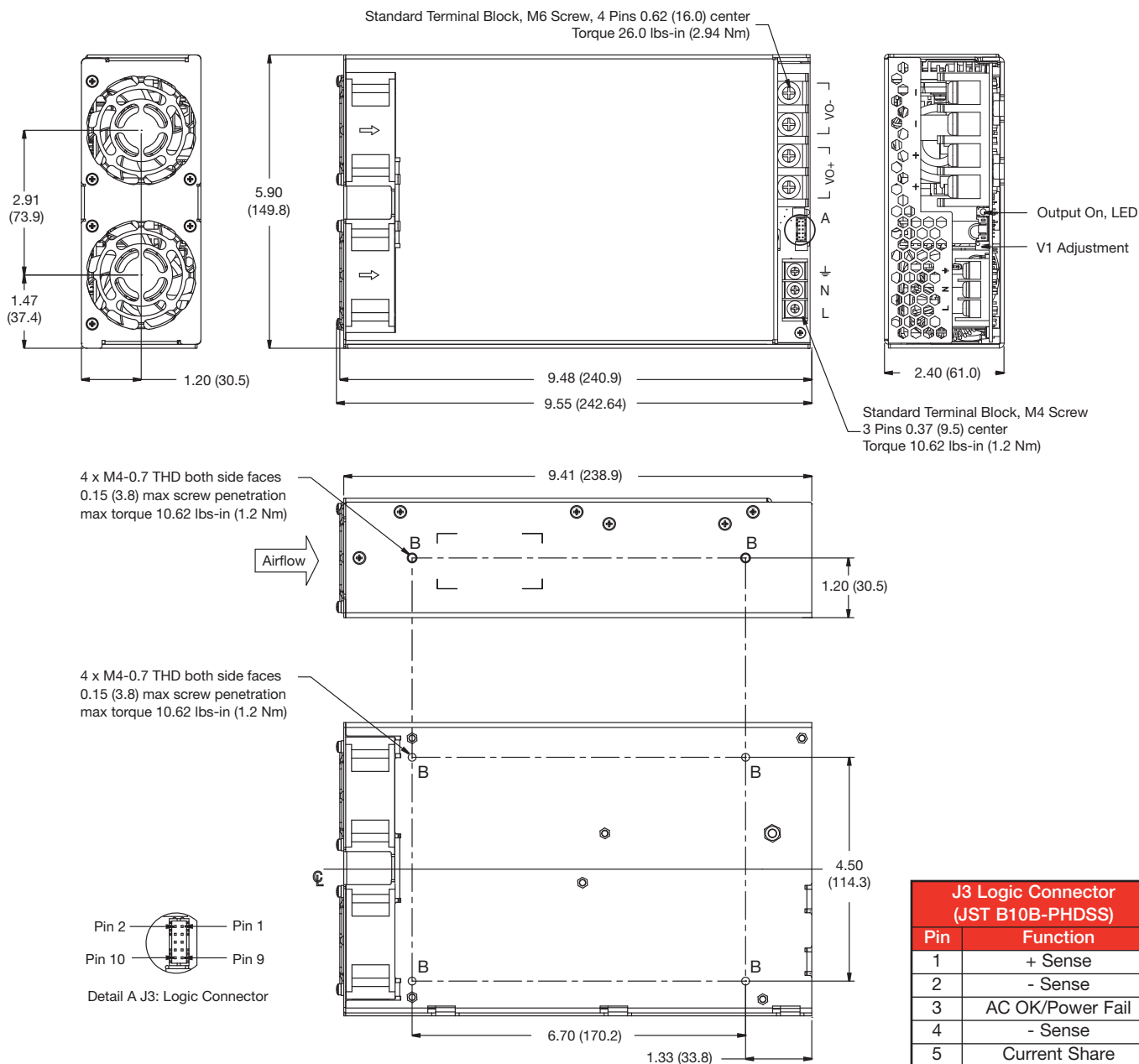


Models and Ratings

SHP1000 XP

Output Voltage V1	Output Current V1		Standby Supply V2	Output Power		Model Number
	<180 VAC	>180 VAC		<180 VAC	>180 VAC	
12 V	83.0 A		5 V / 1.0 A	1000 W		SHP1000PS12
15 V	67.0 A		5 V / 1.0 A	1010 W		SHP1000PS15
24 V	42.0 A	50.0 A	5 V / 1.0 A	1013 W	1200 W	SHP1000PS24
28 V	36.0 A	43.0 A	5 V / 1.0 A	1013 W	1200 W	SHP1000PS28
36 V	28.0 A	34.0 A	5 V / 1.0 A	1013 W	1200 W	SHP1000PS36
48 V	21.0 A	25.0 A	5 V / 1.0 A	1013 W	1200 W	SHP1000PS48

Mechanical Details



J3 Logic Connector (JST B10B-PHDS)	
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
10	-5 V Standby

Notes

1. Dimensions shown in inches (mm).
2. Weight: 4.6 lb (2.08 kg)

3. J3 Mating Plug: JST part no. PHDR-10VS, contact: 26-22AWG JST part no. SPHD-001T-P0.5

