

The 12.5kW power shelf accepts 3-phase input power and provides stable DC output power (1000A at 12.5VDC). The OCP 21-inch power shelf includes a total of 5+5 high-power, hot-swappable PSUs in redundant operation.

The 3-phase, 5-wire model name is PF-2123-2LNM. The 3-phase, 4-wire model name is PF-2123-2LNN.

Key Features

- 3-phase, 5-wire 380VAC / 400VAC, or 3-phase, 4-wire 208Vac, 12.5kW power output (2.5kW x 5; 12.5VDC/1000A)
- Up to 5+5 redundant operation
- Hot-swappable 2.5kW PSU
- Communication with Li-ion Battery Backup Shelf (BBS)
- 21-inch, 12.5kW Power Shelf with a height of 3 OU (OpenU), 5.17 inches (131 mm)
- Supports 6x C13 outlets for external AC load
- Supports up to 3 sets of bus bars to deliver DC output loading
- Optional Shelf Controller provides remote on/off capability of PSUs along with real-time monitoring and control
- Communication with Li-ion Battery Backup System (BBS)



Specifications

Electrical	
Maximum Output Power	12.5kW
Input	3-Phase, 5-Wire 346 / 360 / 380 / 400 / 415VAC or 3-Phase 4-Wire 200 / 208 / 220 / 230 / 240VAC
Output	12.5VDC / 1000A
Frequency	47Hz – 63Hz
Communications	CAN, PMBUS 1.2
EMI	Class A with minimum 4dB of margin
Physical	
Dimensions (H x W x D)	5.12" x 21.02" x 25.55" (130 mm x 534 mm x 649 mm)
Weight	56.66 lbs (25.7 kg) without PSUs
Form Factor	3 OU, 21" Rack Mount
Environment	
Temperature	Operating: -40°C – 85°C, Storage: -40°C – 85°C
Humidity	5% – 95% relative (non-condensing)
Altitude	Operating: 0 m – 3000 m
Acoustic	90.5dB
General	
Approvals	UL60950-1, IEC60950-1 International, GB4943, RoHS

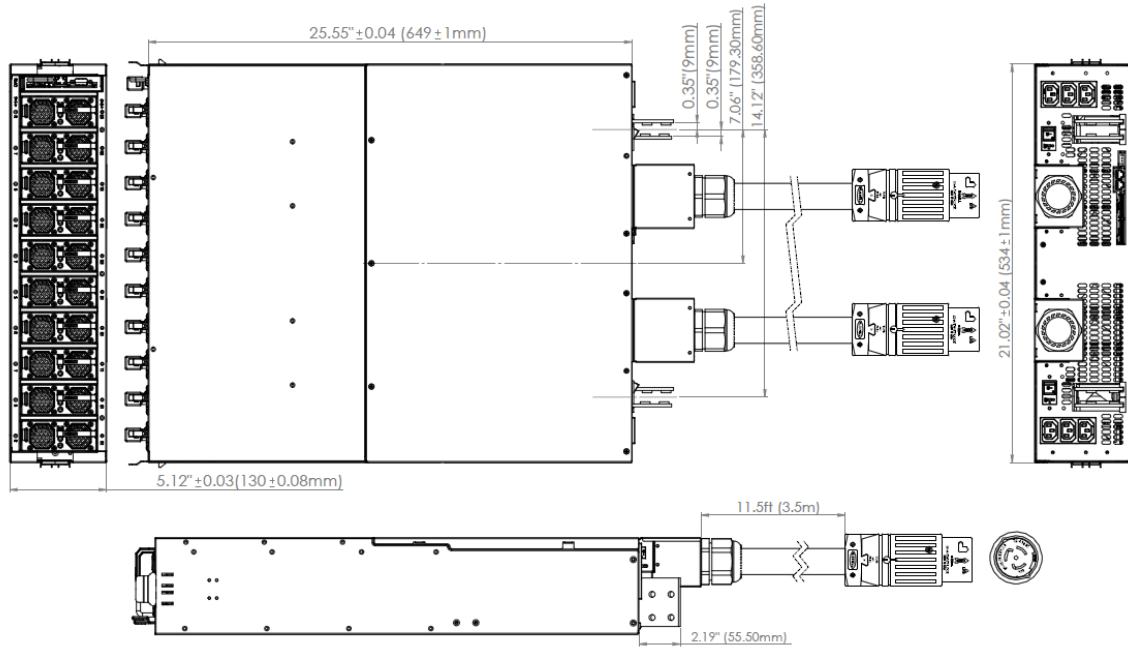
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Specifications

Mounting Hardware	2 mounting brackets and 12 screws are included
Warranty	3 Years

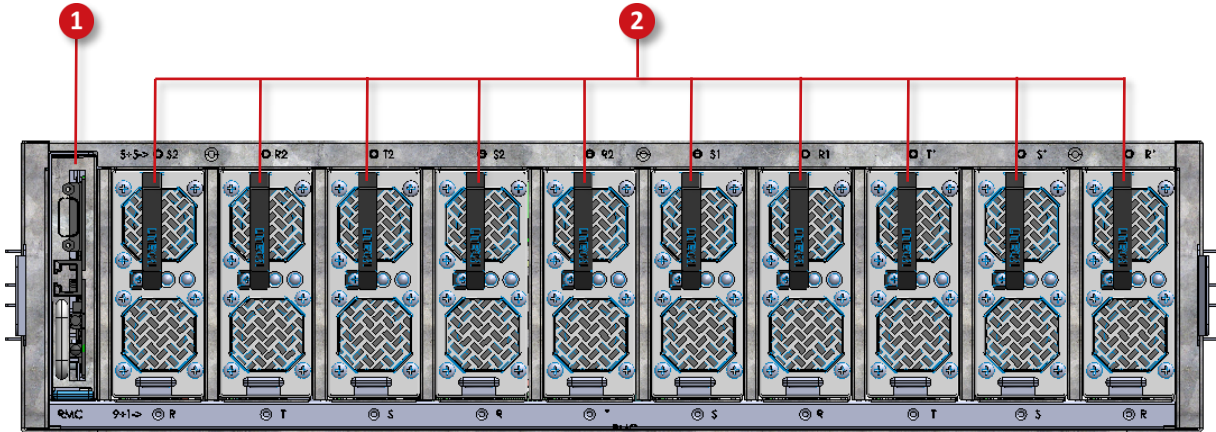
Mechanical



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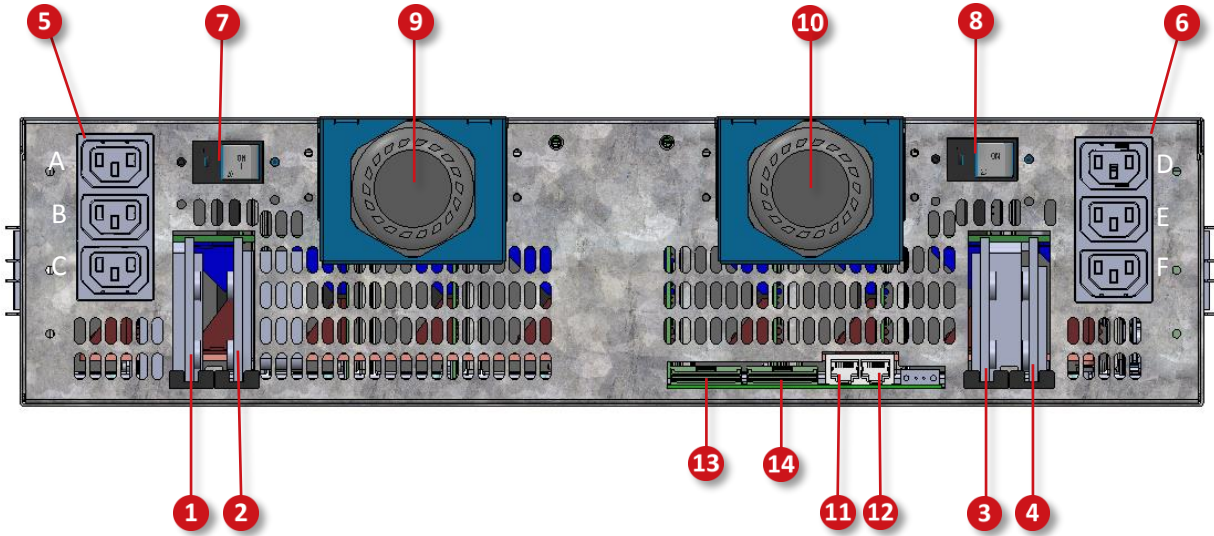
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Front Panel



1	Shelf Controller Port (optional)	Shelf Controller port to enable communication with the Power Shelf
2	Power Supply Unit	Single phase 200V to 240V Input / 12.5V, 200A output

Rear Panel



1	BUSBAR for GND	Negative output voltage
2	BUSBAR for +12.5V	Positive output voltage
3	BUSBAR for GND	Negative output voltage
4	BUSBAR for +12.5V	Positive output voltage
5	C13 Connector	Single-phase AC source outlet, AC Range 200 to 240VAC Plug A _T1 output/ Plug B _T1 output/ Plug C _T1 output
6	C13 Connector	Single-phase AC source outlet, AC Range 200 to 240VAC Plug D _T2 output/ Plug E _T2 output/ Plug F _T2 output
7	T1 CIRCUIT BREAKER	20A CB for single-phase AC_T1 output
8	T2 CIRCUIT BREAKER	20A CB for single-phase AC_T2 output
9	Input AC Connector	3-phase AC main input including power line R1, S1, T1, FG, N1
10	Input AC Connector	3-phase AC backup input including power line R2, S2, T2, FG, N2
11	RJ45 Port	Communication with Battery Backup Shelf (BBS)
12	RJ45 Port	Communication with Battery Backup Shelf (BBS)
13	COM1	Fan driver signal for rack
14	COM2	Fan driver signal for rack

Power Input Connectors

The main input connector contains AC power for R1, S1, T1, N1, and Frame Ground; another backup input connector contains R2, S2, T2, N2, and Frame Ground.

The 3-phase, 5-wire model name is PF-2123-2LNM. The 3-phase, 4-wire model name is PF-2123-2LNN.

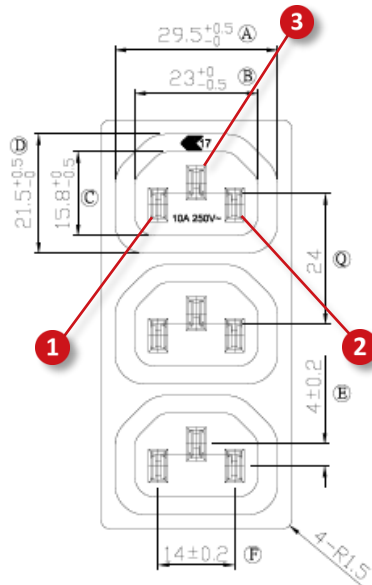
Description	R1-S1	S1-T1	T1-R1	R1,S1,T1 –N1
3PH-5Wire / With Neutral 346/360/380/400/415VAC	346/360/380/400/ 415VAC	346/360/380/400/ 415 VAC	346/360/380/400/ 415 VAC	200/208/220/230 /240 VAC
3PH-4Wire / without Neutral 200/208/220/230/240VAC	200/208/220/230/ 240VAC c	200/208/220/230/ 240VAC	200/208/220/230/ 240VAC	NA

Description	R2-S2	S2-T2	T2-R2	R2,S2,T2 –N2
3PH-5Wire / With Neutral 346/360/380/400/415VAC	346/360/380/400/ 415VAC	346/360/380/400/ 415 VAC	346/360/380/400/ 415 VAC	200/208/220/230 /240 VAC
3PH-4Wire / without Neutral 200/208/220/230/240VAC	200/208/220/230/ 240VAC	200/208/220/230/ 240VAC	200/208/220/230/ 240VAC	NA

Single Phase AC Outlet

AC outlets C13 are connected to T1 and T2 respectively. Each single-phase AC outlet provides up to 2A. The output voltage range depends on the three-phase input source. The AC voltage range is 200 to 240 VAC.

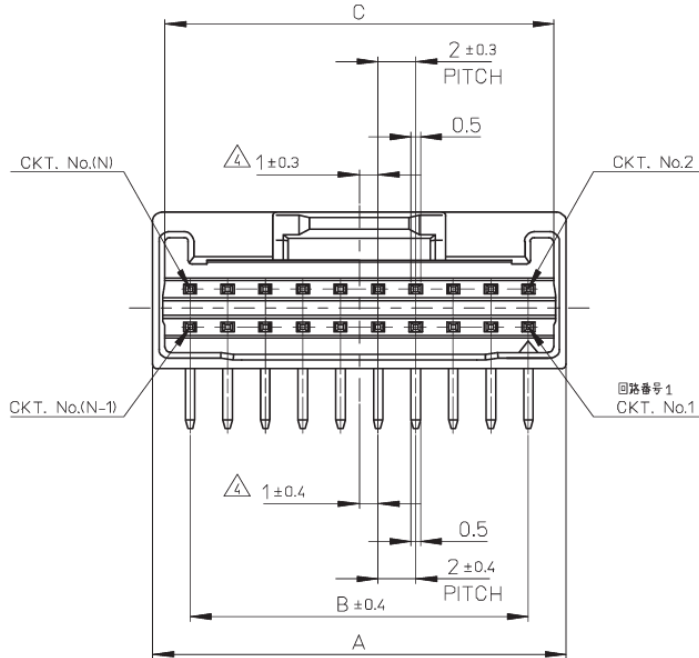
Input AC Description	C13, T1	C13, T2
3-Phase, 5-Wire / With Neutral 346/360/380/400/415VAC Wye connection	200/208/220/230/240 VAC	200/208/220/230/240 VAC
3-Phase, 4-Wire / without Neutral 200/208/220/230/240 VAC Delta connection	200/208/220/230/240VAC	200/208/220/230/240VAC



1	L, N	AC Line (3 Phase, 4 Wire), AC Neutral (3 Phase, 5-Wire)
2	L	AC Line
3	FG	Frame Ground

Fan Driver Signal Connector

The Power Shelf can deliver logic driver signal for the fan to cool the rack. There are 30-pin connectors each in COM1 and COM2.



COM1			
PIN	Function	PIN	Function
2	SIGNAL_M1_1	1	SIGNAL_M3_1
4	SIGNAL_M1_2	3	SIGNAL_M3_2
6	SIGNAL_M1_3	5	SIGNAL_M3_3
8	SIGNAL_M1_4	7	SIGNAL_M3_4
10	SIGNAL_M1_5	9	SIGNAL_M3_5
12	SIGNAL_M1_6	11	SIGNAL_M3_6
14	SIGNAL_M2_1	13	SIGNAL_M4_1
16	SIGNAL_M2_2	15	SIGNAL_M4_2
18	SIGNAL_M2_3	17	SIGNAL_M4_3
20	SIGNAL_M2_4	19	SIGNAL_M4_4
22	SIGNAL_M2_5	21	SIGNAL_M4_5
24	SIGNAL_M2_6	23	SIGNAL_M4_6
26	SIGNAL_M5_1	25	SIGNAL_M5_4
28	SIGNAL_M5_2	27	SIGNAL_M5_5
30	SIGNAL_M5_3	29	SIGNAL_M5_6

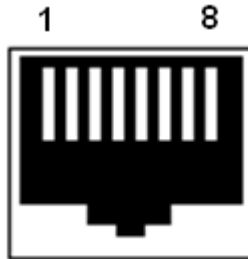
COM2			
PIN	Function	PIN	Function
2	SIGNAL_M6_1	1	SIGNAL_M8_1
4	SIGNAL_M6_2	3	SIGNAL_M8_2
6	SIGNAL_M6_3	5	SIGNAL_M8_3
8	SIGNAL_M6_4	7	SIGNAL_M8_4
10	SIGNAL_M6_5	9	SIGNAL_M8_5
12	SIGNAL_M6_6	11	SIGNAL_M8_6
14	SIGNAL_M7_1	13	SIGNAL_M9_1
16	SIGNAL_M7_2	15	SIGNAL_M9_2
18	SIGNAL_M7_3	17	SIGNAL_M9_3
20	SIGNAL_M7_4	19	SIGNAL_M9_4
22	SIGNAL_M7_5	21	SIGNAL_M9_5
24	SIGNAL_M7_6	23	SIGNAL_M9_6
26	SIGNAL_M10_1	25	SIGNAL_M10_4
28	SIGNAL_M10_2	27	SIGNAL_M10_5
30	SIGNAL_M10_3	29	SIGNAL_M10_6

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RJ45 Communication Port

The Power shelf passes AC source and Bus voltage (12.5V) information to the Battery Backup System (BBS) through the RJ45 communication port and sends an On/Off command to the BBS.



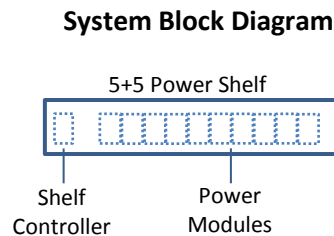
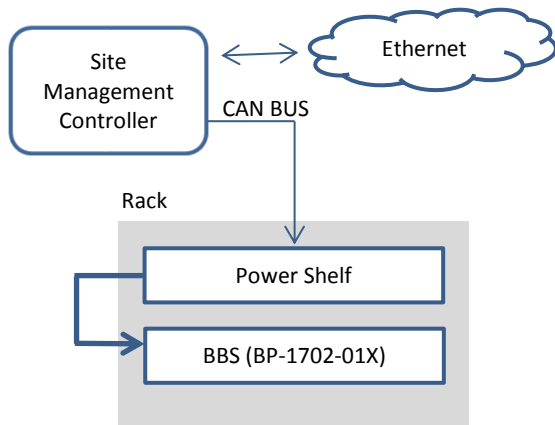
Pin 1	BBS_I2C_SCL	Serial Clock Line (SCL) in I2C
Pin 2	BBS_SGND	Signal Ground
Pin 3	BBS_I2C_SDA	Serial Data Line (SDA) in I2C
Pin 4	BBS_PRESENT	Low Level: no Battery Backup Unit (BBU) exists in shelf High Level: at least one BBU exists in shelf
Pin 5	BBS_ON	Low Level: BBU goes into online mode and the output voltage discharge is 12VDC High Level: BBU goes into offline mode and the output voltage discharge is 12.6VDC
Pin 6	Reserved	Reserved
Pin 7	BBS_AC_GOOD	Low Level: AC source is acceptable High Level: AC source is lost or unbalanced
Pin 8	BBS_PS_KILL	Low Level: battery charges in online or offline mode High Level: Idle mode; disables the Battery Backup System

Note: Low Level means voltage range is 0 to 0.8V; High Level means voltage range is 2.45 to 3.45V

Three Phase Power Shelf System Components

The system provides a comprehensive power management and battery backup capability based on existing building block with configuration flexibility to suit specific power, size, and run-time requirements. The table below provides additional information on the building block available to create a customized power solution. Please visit our website for more in-depth information or contact your local Lite-On PSS representative for support.

Component	Model Number	Description
Power Shelf	PF-2123-2LNM (3-phase, 5-wire) PF-2123-2LNN (3-phase, 4-wire)	12.5KW (5+5) 3U Power Shelf with ten power module slots and one Shelf Controller slot: <ul style="list-style-type: none"> • Power Module slots (10) • Shelf Controller slot (1)
Power Module	PS-2252-6L1U	2.5kW Hot-Swappable Power Module
Battery Backup System	BP-1702-01X	7kW 1U Battery Backup System (BBS) with 4 slots
Battery Backup Unit	BM-1172-01X	1.75kW Battery Backup Unit
Shelf Controller	CM-12CP-010U	Power shelf management and control
Site Management Controller	CP-13EC-010U	Rack management and control
21" OCP Rack	KT-2141-121	21-inch Open Frame Rack





Innovative Power Management Solutions for Critical Infrastructure

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