

ARTESYN LMD-PDU

Power Distribution Unit

One PDU for Three LCM12K Shelves



Advanced Energy's Artesyn™ Power Distribution Unit (PDU) serves as the central hub for distributing power to the LCM12K shelves housed within rack system. One PDU is connected to three LCM12K shelves, ensuring efficient power management and distribution. The PDU receives input power from the main power source and distributes it to the shelves. This centralized power distribution reduces energy losses and enhances overall system efficiency. The PDU includes safety features to protect against overcurrent and electrical faults, ensuring reliable operation. The PDU ensures that the high-power remote driver system operates efficiently and reliably, making it suitable for large-scale industrial and horticultural applications.

SPECIAL FEATURES

- 5 years manufacture's warranty
- Modular 3-channel switch - capable of powering three LCM12K shelves
- Standard 19" rack
- Designed for use with LCM12K shelves
- Over-current protection
- Individual shelf output control
- Refer to LCM12K shelf and PSU for the electrical specifications and safety approvals

AT A GLANCE

Total Power

Up to 36 kW

Input Voltage

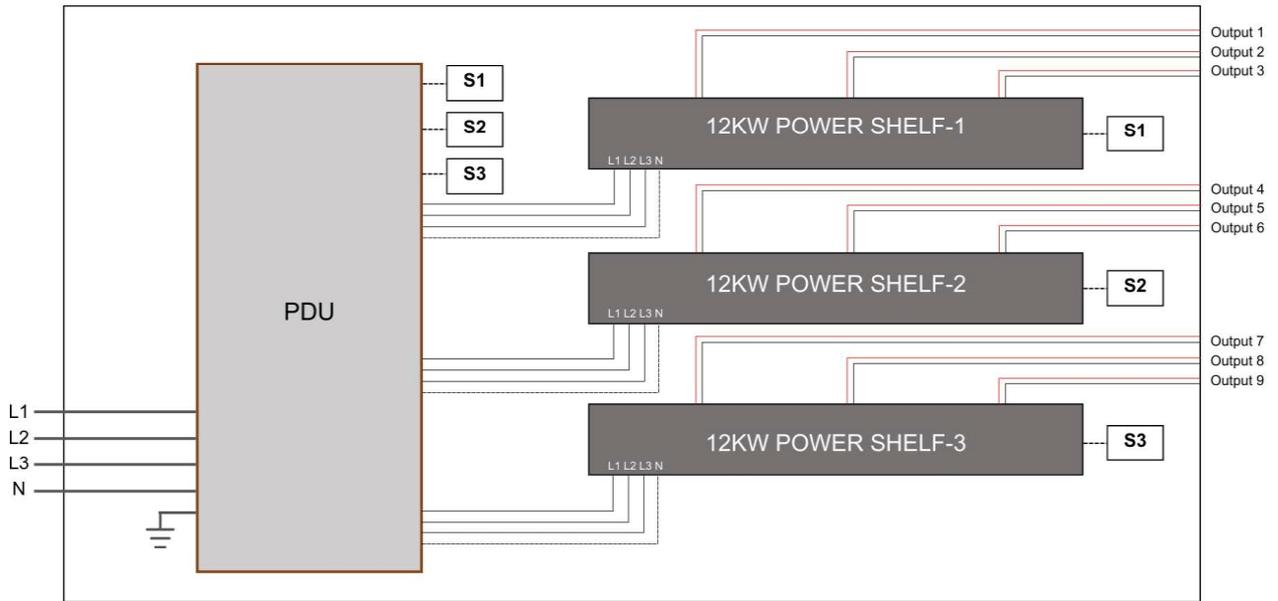
Same as LCM12K:
180 to 264 VAC Three Phase
342 to 528 VAC Three Phase
540 to 660 VAC Three Phase (WYE with Neutral)



ARCHITECTURE

Power Distribution Unit Architecture

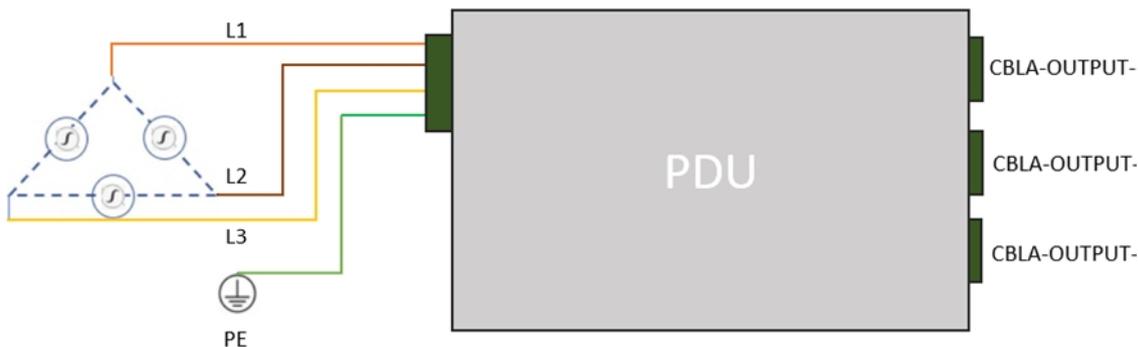
Each PDU should be enclosed and provide power to three LCM12K shelves.



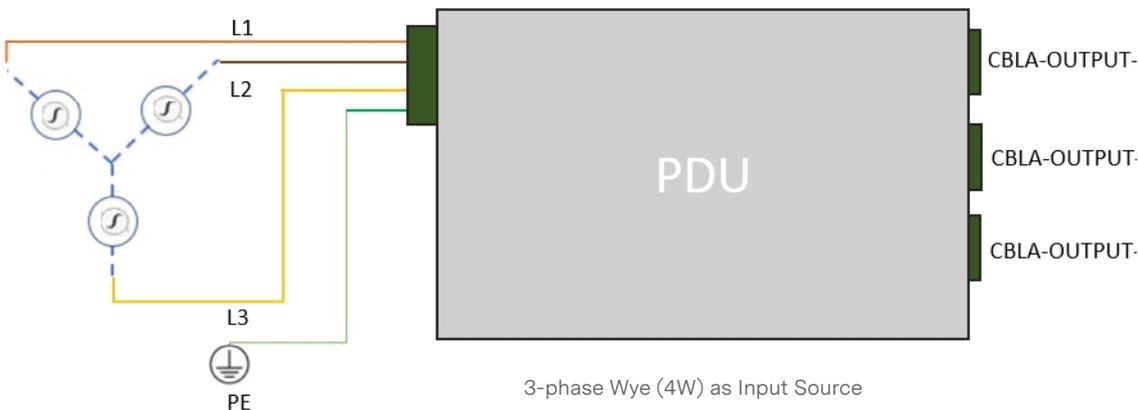
Power Distribution Architecture

ARCHITECTURE

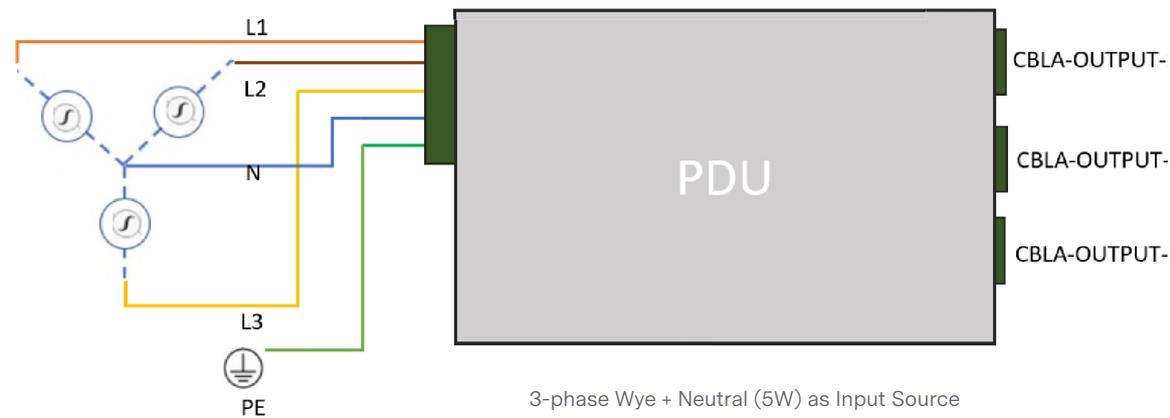
Input Configuration



3-phase Delta (4W) as Input Source



3-phase Wye (4W) as Input Source



3-phase Wye + Neutral (5W) as Input Source

ELECTRICAL SPECIFICATIONS

Input	
Input Range	342 to 528 VAC (3-PH 4W), 380/480 VAC Nominal
Frequency	47 to 63 Hz, nominal 50/60 Hz
Input Current	25 A max per phase per shelf at 342 VAC
Transient Input AC Current	AC inrush current limiting and soft start-up capability will be handled by PSU. Inrush current should not exceed the PDU output circuit breaker trip point. Inrush limiting component should be at the input stage of PSU to limit inrush current below threshold. The AC inrush current under max power transient and over-current protection conditions should not trip the upstream AC input breakers.
Isolation Voltage	Refer to LCM12K power shelf specification
Protection	
Overcurrent Protection	The PDU output is equipped with 25 A Circuit Breaker designated to every LCM12K shelf installed. Excessive current/overcurrent drawn by individual shelf will trip its corresponding circuit breaker without affecting other shelf in good operation.

Ground Design

Chassis GND should be grounded to input AC input whips of three phase and single phase through solid low resistance path. Grounding design should comply in accordance with UL62368-1.

Signal and Control

The individual PDU have three PS_ON/PS_OFF switches that turn on and turn off the individual shelf output. The table shows the location of the switches on corresponding PDU and the outputs it controls.

Location	Switches	Outputs
PDU	S1	Output 1,2&3
	S2	Output 4,5&6
	S3	Output 7,8&9

Refer to LCM12K shelf and PSU for other electrical specifications, eg. EMI, EMC, shock, vibration, etc.

0 to 10 V Dimming (J4 Connector)

Pin Number	Net Name	Pin Number	Net Name	Shelf Number
1	0_10V_PROG1	4	ISO_PRTN	1
2	0_10V_PROG2	5	ISO_PRTN	2
3	0_10V_PROG3	6	ISO_PRTN	3

MECHANICAL DRAWING

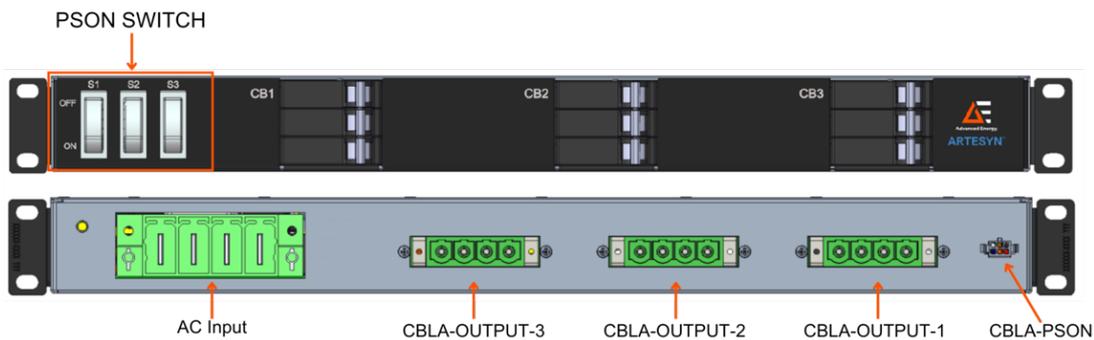
PDU Front



PDU Back



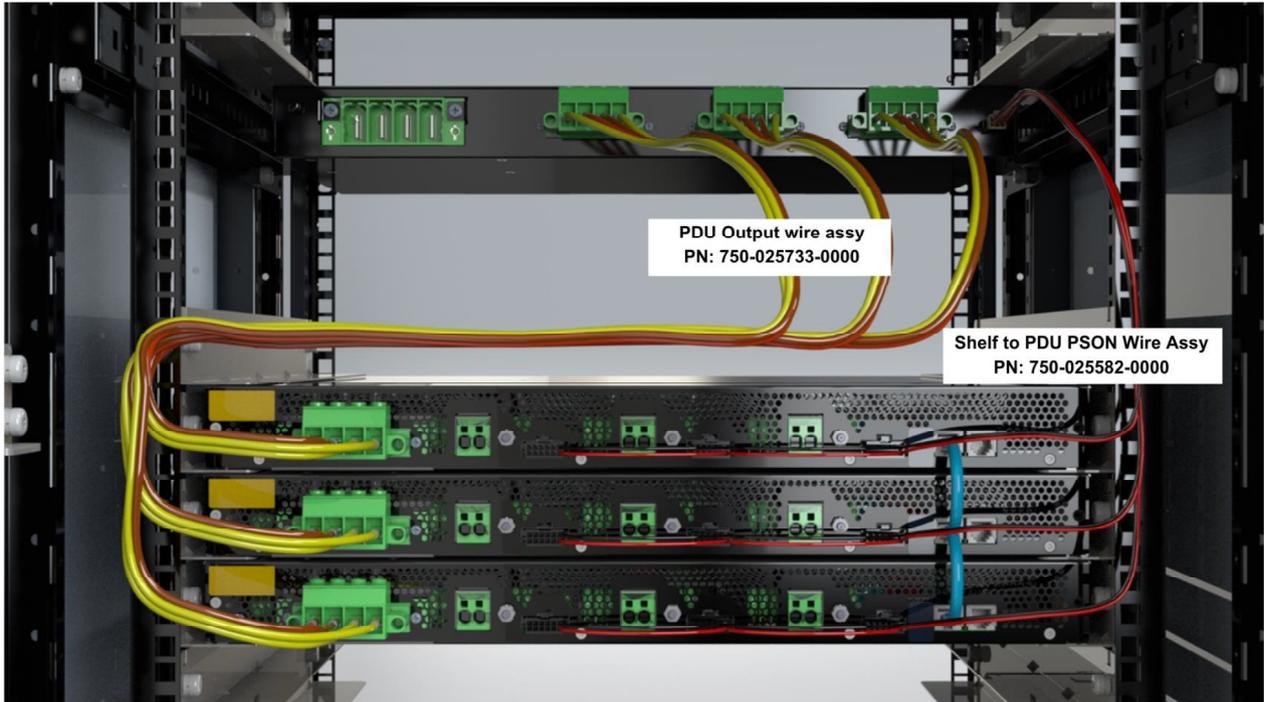
PDU Front and Back Interface



MECHANICAL DRAWING

Installation Sample

In the installation sample image, a simple application shows how a single PDU is installed in a standard 19" rack cabinet and connected to three LCM12K shelves.



ENVIRONMENTAL SPECIFICATIONS

Operating Conditions	
Operating Temperature	0°C to 50°C, 30°C typ.
Storage Temperature	-40°C to 85°C
Operating Humidity	20% to 90% non condensing
Storage Humidity	10% to 95% non condensing
Operating Altitude	Up to 9,842 feet above sea level (3,000 meters)
Storage Altitude	Up to 30,000 feet above sea level (9,144 meters)
Cooling	Provided by PSU (Internal with variable speed control)

ORDERING INFORMATION

Order Part Number	Description
LMD-PDU	For high-line cabinet configurations
LMD_PDU-LL	For low-line cabinet configurations

PDU WIRE ASSEMBLY PART NUMBER

Order Part Number	Description	Diagram
750-026477-0000	PDU Input Wire Assy Low-Line	
750-026478-0000	PDU Output Wire Assy Low-Line	
750-025202-0000	PDU Input Wire Assy High-Line	
750-025733-0000	PDU Output Wire Assy High-Line	
750-025582-0001	Shelf to PDU PSON Wire Assy	



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Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE | TRUST

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