XTREME POWER CONVERSION **AXL33 Series**

3-Phase AC to 50 VDC Power Shelf // ORv3 AI Rack Infrastructure (21”)

33 kW per 1U AC to 50 VDC Power for AI Infrastructure

Deliver high-efficiency 50 VDC power from single- or three-phase AC sources for AI and accelerated computing environments.

The AXL33 Power Shelf is a high-density AC-DC platform designed for GPU clusters, AI compute, and ORv3 rack deployments. Using six 5.5 kW hot-swappable modules, AXL33 provides up to 33 kW of continuous 50 VDC output in a compact 1U form factor.

AXL33 supports universal three-phase wye input and delivers tightly regulated 50 VDC output with flexible redundancy. The integrated PMM control architecture enables system-level monitoring and coordinated operation across parallel shelves, while the modular BBU system provides scalable ride-through capability. Multiple shelves can be deployed in parallel to support AI rack power systems up to 132 kW.

PRODUCT SNAPSHOT

- Single-phase or three-phase AC to 50 VDC power shelf
- Up to 33 kW per 1U (6 × 5.5 kW modules)
- Expand capacity by adding PSUs or shelves without disruption
- ORv3-aligned 21” rack architecture
- Modular BBU with >90 sec ride-through (scalable)
- Integrated PMM control architecture (Modbus / CAN)
- Up to 132 kW with four paralleled AXL33 shelves

FEATURES

33 kW per 1U Power Density – Compact AC-DC shelf for AI and GPU rack deployments

Modular 5.5 kW Power Architecture – Scales in 5.5 kW increments within each shelf

ORv3 Rack Alignment – Designed for Open Compute 21” rack environments

Flexible Redundancy – Supports N+0, N+1, and N+N configurations

Hot-Swappable Design – Enables continuous operation and simplified maintenance

Integrated PMM Control Architecture – Enables system-level monitoring, communication, and coordination (Modbus / CAN) Modular Battery Backup

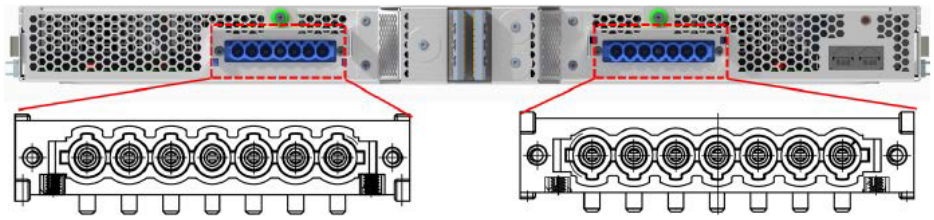
(BBU) – Provides scalable ride-through with hot-swappable battery shelves

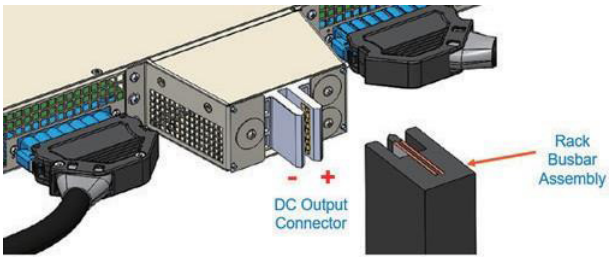
Parallel Shelf Scalability – Up to 132 kW with four paralleled AXL33 shelves

MODEL SELECTION GUIDE

For more information, visit www.xpcc.com/ax

MODEL NUMBER		AXL33
CAPACITY	System Capacity (N+0)	33 kW
	Module Rating	5.5 kW
INPUT	Voltage Shelf Three-phase	230/400V to 277/480V nominal (4W+ PE), range of 195/338V and 305/528V
	Voltage Shelf Single phase	200V to 277V nominal (2W + PE) with range of 180V to 305V
	Voltage PSU	200 V / 208 V / 220 V / 240 V / 277 V nominal single-phase with range of 180V to 305V
OUTPUT	Voltage	50 VDC (adjustable)
	Current Sharing	Active and droop
POWER MODULE	Power Rating	5.5 kW per module
	Hot Swap	Yes
	Efficiency	Up to 97.5%
COMMUNICATION & CONTROL (PMM)	Function	Aggregates module data and enables system-level monitoring and control
	Protocols	RS485 Modbus (rack-level), CAN (inter-shelf)
	Addressing	Automatic Modbus and CAN address allocation across shelves
	Connectivity	4 × RJ45 (daisy-chain and inter-shelf control)
	Scalability	Supports coordinated operation across parallel AXL and BBU shelves
	Serviceability	Hot-swappable with firmware upgrade support (no power interruption)
MODULAR BATTERY BACKUP (BBU)	Type	Modular battery shelf (2U)
	Power	Up to 33 kW per shelf
	Runtime	>90 sec @ 5.5 kW / >240 sec @ 4 kW
	Scalability	Parallel shelf capable
	Service	Hot-swappable modules
	Control	Intelligent BMS, Modbus
ENVIRONMENTAL	Operating Temperature	Up to 75°C (167°F) with power derating above 45°C
MECHANICAL	Dimensions (W × D × H)	21 x 28.3 x 1.8" (537 × 720 × 46 mm)
	Rack Compatibility	ORv3 (21")
SYSTEM ARCHITECTURES	Direct Low Voltage Architecture	AC → AXL → 50VDC Load
	HVDC Architecture	AC → AX → DX → 50VDC Load
PARALLEL OPERATION	Up to 4 shelves / 132 kW total	
COMPLIANCE	EN 61000-4-2/ EN 61000-3-12 EN55022 / FCC Part 15 / CISPR 22 Class A	
SAFETY	EN 62368-1 /UL 62368-1 / IEC 62368-1	





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Protect your business.
XPC USA / Denver, CO / sales@xpcc.com
www.xpcc.com