XTREME POWER CONVERSION **DX8-90 Series**

800 VDC to 54 VDC DC Power Shelf // 15 kW Hot-Swappable DC-DC PSU Modules

90 kW of 800 VDC to 54 VDC Power for AI Rack Infrastructure

The DX8-90 is a DC power shelf that converts an 800 VDC bus into regulated 54 VDC at the rack, delivering up to 90 kW from six 15 kW hot-swappable DC-DC PSU modules. It is the rack-level building block that takes 800 VDC distribution the last step to the load, keeping the high-current path inside the shelf busbar.

Built for AI compute, GPU clusters, and high-density 19-inch server racks, DX8-90 pairs directly with the AX8-110 800 VDC power shelf to form a complete 800 VDC power chain. Each PSU module shares current independently, supports live serviceability, and can be added in 15 kW increments as rack load grows.

Multiple DX8-90 shelves share current on the rack busbar, each fed by its own AX8-110, with Ethernet and DMTF Redfish monitoring through the PMC. The shelf mounts in standard 19-inch racks and operates from 5°C to 45°C.

PRODUCT SNAPSHOT

- 800 VDC to 54 VDC DC power shelf for 19-inch racks
- Up to 90 kW per shelf (6 × 15 kW DX8-150 PSU modules)
- Hot-swappable DC-DC PSU modules
- High-efficiency conversion, above 98% from 50 to 80% load
- Independent parallel current sharing
- 300 A rated output current per module
- Shelves share current on the rack busbar, each fed by its own AX8-110; Redfish monitoring

FEATURES

90 kW per Shelf
High-density 54 VDC power sized for 19-inch AI and GPU rack deployments

15 kW Modular Architecture
DX8-150 PSU modules scale rack capacity in 15 kW increments within each shelf

Above 98% Efficiency
Above 98% from 50 to 80% load — less heat to remove at the rack

Hot-Swappable Modules
Live serviceability keeps the shelf online during module replacement

800 VDC to 54 VDC
Completes the 800 VDC power chain from shelf to server load

Busbar Current Sharing
Modules and shelves share current on the 54 VDC rack busbar

COMPLETES THE SYSTEM

AX8-110 Power Shelf

110 kW of 800 VDC from six 18.5 kW PSU modules. The 7U AX8E-110 adds LFP battery backup holding a regulated 800 VDC bus throughout discharge.

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Protect your business.

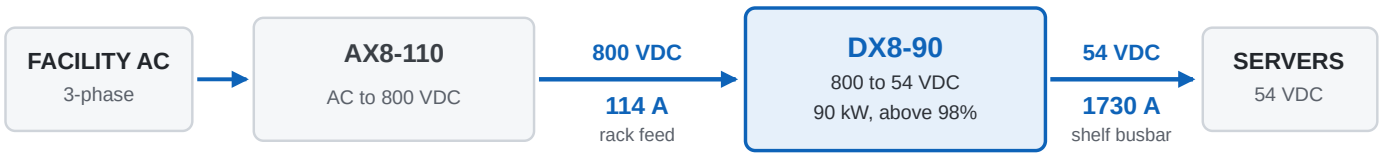
PRELIMINARY

MODEL SELECTION GUIDE

For more information, visit **www.xpcc.com/dx8**

	MODEL NUMBER	DX8-90
CAPACITY	Shelf Power Rating	90 kW per shelf (6 × 15 kW) — 90 kW (N+0) / 75 kW (N+1) / 45 kW (N+N)
	Population Options	Up to 6 modules per shelf
INPUT	Input Voltage	800 VDC nominal; 750 to 850 VDC operating range
	Input Connection	One DC input from the AX8-110. BizLink 117G0-178308-R1, 125 A rated; about 114 A at full load. 800 VDC, return, PE and S1–S2 interlock
OUTPUT	Output Voltage	54 to 52 VDC (54 V no-load, 52 V at 100% load; 2 V droop, 3 V at 150%). Fixed ratio, not adjustable
	Ripple & Noise	±500 mV (20 MHz bandwidth)
	Rated Output Current	300 A per module; 1800 A maximum per shelf
	Shelf Output Connection	Floating blind-mate connector, mates with ORv3 busbars. Liquid-cooled BarKlip termination not yet available; interim arrangement applies
POWER MODULE (DX8-150)	Module Rating	15 kW, hot-swappable
	Efficiency	Above 98% from 50 to 80% load
	Pulse Load Capability	180% for 0.5 ms; 150% for 50 ms; 100% continuous
	Hold-Up Time	4 ms (ride-through provided by the upstream AX8E-110)
	Parallel Operation	Active current sharing, within the shelf and between shelves on the rack busbar
	Protection	Over-voltage, over-current
COMMUNICATION & CONTROL	Controller	Power Monitoring Controller (PMC), shelf-level monitoring and control
	Interface	1 × gigabit Ethernet RJ45 to the top-of-rack switch; DMTF Redfish over HTTPS
	Telemetry	Voltage/current in and out, temperatures, fan speeds, power, serial and part number, HW/FW revision; black-box fault logging
ENVIRONMENTAL	Operating Temperature	5 to +45°C
	Humidity	8 to 85%, non-condensing
	Operating Altitude	3050 m (10,000 ft)
	Acoustic Noise	Target not to exceed 95 dBA with fans at full speed (design target, not measured)
MECHANICAL	Shelf Dimensions and Weight	839.5 × 448 × 43.6 mm (1U); 32 kg (70.5 lbs) populated, 8.5 kg (18.7 lbs) empty
	Module Dimensions (W × H × D)	66.7 × 40 × 701 mm
	Module I/O Connector	Molex 2141150098-SD or equivalent, blind-mate
	Auxiliary Output	12 VDC / 1 A
	Rack Compatibility	19-inch EIA-310; 21-inch ORv3 with mounting accessory
COMPLIANCE & SAFETY	Safety	IEC / EN / UL 62368-1
	EMC	EN 55032; EN 61000-3-11/-12; EN 61000-4-2/3/4/5/6/8/11
	Environmental	Expected RoHS, REACH, Halogen-Free (IEC 61249-2-21), WEEE (final list TBD, pending output connector selection)

WHY CONVERT AT THE RACK



Same 90 kW, 15× less current on the run into the rack

Conductor loss scales with the square of current. Currents shown at full 90 kW output.

PRELIMINARY — specifications subject to change. Product not yet in production.

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