

MDC-500

Air-cooled productized cluster · 2 to 5 MW · 50 kW per rack



LEAD TIME
24–34 weeks

SITE-READY
6 to 8 months

COOLING
Closed-loop
air

NCP-ELIGIBLE
Quantum-2 /
Spectrum-X

OVERVIEW

A productized 2 to 5 MW cluster.

One PO. One schedule. One weld-traceability standard.

The MDC-500 productizes the 2 to 5 MW range — a genuine catalog hole between hyperscale-grade prefab skids and sub-1 MW edge modules. Tier-1 modular vendors top out their reference clusters above 7 MW, where the buyer is hyperscaler-direct; their pod products bottom out at 2 MW, where the buyer is single-rack edge. The middle — Tier-2 GPUaaS, BTC pivots, wholesale colo bridge capacity — is served today by ad-hoc multi-vendor stacks rather than catalog products.

The MDC-500 ships as a productized cluster: ISO-format containers, 50 kW per rack air-cooled, factory-tested at full load, compatible with NVIDIA's reference architecture for AI cloud builds. Substation, generator, switchgear, and SCADA ship and commission on the same schedule. Site-ready in 6 to 8 months from PO, against 12 to 18 months for stick-built equivalents.

Core specifications

MECHANICAL

Form factor	ISO 668 standard container, 20-ft and 40-ft variants
Cluster size	2 to 5 MW productized; up to 50 MW phased
Operating envelope	–35°C to +52°C ambient
Ingress protection	IP54 sealed
Mounting	Concrete pad or pile foundation; anti-vibration optional

ELECTRICAL

Density	Up to 50 kW per rack air-cooled
Power topology	2N power · N+1 cooling
Source	Bundled (substation + genset + ATS + SCADA) or your fence
UPS	Vertiv Liebert APM2 standard; Eaton/Schneider available
Switchgear	Schneider Prisma Plus / Okken inside the box
Backup PDU	Cummins generators to 3 MW PDI/EnerSys floor-standing or in-row

Transport	Standard road and rail; ISO corner castings
Redeployment	Full disconnect and recommissioning per SAT package

THERMAL

Cooling type	Closed-loop air; DX-hybrid available
ASHRAE class	A4 (high-density air)
Free cooling	Available; climate-specific configuration
External water CDU compatibility	Not required for air-cooled units DLC variant available — see MDC-500 DLC

FIRE & LIFE SAFETY

Suppression	Gas (FM-200 or Novec 1230) standard
Detection	VESDA aspiration + traditional smoke
Compliance	NFPA 75 · NFPA 110 · NFPA 70
Egress	Single or dual depending on layout

NVIDIA reference architecture compatibility

The fabric your AI tenants expect. Modules ship NCP-eligible — not bolted-on. Tier-2 GPUaaS buyers shortlist on whether the enclosure plays cleanly with the reference architectures their customers have already standardized on.

COMPUTE FABRIC

Quantum-2 InfiniBand
Spectrum-X Ethernet alternate.
BlueField-3 DPUs validated.

STORAGE VALIDATED

VAST · WEKA · NetApp
Reference designs validated for AI training and inference workloads.

SERVER PLATFORMS

H100 · H200 · GB200 · Blackwell
AMD MI300 also supported. Vendor-agnostic IT — bring your own GPUs.

Configurations

Sized to your project. The productized 2 to 5 MW cluster is the Year-1 wedge; phased deployments use the same cluster as the building block.

EDGE / SINGLE MODULE

20 to 80 kW per module

ISO-format containers for ROBO, federal edge, cell-tower-adjacent, and bridge capacity below 100 kW. EMP-shielded variants available for federal and tactical-edge programs.

PRODUCTIZED CLUSTER — YEAR-1 WEDGE

2 to 5 MW factory-tested

Air-cooled inference and direct-to-chip liquid training variants. Substation, generator, switchgear, and SCADA on the same schedule. Site-ready in 6 to 8 months from PO.

PHASED DEPLOYMENT

Up to 50 MW phased

Pilot to full campus in three to five commissioning events. CapEx aligned to revenue. GPU generations change every 18–24 months — Phase 1 runs current hardware; Phase 3 specs the next generation.

Compliance and standards

ELECTRICAL

Switchgear (LV)	IEC 61439 TTA · UL 891 parallel
Switchgear (MV)	IEC 62271 · IEEE C37 parallel
Grounding	IEEE 142 · IEC 60364
Arc flash	NFPA 70E · IEEE 1584

MECHANICAL AND STRUCTURAL

Container	ISO 668 · ISO 1496
Seismic	ASCE 7 site-specific class
Wind / snow	Per local building code
Fire	NFPA 75 · NFPA 110 · NFPA 70

Lead time and delivery

Factory completion	24 to 34 weeks from PO and approved engineering
Site-ready (incl. delivery + commissioning)	6 to 8 months
Comparable US-incumbent equipment lead time	50 to 100+ weeks (Schneider, Eaton, ABB, Siemens direct)
Comparable stick-built data hall	18 to 24 months
Ships from	Pascagoula, MS (US final-mile assembly path available 2026.5)
FAT	Factory-tested at full load before shipment
SAT	On-site recommissioning per documented SAT package

REQUEST A LEAD-TIME QUOTE

teraplex.us/quote-lead-time

One business day to confirm available delivery window for your need-by date.

TALK TO ENGINEERING

teraplex.us/schedule-se-call

Multi-MW deployments, integrated power+compute scopes, federal/SLED programs.

Specifications subject to change. All claims are honest at time of publication; individual configurations may vary. Compatible with NVIDIA reference architectures noted; NCP eligibility verified per release. Equipment lead-times referenced are for typical Q2 2026 conditions and are tracked quarterly at teraplex.us/lead-time-tracker.