VERTIV™ XTE 801 SERIES

Network Edge Enclosure

KEY FEATURES

- Lightweight walk-in steel structure — low maintenance, high quality design
- Superior weather resistance designed to withstand wind loads of 125 mph and beyond and snow loads up to 200 PSF
- Exterior facade can be customized to meet local requirements
- Thermal management — "free cooling" utilizes patented flexible air intake hydrophobic filter vent option with standby HVAC for high temperature and emergency conditions
- Noise reduction kits available to meet most municipal requirements
- Vertiv offers turnkey packages for custom configurations and installation needs

Versatile, low-cost Vertiv™ XTE 801 Series Enclosures protect vital electronics from extreme weather conditions wherever that equipment needs to be located.

Description

The Vertiv XTE 801 Series Network Edge Enclosure, constructed entirely of lightweight steel, ensures vital electronic equipment is protected from vandalism and environmental damage. The interior walls and ceiling are covered with a non-metallic, non-reflective wall board, and the floor is finished with an industrial grade non-slip floor tiling. The Vertiv XTE 801 Series comes standard with R12 insulation. Due to the small size of these enclosures, special building permits are not typically required in most municipal regions. The standard painted steel finish is available in off-white and gray-green. Custom finishes are available upon request.

Application

The Vertiv XTE 801 Series Network Edge Enclosure is designed to house and protect environmentally sensitive electronics at telecommunications sites including cellular, microwave radio, sites with clusters of baseband units for cloud or centralized radio access networks (C-RAN), and edge applications with virtualized networks.

Enclosure

Construction

Welded galvanized steel construction provides outstanding impact and corrosion resistance. Interlocking steel panel construction, 14 gauge steel walls, floor and ceiling and 12 gauge steel ceiling joists provide superior weather resistance and protection.

Protection

The powder coat finish protects against rain, sleet, snow, splashing water and damage from external ice formation, and meets GR487 Telcordia mechanical and environmental standards for telecom enclosures (720 hrs. salt fog test).

Insulation

To minimize energy costs, the floor is insulated with R-12 fiberglass batt, and the wall cavities and cavities between the ceiling and roof are insulated with R-12 fiberglass batt with vapor barrier. Custom "R" values available upon request.

Radiant Barrier Roof

Effective for reducing solar heat gain and reduce cooling costs, the Vertiv™ XTE 801 Enclosure features a radiant barrier roof constructed of 12 gauge galvanized steel in a four truss roof design with a powder coat finish. Features include taped 12 gauge galvanized seams and a rubberized roof coating applied after painting (Garna-White).

- Integrated with 1/4" steel lifting brackets at top
- Center pitched for water run-off
- Garna-Thane rubberized coating reflects 80% of the sun's radiation

Interior Finish

The interior walls and ceiling are finished with white textured Melamine panels over 3/4" gypsum board (1 hr. fire-rated).

Up to 12" Tall Base

To accommodate antenna feeders, the base includes plinth with removable steel cover plates on front and back. Fork lift tubes on front and back are also included.

Access Doors & Hardware

For security and easy access, the cabinet is equipped with an 18 gauge galvanized steel commercial grade insulated door with an outward opening of 30" x 84" (3070) and a 16 gauge galvanized steel frame. Hardware includes:

- Schlage dead bolt lock set
- (3) stainless steel hinges with non-removable pin (per door)
- Weather strip with adjustable brush weather seal
- Stainless steel threshold with brush sweep
- Stainless steel latch guard pick plate
- Door holder with positive engagement latch and rubber bumper stop
- Adjustable-hydraulic closer
- 6" aluminum drip cap above doorway

Common Equipment Kit

We take care of all of your needs by providing a safe environment and protecting your equipment from damage.

- Motion controlled 70 W outside light
- Interior fluorescent lights
- Smoke detectors
- 4T990 Kidde fire extinguisher
- First aid kit
- Safeco eyewash station
- Door contacts for intrusion alarms
- Halo ground
- 12" cable racking
- Telecom board with fold down table
- 950 W Stego panel mount AC fan heater

Commercial AC Kit

The commercial AC kit features a 200 amp main Power Transfer Switch (PTS) system with transfer provided between the primary and secondary power sources (utility or generator), utilizing a Camlok style generator connector.

- Interior accessible only
- 24 distribution positions
- Mechanical interlock
- TVSS surge protection
- 30 A rectifier breakers
- 30 A HVAC breakers
- 15 A smoke detector breaker
- All associated TECK90 wiring
- DC powered lighting kit
- Alarm tie block

Grounding

The Vertiv XTE 801 Enclosure includes all associated ground cabling and follows basic principles of P.A.N.I.

- Main ground bar
- Frame ground
- Building ground
- Power plant ground
- AC service ground connection

Installation

The Vertiv XTE 801 can be installed on a traditional concrete pad or using an innovative helical support system.

Designed to be installed in eight hours or less, the helical system is ideal for rapid deployment. Helical pillars are driven six to eight feet into the ground, well below the frost line. Installation below the frost line keeps the enclosure level, eliminating the need for a concrete pad.

DC Power Management

NetSure™ 5100, 2-28.8 kW

The NetSure 5100 Series, a compact 48 volt DC power solution, provides up to 600 amps of current. This system features an advanced control unit, up to (29) positions for 2000 W high-efficiency eSure rectifiers or 1500 W -48 V to +24 V converters or 2000 W solar converters, a single or dual row distribution cabinet, and hybrid and solar connectivity panels

NetSure™ 5100 Series

NetSure™ 7100, 10-300 kW

The modular NetSure 7100 Series power system with 3500 watt or 2000 watt rectifiers and 1500 watt DC to DC converters provides up to 4000 amps of current for -48 volt systems with up to 520 amps at +24 volts.

NetSure™ 7100 Series

AC Power Management

Liebert® EXM, 10-250 kVA/kW

The Liebert EXM UPS provides efficient and economical operation with a flexible power system offering scalable and redundant features that is optimized to meet the unique demands of midsize IT and critical power applications. An intuitive, customizable touchscreen control panel provides status-at-a-glance information and multiple levels of user security. Matching ancillary cabinets provide the ability to meet specific demands for run time, bypass and parallel requirements.

Liebert® eXM UPS

Liebert® APS, 5-20 kVA

A robust, modular power protection solution for 5 to 20 kVA applications. The Liebert APS UPS provides mission-critical availability while reducing costs and ensuring flexibility for the future.

Liebert® APS UPS

Liebert® GXT4, 500-10,000VA

Recommended to protect mission-critical equipment, Liebert GXT4 is a true on-line UPS that delivers continuous, high-quality AC power with no break when transferring to battery.

Liebert® GXT4 UPS

Thermal Management

Vertiv™ offers flexible climate control systems for 801 Series enclosures, protecting sensitive electronics from the elements and ensuring reliable service with minimum downtime.

Higher Availability and Lower Total Costs of Ownership

The Vertiv XTE 801 thermal management systems are flexible with five available capacities, ranging from 2 to 5 tons. For easy service access, the compressor is located on either the left or right side of the unit.

Vertiv can engineer the primary cooling system as a filtered vent GORE® system with backup wall mounted HVAC or as two wall mounted HVACs with economizer option. Both thermal management options utilize outside ambient air conditions for cooling, and the self-contained units minimize installation time.

HVAC (Heating Ventilation & Air Conditioning)

Vertiv™ XTE 801 Series Enclosures come standard with one HVAC system, and a second HVAC can be factory or field installed to add capacity or redundancy. The energy saving Economizer option reduces operating costs by utilizing outside air for cooling.

- One 8000 BTU to 36000 BTU HVAC system
- One fully programmable digital lead/lag controller
- No filters required
- Supports the following modes:
  - Redundancy
  - Lead/lag (for duty cycle balancing
  - Dual capacity (up to 48,000 BTU)

GORE® Vent Fresh Air Cooling System

This compact free air DC cooling system optimizes thermal conditions within the walk-in enclosure by improving airflow and maintaining temperature consistency. Managed by a central controller that activates the HVAC system based on temperature threshold settings (see figure 1), this high-efficiency system is GR-487 compliant.

Cooling System – 5550 W (max)

- Variable speed fan control
- Hydrophobic filter system
- Washable pre-filter assembly
- Color matched to shelter

Central Controller

- Manages up to (2) additional HVAC units and an external heater element
- 5 min exercise cycle every 10 days
- Automatic shutdown for smoke alarm

Benefits of GORE Vent as Primary Cooling Source

- Reduces HVAC duty cycle to 10%, increasing equipment life.
- Saves 70% to 75% more energy

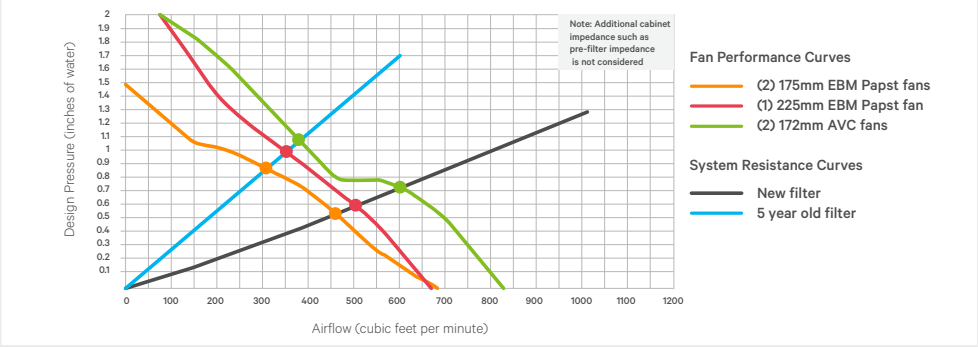


Figure 1. GORE Filter Airflow Performance Parameters

Optimizing Energy Costs

The following two use cases, based on a 6' x 6' shelter deployed in Canada, demonstrate typical energy costs when mechanical HVAC is used as the primary cooling source versus using a GORE DC Vent as the primary cooling source.

HVAC Primary and DC Vent Primary Assumptions			
Site Heat Load (W)	HVAC Draw in Operation (W)	DC Vent Draw in Operation (W)	Electricity Cost ($/kWh)
3500	2200	576	0.16

HVAC Primary with DC Vent Backup								
HVAC Draw in Operation (W)		Hours in a Year		Duty Cycle				Annual kWh
2200	x	8760	x	70%	/	1000	=	13,490.4
				Annual kWh		Electricity Cost ($/kWh)		Annual HVAC Energy Cost
				13,490.4	x	0.16	=	$2,158.46
DC Vent Draw in Operation (W)		Hours in a Year		Duty Cycle				Annual kWh
576	x	8760	x	0.5%	/	1000	=	25.2
				Annual kWh		Electricity Cost ($/kWh)		Annual DC Vent Energy Cost
				25.2	x	0.16	=	$4.04
Annual HVAC Cost	+	Annual DC Vent Cost	=	TOTAL ANNUAL ENERGY USAGE			=	$2,162.50

DC Vent Primary with HVAC Backup								
HVAC Draw in Operation (W)		Hours in a Year		Duty Cycle				Annual kWh
2200	x	8760	x	10%	/	1000	=	1,927.2
				Annual kWh		Electricity Cost ($/kWh)		Annual HVAC Energy Cost
				1,927.2	x	0.16	=	$308.35
DC Vent Draw in Operation (W)		Hours in a year		Duty Cycle				Annual kWh
576	x	8760	x	50%	/	1000	=	2,522.9
				Annual kWh		Electricity Cost ($/kWh)		Annual DC Vent Energy Cost
				2,522.9	x	0.16	=	$403.66
Annual HVAC Cost	+	Annual DC Vent Cost	=	TOTAL ANNUAL ENERGY USAGE			=	$712.01

Annual Cost HVAC Primary	-	Annual Cost DC Vent Primary	=	TOTAL ANNUAL SAVINGS	=	$1,450.49

NOTE: Savings simulation is based on Ontario, Canada climate. Energy savings will vary depending on climate patterns for specific locations.

Dimensions & Ordering Information

MODEL NUMBER	BAY COUNT	COLOR OPTIONS	HEIGHT	WIDTH	DEPTH	WEIGHT
WIC6x6	3 equipment bays[1]	ANSI61 gray, tan (beige), off-white[2]	9 ft.	6 ft.	6 ft.	4875 lbs.[3]
WIC6x9	5 equipment bays[1]	ANSI61 gray, tan (beige), off-white[2]	9 ft.	6 ft.	9 ft.	5710 lbs.[3]
WIC6x12	8 equipment bays[1]	ANSI61 gray, tan (beige), off-white[2]	9 ft.	6 ft.	12 ft.	7750 lbs.[3]
WIC8x10	8 equipment bays[1]	ANSI61 gray, tan (beige), off-white[2]	9 ft.	8 ft.	10 ft.	7270 lbs.[3]
WIC8x12	10 equipment bays[1]	ANSI61 gray, tan (beige), off-white[2]	9 ft.	8 ft.	12 ft.	8870 lbs.[3]

NOTE: A custom-configuration part number will be assigned once final configuration and layout is approved.
[1] Bay count does not include battery bay, power bay, or MDF.
[2] Standard paint colors. Other colors and finishes are available upon request at time of order. Finish affects external PTS, door, HVAC, and DC ventilation system.
[3] Without batteries and customer equipment.

DC Power Equipment Options

EQUIPMENT MODEL	INPUT (NOMINAL)	OUTPUT	MAX LOAD (NOMINAL OUTPUT)	OTHER
NetSure™ 5100 DC Power System	120, 208, 240 VAC 1-phase 60Hz nominal	-48 VDC (nominal) -42 VDC to -58 VDC (adjustable)	400 amps	+24 VDC available as option
NetSure 7100 DC Power System	208, 240, 277 VAC 1-phase 208/120, 480/277 VAC 3-phase 60Hz nominal		2000 amps	

NOTE: Other architectures may be available - inquire with your sales representative.

AC Power Equipment Options

EQUIPMENT MODEL	INPUT (NOMINAL)	OUTPUT	MAX LOAD (NOMINAL OUTPUT)	OTHER
LIEBERT® EXM STANDALONE UPS SYSTEM				
208V Native	208/120, 220/127 VAC 3-phase 60Hz nominal	208/120, 220/127 VAC 3-phase	10-60 kVA / kW 80-100 kVA / kW 120-200 kVA / kW	Transformer-free architecture
480V Native	480/277, 600 VAC 3-phase 60Hz nominal	480/277 VAC 3-phase	50-200 kVA / kW 250 kVA / kW	Up to 95% efficiency in double conversion, 98% + in EcoMode
LIEBERT® APS TOWER UPS SYSTEM				
10-bay	200, 208, 220, 230, 240 VAC 1-phase 380, 400, 415 3-phase 60HZ nominal	200, 208, 220, 230, 240 VAC 1-phase	15 kVA / 13.5 kW	Transformer-free or transformer-based architecture Up to 92% efficiency in double conversion
12-bay	200, 208, 220, 230, 240 VAC 1-phase 60HZ nominal	100/100/173/200, 110/110/190/220, 115/115/199/230, 120/120/208/240 VAC 1-phase	15 kVA / 13.5 kW	
16-bay		200, 208, 220, 230, 240 VAC 1-phase	20 kVA / 18 kW	
LIEBERT® GXT4 RACK-MOUNTABLE UPS				
GXT4-5000 & GXT4-6000RT208	120 VAC L1-N, L2-N	100/110/115/120 AC L1-N, L2-N	5 kVA / 4 kW 6 kVA / 4.8 kW	Rack or tower configuration Flexible distribution options
GXT4-8000 & GXT4-10000RT208			8 kVA / 7.2 kW 10 kVA / 9 kW	
GXT4-6000RTL630	208/120 VAC 1-phase	208/120 VAC 1-phase	6 kVA / 4.2 kW	

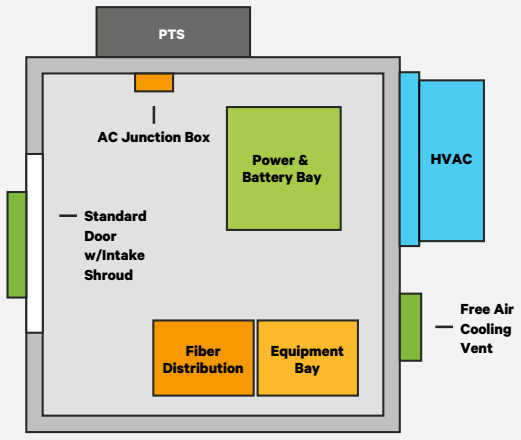
NOTE: Other architectures may be available - inquire with your sales representative.

Enclosure Specifications

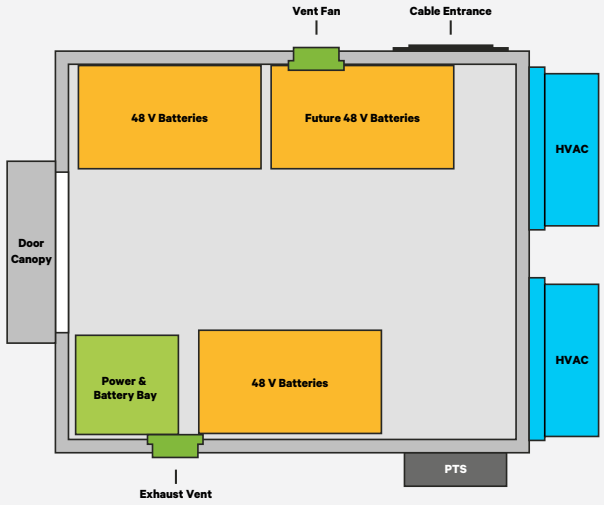
HVAC	
Operating Ambient (Mechanical Cooling)	20F to 120F (-7C to 49C) Standard 0F to 130F (-18C to 54C) Optional
Lowest Operating Ambient (Heating)	20F (-7C) Standard -40F (-40C) Optional
Ambient Humidity	0% to 95% relative humidity, non-condensing
Rated cooling capacity	10,800 to 70,000 BTU/h (3.2kW to 20.5kW)
Sensible cooling capacity	8,000 to 46,800 BTU/h (2.3kW to 13.7kW)
Other	Protective Coil Coating Available
DESIGN PARAMETERS	
Floor loading (minimum)	200 PSF (Custom designs available for heavier equipment)
Roof loading	200 PSF (Live and impact loads)
Design Wind Speed	120 MPH (Higher design speeds available upon request)
Seismic	Zone 2 (Zone 4 available upon request)
Insulation R-rating (minimum)	12
STANDARDS COMPLIANCE (STRUCTURE)	
Building Code Compliance	International Building Code, 2009 Canada Building Code, 2005
Galvanized Steel	ASTM A653
Welding	CWB/CSA Standard W47.1 AWS D1.2/D1.3/D1.6
Seismic	Telcordia Zone 2 (Zone 4 available)
Environmental	Telcordia GR-487 for corrosion, water intrusion, UV radiation, and impact resistance
Electrical	Certification per CSA and NFPA70 (NEC)
Installation Method	Telcordia GR-1275
STANDARDS COMPLIANCE (EQUIPMENT)	
DC Systems	UL Listed 1801, cUL, NEBS Level 3
AC Systems	UL Listed 1778, cUL, Energy Star
Power Transfer Switch	UL891 and UL1008 compliant, CSA C22.2, CEC1998
Other Electrical Systems	UL/CSA compliant

Generic Shelter Layouts

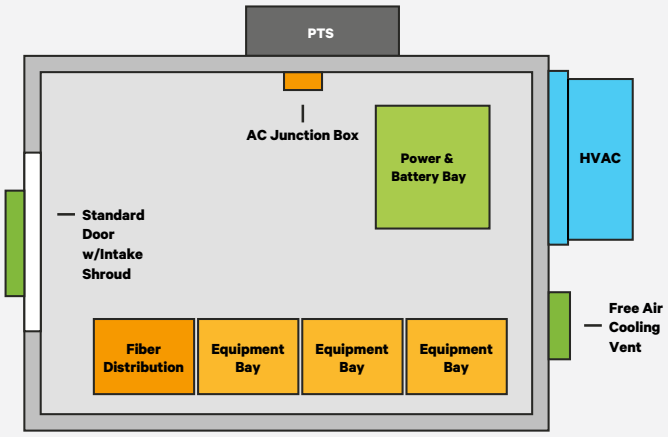
6' X 6' SHELTER



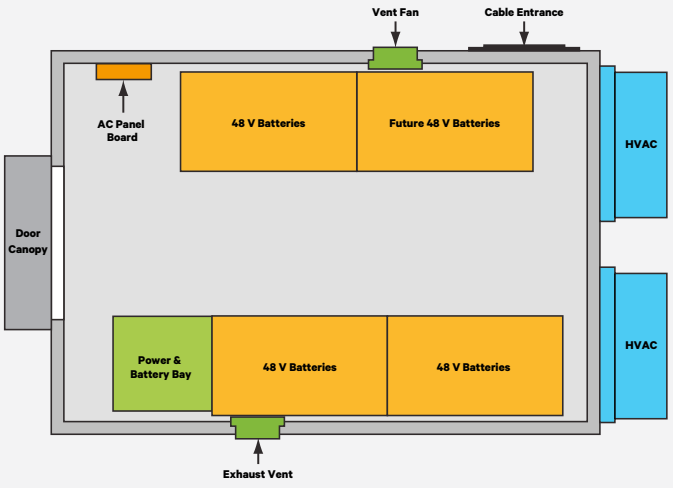
8' X 10' SHELTER



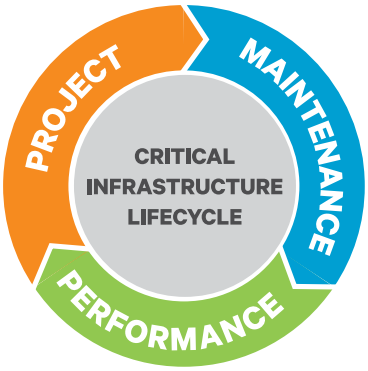
6' X 9' SHELTER



8' X 12' SHELTER



Services



A complete life-cycle approach to service, from project launch to ongoing maintenance and performance optimization

We strive to keep your network infrastructure highly available, efficient and adaptable, so you can:

- Increase mean time between failure
- Decrease operating cost
- Implement future technologies while maximizing your resources

PROJECT

When launching new facilities or powering up new equipment, you want to do it right – right from the start

- Plan
- Design
- Engineer
- Integrate
- Commission
- Project management

MAINTENANCE

Services to ensure that your business-critical infrastructure operates reliably, safely and efficiently

- Preventive and corrective maintenance
- Remote services and monitoring
- Cap / fan / battery replacements
- Repair
- Spare parts

PERFORMANCE

Full range of services designed to optimize infrastructure performance and reduce complexity

- Assess
- Audit
- Model
- Configure
- Upgrade
- Train

To customize your solution and request more information, email **EnergySystems@VertivCo.com**

VertivCo.com | **Vertiv Headquarters,** 1050 Dearborn Drive, Columbus, OH, 43085, USA