Vertiv™ NetSure™ M Series

Outdoor Enclosure Solution for 5G Radio and Edge Applications

Sustainable Benefits

At Vertiv we believe that sustainable product design, development, use, and disposal are critical to the longevity of our industry and the greater world.

Checkout the sustainability benefits of the Vertiv™ NetSure™ M Series portfolio:

- Decrease your dependency on the grid and diesel fuel with the ability to leverage solar panels and other renewable energy sources
- Reduce energy use and environmentally protect your electronics with Intelligent Climate Control (ICC) – a patent-pending technology that automatically adjusts fan speed based on internal humidity levels to optimize operating conditions.
- Lower OpEx and simplify installation by pairing your Vertiv NetSure M Series enclosure with a reliable and efficient NetSure™ DC power system.

- Ensure uniform equipment deployment throughout your network by utilizing one of three standard enclosure sizes.
- Enjoy unparalleled flexibility with an extensive array of enclosure options, accessories, AC/DC distribution, surge suppression and batteries.
- Confidently deploy your network in any region with enclosures that meet a wide variety of international standards and operate in harsh environmental conditions. Compliant with EN 60950-22 2nd edition standard.

A robust and energy-efficient outdoor solution for 5G radio and IT edge equipment that delivers efficient and reliable power supply, including battery backup.

The Vertiv™ NetSure™ M Series enables you to quickly and economically create the ideal operating environment for your sensitive electronic equipment. Featuring a robust enclosure design with insulated, single-skin aluzinc walls treated with advanced corrosion resistant powder paint, this solution is extremely durable in tough environments and withstands heavy rain, wind, dust, lightning and electromagnetism. If further ingress protection is required, an IP65 fan filter solution can be added.

Available in three standard sizes, M20, M35 and M44 enclosures offer 20U, 35U and 44U internal rack space respectively for 19" wide customer equipment, plus room for power and batteries. Multiple climate options include fan filter, air-conditioners, heat exchangers and thermal electrical coolers that are integrated in the door. The M35 and M44 offer multiple climate zones for optimal thermal performance to lower CAPEX and OPEX. The enclosure door includes a three point locking system with different cylinder options and hidden stainless steel hinges for added security.

A patent-pending Intelligent Climate Control unit (ICC) adjusts indoor operating conditions based on humidity levels and variable outdoor conditions, meeting ETSI 300 019-1-3 (indoor) and ETSI 300 019-1-4 (outdoor) equipment standards. Humidity control can be customized to address desired equipment humidity levels at local outdoor environmental conditions. Together, with a Vertiv™ NetSure™ Control Unit (NCU), the ICC supports local and remote monitoring capabilities. The ICC provides data on operating fan hours, fan alarm, fan functionality tests, and heater tests when selected. Service teams can leverage remote functionality to plan routine maintenance for the radio access network (RAN) and minimize the need for emergency site visits.

The M Series is ideally configured with the NetSure™ 5100, NetSure™ 531 or the NetSure™ 7100, NetSure™ 731 DC power system, available in several models; a compact series of power dense systems for applications where space is limited, a high temperature series with environmental endurance up to +65 °C without deration, a hybrid series with pluggable DC-DC and solar converters, and a standard series for maximum cost efficiency. All NetSure 5100, Netsure 531 and NetSure 7100, Netsure 731 systems are equipped with the latest NetSure™ Control Unit (NCU), where data and control is available for all aspects of the power chain, including AC mains, DC power plant, battery backup, diesel generator and the local site environment.

The Vertiv NetSure M Series offers several options for DC distribution, surge protection, battery shelves, racks, lighting, smoke detector, grounding, solar connection, locking cylinders and other accessories, as well as a wide selection of batteries, including lithium ion.

The enclosure solution is delivered pre-cabled, tested, and fully integrated for rapid deployment. Thanks to predefined modular options, along with production in central Europe, there's no need to choose between customization and speed to market — the Vertiv NetSure M Series provides both.

Vertiv™ NetSure™ M35 Enclosure

Vertiv™ NetSure™ M Series

Application

The Vertiv™ NetSure™ M Series is specifically designed for radio access networks (RAN), IT edge applications and the need for power density, cost efficiency and speed to market that is characteristic of these applications. With a variety of NetSure™ DC power systems and battery backup options to choose from, Vertiv NetSure M Series enclosures support on-grid, bad-grid and off-grid sites.

Technical Specifications

Enclosure	M20	M35	M44
Dimensions, Enclosure Body (H x W x D)	1050x730x750 mm	1674x730x750 mm	2074x730x750 mm
Enclosure Body	Aluzinc, powder paint RAL 7035, insulation as option (heat transfer 2,5 W/(m2,K)		
Roof	Slanted (include support for lifting eyebolts)		
Rack Width	19" for customer equipment, 19" or 23" for NetSure DC power system		
Rack Height (total)	20U	35U	44U
Battery Support e.g. VRLA and Lithium Ion (optional)	up to 16U	up to 32U	up to 32U
Weight (empty)	55 kg	75 kg	95 kg
Locking type	3-point locking system, different locking cylinders available		
Cable Inlet Type	2xMC10/25/35/51, 1xPG21, 1xPG29, 1xPG36, Roxtec EzEntry 16/16 (other PGs alternative as options)		
Mounting	Ground (C-bars[1]), height 125 mm, wall or pole	Ground (C-bars [1]), height 125 mm	Ground (C-bars [1]), height 125 mm
Accessories	Light, door contact, alarm terminal, ground, cable tray, document holder, smoke detector, solar array cabling, etc.		
Climate Solution Capacity/Options			
Fan filter over pressure (VDC) [2]	Up to 5200 W (260 W/K)	Up to 5200 W (260 W/K)	Up to 5200 W (260 W/K)
Air-conditioner (VAC/VDC)	520-2000 W (operating up to +55°C)	520-2000 W (operating up to +55°C)	520-2000 W (operating up to +55°C)
HEX (VDC) [2]	65-150 W/K	65-150 W/K	65-150 W/K
Thermal Electrical Cooler (VDC)	-	200 W (for battery compartments)	-
Heater (VAC)	250/800 W	250/800 W	250/800 W
Thermal Zones/Compartments	One	One or two	One or two
Environmental			
Temperature	-33 to +50 °C		
Operational, Transportation, Storage	ETSI EN 300 019-1-4 class 4.1, ETSI EN 300 019-1-2 class 2.3, ETSI EN 300 019-1-1 class 1.2		
Protection	IP55 (IEC 60529), IP65 with overpressure fan filter solution (EN60950-22) rain test (IECEN/UL 60950-22 annex B)		
Impact	IK 10 (EN 50102)		
Audible Noise (fan filter)	ETS 300 753 class 4.1E for Rural, Urban and Protected Environments		
DC Power Equipment			
NetSure 5100, 531 or NetSure 7100, 731 with NetSure Control Unit (NCU)	6-31.5 kW combined output power. Peak efficiency > 96-98%. For operating temperature range please see respective DC Power data sheet. Available with Solar (MPPT) converters, for on-grid, bad-grid and off-grid applications.		
AC Distribution			
Input, Nominal	Single Phase: 220 VAC to 240 VAC, 3-phase: 380 VAC to 415 VAC		
Surge Protection (optional)	Class C		
Configurable Components	Main switch/circuit breaker, service outlet/RCD, connection for generator and solar arrays		
Standards Compliance			
EU Directives	CE, RoHS 6, REACH		
Safety	EN62368-1, EN60950-22 (2nd edition)		
EMC	ETSI EN 300386 class B		
Seismic Exposure	Telcordia GR-487 Core, Zone 2		
Corrosion Resistance	EN60950-22 and ISO 21207 method B (corrosion resistance 20-50 years)		

Notes

1 Front and rear cover as option
2 Heat load capacity per degree (exhaust vs ambient) [W/K]

Additional enclosure configurations are available. Please contact your local sales representative for more information.

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