

VERTIV™ ECM3 SERIES



Outdoor enclosures

Key Features

The Most Reliable & Robust:

- High degree of ingress protection, i.e. IP55 / IP44
- Tolerates a wide input voltage range of 80 - 300 Vac
- Sustains a wide operating temperature range - 40 °C ~ 65 °C
- Fault-tolerant design with built-in protection from lightning surges / spikes

The Most Energy Efficient:

- Delivers an efficiency > 96% - saves significant amount of OPEX
- Patented Dormancy mode further optimizes efficiency
- Variable fan speed control function

The Most Intelligent:

- Built-in networking ports for remote monitoring & control
- Intelligent battery management function
- Intelligent cooling system - adjusts according to the external temperature

The Most Flexible:

- Modular design supports one, two, & three cabinet solutions
- Multiple cooling options are available to meet the equipment cooling needs
- Powering up to 300A active equipment loads
- Brings solar power to the site as an option

The Most Secure:

- Steel-built material enhances the anti-theft ability
- Three point lock design ensures complete locking of the door
- Configurable battery cabinets based on the user requirements with utilities such as a vault door, etc.
- Multiple alerts can be set to safeguard the batteries against theft

The Most Easiest & Fastest deployment

- Delivers in flat pack mode and supports field assembly/disassembly for different application
- Requires only frontal access for maintenance
- Makes less noise
- Supports floor & rooftop installations

Description

The ECM3 series is a modular and highly reliable outdoor cabinet system. It is designed to house DC power, network electronics, battery backup, and supportive cooling infrastructure in a single or multiple cabinet solution packages - well suited for today's base station needs. Its modular assembly design enables the customer to deploy their telecom sites more rapidly and efficiently.

To ensure maximum protection for your equipment investment, the ECM3 enclosures are built and tested not only to withstand extreme environmental conditions but also from vandalism. With best-in-class thermal management solutions such as heat exchanger or air conditioners, the temperature inside the enclosure is well maintained. An environmental controller maximizes cooling effectiveness, while minimizing the energy usage and noise.



Integrated Cabinet



Equipment Cabinet



Battery Cabinet



Single Cabinet System



Double Cabinet System



Three-cabinet System

Applications

- Outdoor communication macro base station
- Outdoor distributed base station
- Outdoor communication micro base station
- Outdoor integrated access point

Environmental Parameters

| | |
|-----------------------|-------------------------------------|
| Operating temperature | Without heater: - 10 °C to 65 °C |
| | With heater: - 40 °C to 65 °C |
| Relative humidity | 5 % RH to 95 % RH (no condensation) |
| Altitude | ≤4000 m (Derating above 2000 m) |

| Embedded Power Supply | | NetSure™ 731 A41-S7 | NetSure™ 731 A61-S2/S3 |
|---------------------------------------------|---------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| System capacity | | 200 A | 300 A |
| Controller module | | M530S (3 no. RS485 interfaces, 1 no. network port) | |
| Rectifier module | | 50 A (R48-3000A3, R48-3000e3 optional) | |
| AC power distribution | Input | 2 × 63 A / 2 P (circuit breaker) | 2 × 63 A / 4 P (circuit breaker) |
| | Output | 2 × 16 A / 1 P, 1 × 10 A / 1 P (circuit breaker) | 5 × 16 A / 1 P, 4 × 10 A / 1 P (circuit breaker) |
| AC lightning protection | | S7/S3: Class C S2: Class C + Class B (In=30 kA, I _{max} =60 kA) | |
| DC power distribution | Battery shunt | 4 × 125 A / 1 P (circuit breaker) | 4 × 125 A / 1 P (circuit breaker) |
| | LLVD | 8 × 32 A / 1 P, 2 × 16 A / 1 P, 1 × 6 A / 1 P (circuit breaker) | User 1 to 3: 1 × 125 A / 1 P, 1 × 16 A / 1 P, 1 × 6 A / 1 P User 4: 1 × 63 A / 1 P (circuit breaker) |
| | BLVD | 3 × 25 A / 1 P, 2 × 10 A / 1 P (circuit breaker) | User 1 to 3: 1 × 25 A / 1 P (circuit breaker) User 4: 2 × 10 A / 1 P (circuit breaker) |
| DC lightning protection | | ≥10 kA | |
| Dimensions (W x D x H) in mm & Weight in kg | | S7: 483 × 400 × 310 & ≤28 S2/S3: 483 × 400 × 488 & ≤41 | |

Mechanical Parameters

| | | |
|------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ECM3-14 (W x D x H); (kg) | Single cabinet | 750 X 750 X 1685; ≤250 kg |
| | Double cabinet | 1500 X 750 X 1685; ≤500 kg |
| | Three cabinet | 2250 X 750 X 1685; ≤750 kg |
| | Reserved space | Power cabinet: 31U (19 inches), including embedded power supply installation space Battery cabinet: 4-layer battery compartment, 560 (W) × 600 (D) × 330 (H) in mm per layer (top compartment is 320 mm) |
| | Reserved space | Power cabinet: 31U (19 inches), including embedded power supply installation space Battery cabinet: 4-layer battery compartment, 560 (W) × 600 (D) × 330 (H) in mm per layer (top compartment is 320 mm) |
| ECM3-18 (W x D x H); (kg) | Single cabinet | 900 X 900 X 2085; ≤280 kg |
| | Double cabinet | 1800 X 900 X 2085; ≤560 kg |
| | Three cabinet | 2700 X 900 X 2085; ≤840 kg |
| | Reserved space | Integrated cabinet: 23U (19 inches, including embedded power space) + 2 level battery compartment, 580 (W) × 750 (D) × 330 (H) in mm Power cabinet: 40U (19 inches, including embedded power space) Battery cabinet: 4-level battery compartment, 580 (W) × 750 (D) × 355 (H) in mm of each level |
| | Reserved space | Integrated cabinet: 23U (19 inches, including embedded power space) + 2 level battery compartment, 580 (W) × 750 (D) × 330 (H) in mm Power cabinet: 40U (19 inches, including embedded power space) Battery cabinet: 4-level battery compartment, 580 (W) × 750 (D) × 355 (H) in mm of each level |

Thermal Management Configurations for the Cabinet

| Temperature Control | | Heat Exchanger | Air Conditioning | |
|---------------------|--------------------|----------------|------------------|--------|
| System capacity | | 180 W/K | 300 W | 1500 W |
| | Integrated cabinet | √ | | √ |
| | Equipment cabinet | √ | | √ |
| ECM3-14 | Battery cabinet | | √ | |
| | Integrated cabinet | √ | √ | √ |
| | Equipment cabinet | √ | | √ |
| ECM3-18 | Battery cabinet | | √ | |



NetSure 731 A41-S7



NetSure 731 A61-S2/S3