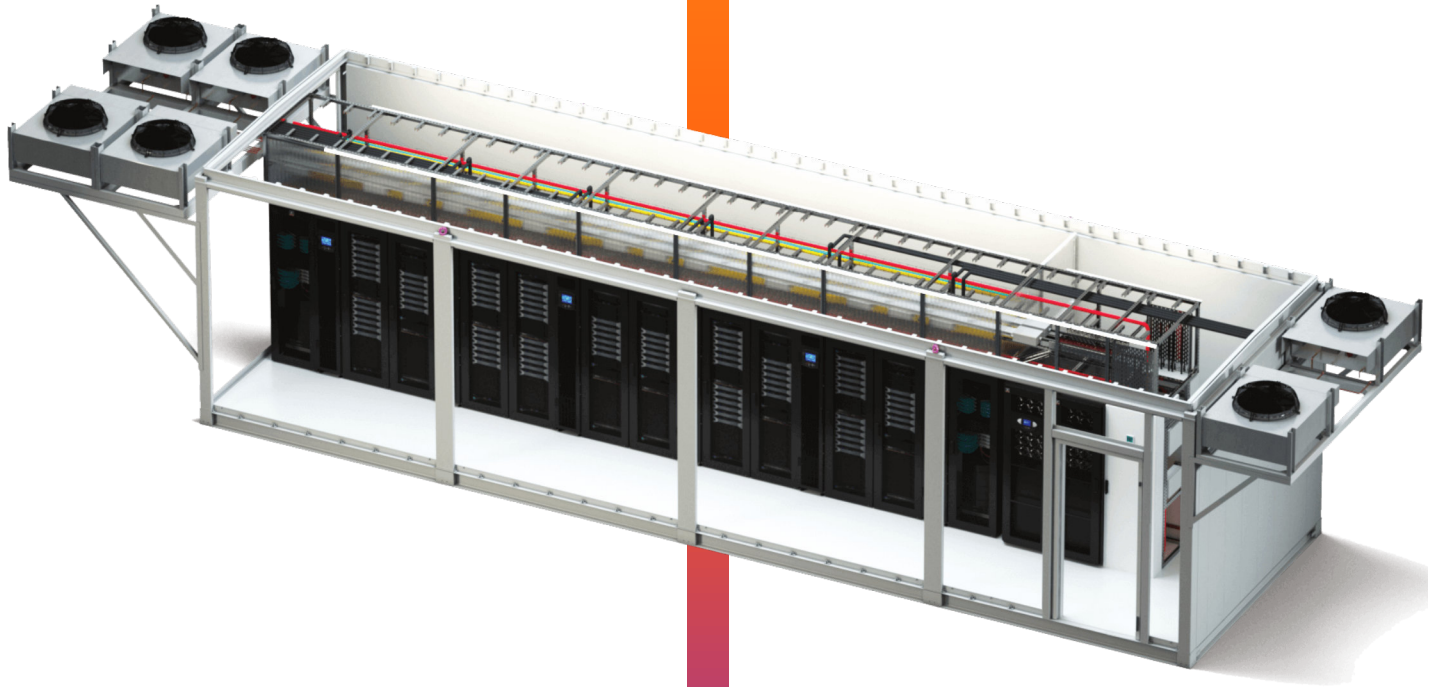# Vertiv™ SmartMod™

Modular Data Center
Infrastructure

Imagine the advantages of a rapidly deployable, standalone data center with all the capabilities you need to achieve your IT objectives.

Cutaway illustration of Vertiv SmartMod

Building a new data center in a short timeframe is nearly impossible. The Vertiv™ SmartMod™ provides enhanced levels of availability, efficiency, and control in self-contained enclosures that can be deployed securely, virtually anywhere. For IT deployments between two and 12 racks with 90kW or less, SmartMod offers a simple way to install capacity in a fraction of the time.

You don't have to blow the budget, or overbuild based on uncertain future needs – with right-sized systems designed to work together and optimized for constructability; you can build just what you need today, better aligning your capital plans to your business challenges.

SmartMod leverages core Vertiv Critical Power, Thermal Management, and Monitoring & Control technologies.

SmartMod incorporates:

- Modular and scalable Vertiv™ Liebert® UPS power protection

- Close-coupled in-row Liebert CRV thermal management units with intelligent iCOM controls

- Classic and cost-effective Knürr® racks

- Vertiv rack PDUs

- Thermal containment to isolate hot aisle and cold aisle airflows for optimum thermal performance

- Automatic Transfer Switch (ATS) to reliably select normal or emergency power sources

- Clean agent fire suppression with VESDA early smoke detection

- Overhead infrastructure, including piping, electrical distribution, and fiber ducts

All subsystems are factory installed into a secure, weatherproof and transportable enclosure – simplifying and drastically shortening the on-site time required to install and startup, and reducing the potential for risk, quality, or schedule delays.

Configuration options are available to provide desired redundancy (N, N+1, 2N) and battery runtime. When deploying multiple units or at numerous locations, having a standard look and feel, layout and equipment kit simplify maintenance and operations activities. Vertiv backs it all up with the service and support network you have come to expect from us.

Cutaway illustration of Vertiv SmartMod

SmartMod Selection Grid
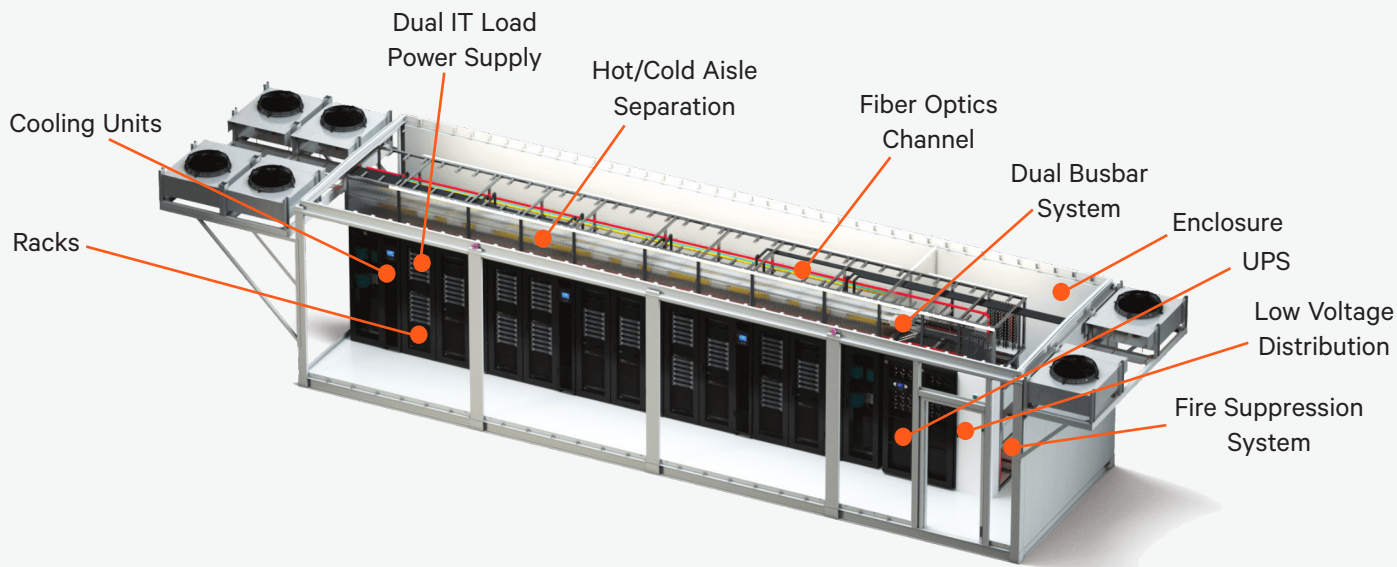
UPS	N+1 (Internal)						2N	
Max IT Capacity (kW)	40		60		85		85	
Rack Width	600mm	800mm	600mm	800mm	600mm	800mm	600mm	800mm
2								
3	224A6010							
4								
5								
6			276A6011					
7			327A6011					
8								
9					379A9011			
10							40AA9023	
11								
12								
13 RACKS	40DA6011							

Cells that contain exact reference design names reflect optimized parameters for that Solution

The reference design may still be valid with minor modifications for design parameters within the colored extended range

Other configuration changes may be possible (varying rack counts/dimensions, longer battery runtimes, etc.) – check with your Solutions Architects for details and support

Component Overview of SmartMod

Cooling Units
Racks
Dual IT Load Power Supply
Hot/Cold Aisle Separation
Fiber Optics Channel
Dual Busbar System
Enclosure
UPS
Low Voltage Distribution
Fire Suppression System

Interior view of SmartMod

SmartMod Specifications

REFERENCE DESIGN	ESMDE-224A6010-000	ESMDE-276A6011-000	ESMDE-327A6011-000	ESMDE-379A9011-000	ESMDE-40AA9023-000	ESMDE-40DA6011-000
Enclosure External Dimensions						
Length (mm)	6426	8010	9594	11178	11970	11970
Width (mm)	3400	3400	3400	3400	3400	3400
Height (mm)	3225	3225	3225	3225	3225	3225
Overall Length (mm)	7686	10380	11964	14808	15600	13460
Weight (kg)	10500	12500	13500	16000	17200	15200
Input AC Parameters						
Region			EMEA			
Voltage / Frequency			400VAC, 50Hz			
IT Racks						
Rack Height			42U (2000mm)			
Rack Depth			1100mm			
600mm Wide Racks	4	6	7	9	10	13
Rack Load			8kN			
Electrical						
MDB	1	1	1	1	2	1
ATS	1	1	1	1	2	1
UPS Cabinet	1	1	1	1 UPS + 1 battery cabinet	2	1
UPS Module Redundancy	N	N+1	N+1	N+1	2N	N+1
UPS Rating	60kVA	60kVA (60kVA + 30kVA)	60kVA (60kVA + 30kVA)	90kVA (90kVA + 30kVA)	90kVA (90kVA + 90kVA)	60kVA (60kVA + 30kVA)
Battery Backup Time	15min@38kW IT Load	8min@58kW IT Load	9min@57kW IT Load	14min @85kW IT Load	4min @85kW IT Load	15min@35kW IT Load
Busbar System			Two per row			
Maximum Rack Load	10kW	10kW	9kW	10kW	9kW	3kW
PDU			2 per rack			
PDU Capacity (max)	3x32A @ 230/400V-3ph	3x32A @ 230/400V-3ph	3x16A @ 230/400V-3ph	3x32A @ 230/400V-3ph	3x16A @ 230/400V-3ph	3x16A @ 230/400V-3ph
PDU Type			monitored			
Mechanical						
Air Conditioning Type			In Row, Direct Expansion			
Air Conditioning Redundancy	N	N+1	N+1	N+1	N+1	N+1
Air Conditioning Units	2	4	4	6	6	3
Cooling Capacity for IT Load (35°C)	38kW	58kW	57kW	85kW	85kW	35kW
Exterior Ambient Operating Range	-20°C to +45°C	-20°C to +45°C	-20°C to +45°C	-20°C to +45°C	-20°C to +52°C	-20°C to +45°C
Fire Detection and Suppression						
Very Early Smoke Detection System			Optional			
Fire Detection System			Optical			
Fire Suppression System			NOVEC™ 1230			
Cable Trays						
LAN Cable Tray			200mm wide mesh			
Fiber Optic Tray			4" x 4"			
Spill-over Exit			Single per IT rack			
Lighting						
Lighting Element			LED			
Lighting Illumination			300lx			
Emergency Lighting			LED, 3h backup			

VERTIV™