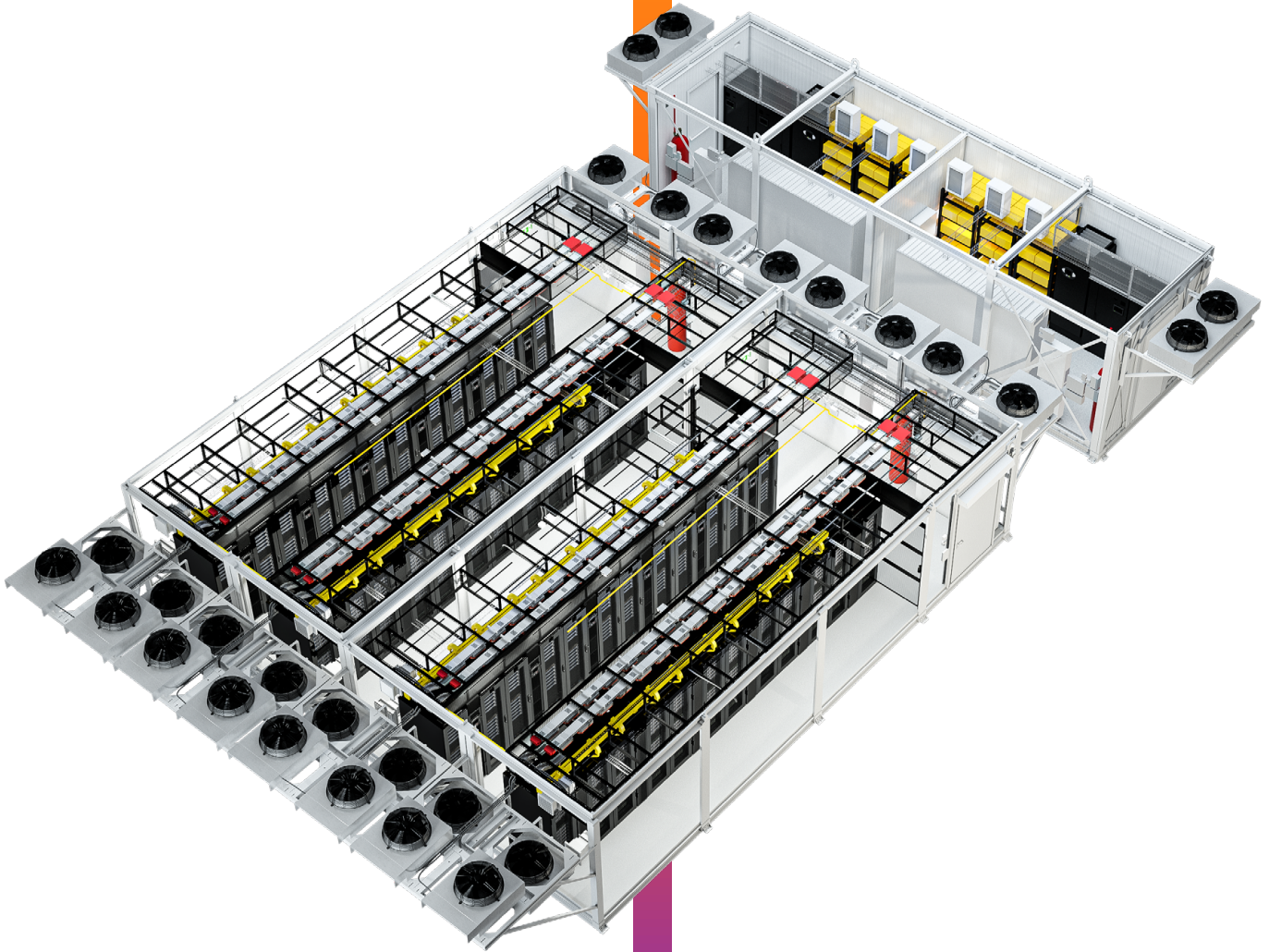




Vertiv™ SmartMod™ Combo

Scalable modular data center in 200 kW
to 600 kW IT power range



Vertiv™ SmartMod™ Combo

Vertiv™ SmartMod™ Combo is an extension to Vertiv SmartMod family, providing a standardized offering for IT deployments from 200 kW to 600 kW and up to 104 IT racks in total.

SmartMod™ Combo offers a simple way to install capacity in a fraction of the time a typical IT build might take. By using Vertiv standard building blocks and the ability to mix-and-match them to create different solutions, it enables you to have the flexibility and scalability in growing the White Space.

With integrated, pre-engineered, and pre-fabricated infrastructure, you can rapidly achieve your objectives, and you don't have to overspend the budget or overbuild based on uncertain future needs.

The modules are shipped in prefabricated sections, then connected and sealed at your site by experienced Vertiv personnel to create a fully functional data center with dedicated White Space and external Vertiv™ Power Module. SmartMod Combo leverages core Vertiv™ Critical Power, Thermal Management, and Monitoring & Control Technologies.

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

In addition, when deploying multiple units or at multiple locations, having a common look and feel, layout, and equipment kit simplifies maintenance and operations activities. Vertiv backs it all up with the proven service and support network.

SmartMod Combo incorporates

Vertiv Power Module unit:

- Monolithic Vertiv™ Liebert® EXL S1 UPS with leading power per square foot and operating efficiency, robust electrical protection, intelligent paralleling that optimizes performance and Dynamic Grid Support for enhanced grid interactive capabilities
- VRLA batteries in open battery stands or lithium-ion batteries in racks, providing battery back-up
- Floor mounted Vertiv™ Liebert® PDX PI Air Conditioning and preinstalled condensers
- Thermal containment to isolate hot zone and cold zone airflows for optimum thermal performance
- Automatic Transfer Switch (ATS) functionality to reliably select normal or emergency power sources

- Overhead infrastructure, including piping, electrical distribution, and fiber ducts
- Clean agent fire suppression and aspiration smoke detection (as optional items)

Vertiv™ SmartMod™ Max (White Space) unit:

- Classic and cost-effective Vertiv™ racks
- Vertiv™ rack PDU's
- In-row Liebert thermal management units with intelligent controls - direct expansion cooling and chilled water cooling options are available
- Thermal containment to isolate hot aisle and cold aisle airflows for optimum thermal performance
- Overhead infrastructure, including piping, electrical distribution, and fiber ducts
- Clean agent fire suppression and aspiration smoke detection (as optional items)

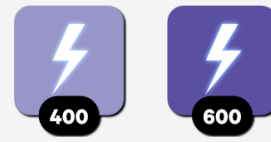
Vertiv™ Critical Insight real-time monitoring and visualization for critical infrastructure (as optional item) can bring together hardware, software, analytics, and ongoing services to ensure site vital applications run continuously, perform optimally, and grow with business needs.

Vertiv™ SmartMod™ Combo Building Blocks

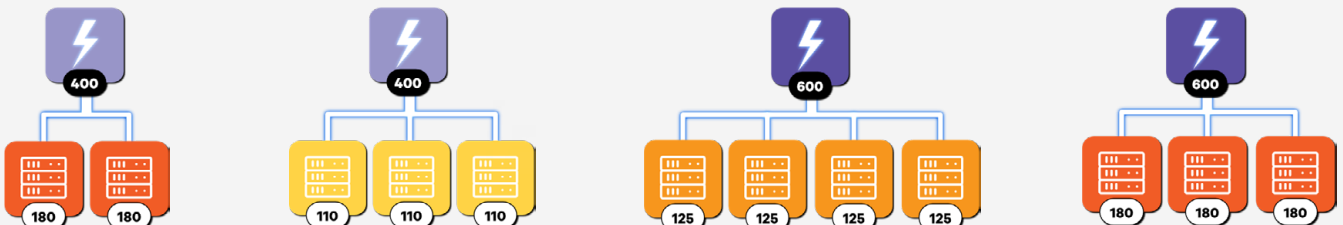
Vertiv™ SmartMod™ Max White Space (kW)



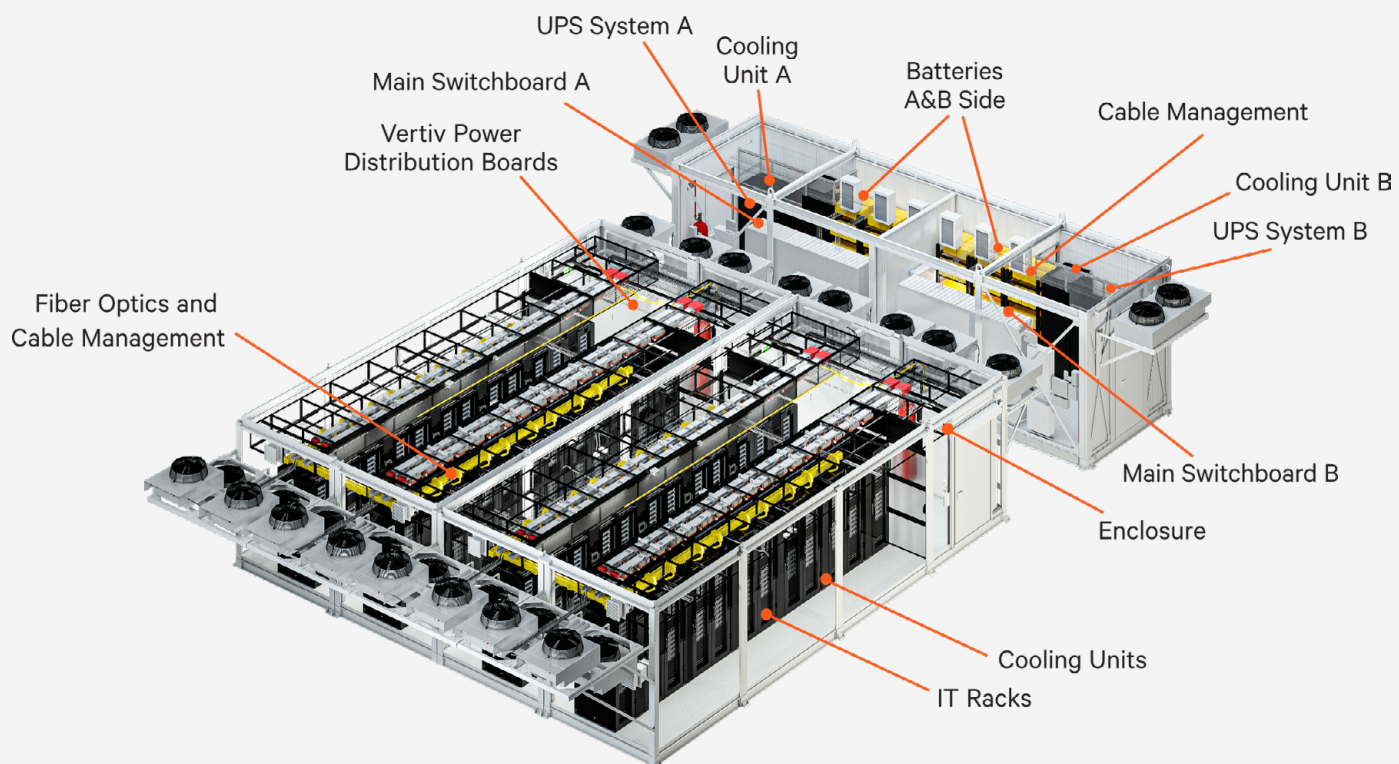
Power Modules (kVA)



Predefined Vertiv™ SmartMod™ Combo Configurations



Component Overview of Vertiv™ SmartMod™ Combo



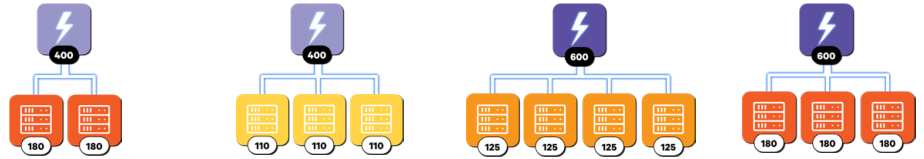
Cut-away view of Vertiv™ SmartMod™ Combo



Cut-away rendering of a Vertiv™ SmartMod™ Combo

| Vertiv™ SmartMod™ Combo configuration | PMSMM04021-182-000 | PMSMM04021-113-000 | PMSMM06021-124-000 | PMSMM06021-183-000 |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|

Layout



Vertiv™ Power Module

| | | | | |
|---|--|--------------------|-------------------|-------------------|
| No of Power Modules | 1 | | | |
| External Dimensions per Module | | | | |
| Enclosure Length (m) | 11970 | 11970 | 13800 | 13800 |
| Enclosure Width (m) | 3400 | | | |
| Enclosure Height (m) | 3500 | | | |
| Overall Length (mm) | 14400 | 14400 | 16200 | 16200 |
| Weight (kg) | 32000 | 32000 | 37000 | 37000 |
| Input AC Parameters | | | | |
| Region | EMEA | | | |
| Voltage/Frequency | 400VAC/50Hz | | | |
| Electrical | | | | |
| Power module topology | 2N | | | |
| Electrical Distribution Board | 2 | | | |
| Automatic Transfer Switch | 2 | | | |
| UPS Model | EXL S1 | | | |
| UPS Cabinet | 2 | | | |
| UPS Module Redundancy | N | | | |
| UPS Rating | 400 kVA | 400 kVA | 600 kVA | 600 kVA |
| Battery Backup Time | 9 min BOL @360 kW | 10 min BOL @330 kW | 8 min BOL @500 kW | 6 min BOL @540 kW |
| Mechanical (HVAC) | | | | |
| Air Conditioning Type | Floor Mounted Air Conditioning | | | |
| Air Conditioning Redundancy | N per side | | | |
| Air Conditioning Units | Liebert® PDX PIO41 + HCR059 condensers | | | |
| Cooling Capacity for IT Load @35°C (kW) | 40.6 | | | |
| Exterior Ambient Operating Range | -30°C to +52°C | | | |

Vertiv™ SmartMod™ Max

| | | | | |
|---|---------------------------------------|-----------|-----------|-----------|
| No of SmartMod Max Modules | 2 | 3 | 4 | 3 |
| External Dimensions per Module | | | | |
| Enclosure Length (mm) | 11970 | | | |
| Single Enclosure Width (mm) | 2900 | | | |
| Total Enclosure Width (mm) | 5810 | | | |
| Enclosure Height (mm) | 3300 | | | |
| Overall Length (mm) | 17500 | 15400 | 15400 | 17500 |
| Weight (kg) | 2 x 15700 | 2 x 15200 | 2 x 15200 | 2 x 15700 |
| IT Racks | | | | |
| No of Racks | 52 | 78 | 104 | 78 |
| Rack Height (U) | 42 | 42 | 42 | 42 |
| Rack Depth (mm) | 1100 | 1100 | 1100 | 1100 |
| Rack Width (mm) | 600 | 600 | 600 | 600 |
| Rack Load (N) | 8000 | | | |
| Electrical | | | | |
| Rack Load (kW) | 6.9 | 4.2 | 4.8 | 6.9 |
| Busbar System | 2 per row | | | |
| PDU | 2 per rack | | | |
| PDU nominal Capacity | 3x16A @ 230/400V-3ph | | | |
| PDU Type | Monitored (unit level) | | | |
| Mechanical (HVAC) | | | | |
| Air Conditioning Type | Air Cooled In-Row Based Cooling Unit | | | |
| Air Conditioning Redundancy | N+1 per row | | | |
| Air Conditioning Units | Liebert® CRV CRD25 + CCD25 condensers | | | |
| Cooling Capacity for IT Load @35°C (kW) | 360 | 330 | 480 | 540 |
| Exterior Ambient Operating Range | -30°C to +52°C | | | |



Interior view of Vertiv™ SmartMod™Combo

