



SANTAK Lingju 3.0 Pro Intelligent SR/MR MDC - R series

Powering reliable data centers
Simplifying engineering deployment



SANTAK Lingju 3.0Pro-R series (SR/MR series)

Product introduction

The SANTAK Lingju 3.0Pro-R series MDC integrates the physical infrastructure of data centers and server rooms, providing a highly efficient and green all-in-one solution. It integrates power supply, power distribution, thermal management, environmental monitoring, system linkage, and remote and distributed management of a server room into a single system, offering a highly reliable, low-energy-consumption, easy-to-maintain, and easily scalable all-in-one solution.

Upgraded application areas



More flexible



Smarter



More attractive



More energy-efficient



More compatible



More reliable



More timely



More cost-effective

Application scenarios

- Financial industry (bank and insurance branches and outlets)
- Advanced manufacturing (automated production lines and data centers)
- Transportation industry (rail transit stations and distribution centers)
- Government (digital government construction data centers and branch offices)
- Education (educational institution branches, schools, experimental centers, online education data centers, etc.)
- Healthcare (hospitals, community health centers, medical examination centers, etc.)
- SME and large enterprise branch data centers (commercial office environments, office buildings)
- Commercial retail outlets
- Telecommunications 5G data centers
- Edge computing data centers



Product advantages

Time-saving

- Standardized configurations for mainstream needs
- Highly prefabricated in factory, 65%+ on-site installation work saved (compared to traditional solutions)
- Minimum single-rack installation time: 1 hour
- Intelligent one-stop management, single-interface data center monitoring

Cost-effective

- Highly prefabricated and modularized, reducing on-site installation costs
- In-rack cooling units with shorter air supply distances, minimizing cooling loss
- PUE as low as 1.34, cutting electricity expenses
- Unified service portal for all components, reducing communication costs

Lower risk

- Fully enclosed cold/hot aisles, low environmental dependence & noise/dust isolation
- Industry-innovative intelligent pop-up door design for efficient cooling failure mitigation
- Low-load dehumidification function of cooling units, significantly reducing condensation risk inside racks during initial operations
- PDM with an automatic maintenance bypass switch (standard), which automatically switches the UPS to bypass mode when turned on, preventing UPS short-circuit risks
- Fully modular, rack-mounted design for easy scaling
- Flexible configurations: standalone, N+1 redundancy, 2N redundancy

Diverse application setups

- Entry-level configuration without cooling unit for scenarios with low computing load and many network devices
- Standard single-rack with integrated cooling unit for commercial office buildings and other locations where outdoor unit installation is difficult
- Standard single/multi-rack with split cooling units for high-load environments
- Multiple PDM & PDU options
- Various optional accessories

Product model

Single standard rack; Multi-rack: (1) integrated rack + (1-9) IT racks



Common configurations

	Single rack typical configuration		Multi-rack typical configuration			
	Typical config 1	Typical config 2	Typical config 3	Typical config 4	Typical config 5	Typical config 6
Configuration overview	Standard single rack (integrated cooling unit)	Standard single rack (split cooling unit)	1+2 multi-rack	1+4 multi-rack	1+6 multi-rack	1+9 multi-rack
Recommended load power	3kW	3kW	6kW	12kW	21kW	40kW
Available space	29U	33U	109U	179U	276U	395U
PUE (optimal value)*	1.4	1.34	1.34	1.34	1.34	1.34
Aisle type	Fully enclosed hot and cold aisles (tempered glass front door, solid sheet metal rear door)					
Dimensions (W*D*H)	600*1200*2000	600*1200*2000	(600*3)*1200*2000	(600*5)*1200*2000	(600*7+300*2)*1400*2000	(600*10+300*2)*1400*2000
Installation method	Concrete floor/raised floor					
System protection level	IP50					
Power supply and distribution system						
UPS capacity	6kVA/6kW @PT6k	6kVA/6kW @PT6k	10kVA/10kW@ PT10k	20kVA/20kW @ PT20k	20kVA*2/20kW*2 @PT20k	20kVA*3/20kW*3 @ PT20k
UPS efficiency (STK)	95%	95%	95%	96%	96%	96%
UPS power supply architecture	Standalone	Standalone	Standalone	Standalone	1+1 redundancy: IT load <20kVA Parallel: IT load > 20kVA	2+1 redundancy: IT load ≤ 40kVA Parallel: IT load > 40kVA
Power distribution output branch	2 circuits + 1 circuit backup	2 circuits + 1 circuit backup	6 circuits + 1 circuit backup	14 circuits + 1 circuit backup	14 circuits + 1 circuit backup	20 circuits + 1 circuit backup
Smart meters	Standard configuration					
Lightning protection level	CLASSII/Grade C, In 20kA, Imax 40kA, 8/20us					
Total space for input and output power distribution	3U	3U	7U	12U	12U	18U
PDU selection	Standard basic model (pre-installed at the factory); optional intelligent model available					
PDU input current	32A					
PDU type	IEC	IEC	IEC	IEC	IEC	IEC
PDU quantity	Standard: 2/rack	Standard: 2/rack	Standard: 2/rack	Standard: 2/rack	Standard: 2/rack	Standard: 2/rack
	Optional: 1/rack	Optional: 1/rack	Optional: 1/rack	Optional: 1/rack	Optional: 1/rack	Optional: 1/rack
EBM	Optional					
Rack depth	1200mm	1200mm	1200mm (default) 1400mm (optional)	1200mm (default) 1400mm (optional)	1400mm	1400mm
Rack width	N/A		Optional 19-inch network/server rack with 800mm width			

Common configurations (continued)

	Single rack typical configuration		Multi-rack typical configuration			
	Typical config 1	Typical config 2	Typical config 3	Typical config 4	Typical config 5	Typical config 6
Cooling system						
Cooling method	Direct expansion air cooling					
Rated cooling capacity	3.5kW	3.5kW	7kW	7kW*2	12.5kW*2	25.1kW*2
Air volume	600m³/h	700m³/h	1500m³/h	1500m³/h *2	2850m³/h *2	5500m³/h *2
Cooling architecture	Standalone	Standalone	Standalone	N+1 redundancy: IT load ≤ 7kW	N+1 redundancy: IT load ≤ 12kW	N+1 redundancy: IT load ≤ 25kW
				Parallel: IT load > 7kW	Parallel: IT load > 12kW	Parallel: IT load > 25kW
Indoor unit dimensions (mm, H*W*D)	440*900*351(8U)	440*754*172(4U)	440*754*351(8U)	440*754*351(8U)*2	300*1400*2000*2	300*1400*2000*2
Outdoor unit dimensions (mm, H*W*D)	N/A	905*346*611	944*420*803	944*420*803*2	938*406*1257*2	1359*706*982*2
Outdoor unit installation method	N/A	Vertical installation (horizontal air outlet)	Vertical installation (horizontal air outlet)	Vertical installation (horizontal air outlet)	Vertical installation (horizontal air outlet)	Horizontal or vertical installation
Refrigerant	R410A eco-friendly refrigerant					
Cooling unit unique design	Integrated design without outdoor unit, rack mounting	Split design, rack mounting			In-row design and installation Cooling only with heating, or constant temperature and humidity	
Drainage method	Self-evaporation or water pump drainage	Gravity drainage or pump drainage			Gravity drainage or pump drainage	
Monitoring system						
Monitoring interface	Local 10.1-inch color touchscreen					
Monitoring methods	Remote web interface access and unified centralized monitoring of multiple network sites					
Mobile O&M	Email, optional: mobile app, SMS alerts					
Access control	Electromagnetic combination lock					
Environmental monitoring	Standard configuration: Temperature and humidity sensor, smoke sensor, water immersion sensor, access control Optional configuration: Video surveillance, hard disk recorder					
LED lighting	Standard configuration					
Ambient lights	Standard configuration, intelligent system status display in color					
Extended configuration						
Product expansion	Unrestricted depth expansion for racks of the same depth					
Power capacity expansion	Supports expansion to 10kVA UPS	Supports expansion to 10kVA/20kVA UPS	Supports expansion to 20kVA UPS	Supports expansion to 2*20kVA UPS	Supports expansion to 3*20kVA UPS	Supports expansion to 3*20kVA UPS
Reliability extension	UPS redundancy			UPS redundancy Cooling unit redundancy		
Extended configuration						
UPS certification						
Cooling unit certification	RoHS2.0/CE*					
Rack load capacity	1860kg load-bearing capacity certification test					
Server rack vibration resistance	Seismic resistance test at intensity level 8					

1. PUE test conditions: Tested at Eaton/SANTAK Laboratories based on Beijing’ s climate conditions
2. CE certification for cooling units only applies to 3.5kW integrated units.

Typical configuration

Typical configuration 1

	Configuration	Remarks
UPS selection	6kVA*1	Actual load: about 2-3kW
Cooling unit selection	3.5kW in-rack cooling unit *1	Variable speed design, enabling automatic adjustment of cooling capacity based on load changes; integrated design of indoor and outdoor units, eliminating the need for outdoor unit installation
Rack selection	600mm*1200mm*42U	19-inch standard server rack, 29U available
Airflow sealing	Completely enclosed hot and cold airflow	Tempered glass front door for easy observation of the operating status inside the rack; sturdy and durable sheet metal enclosed rear door
Monitoring functions	UPS, power distribution, cooling unit, environmental monitoring	Monitoring of UPS and cooling unit operating status, rack temperature, humidity, smoke detection, water immersion, access control, and other information
Overall configuration features	The installation is simplified with no outdoor unit design. With a highly integrated design, all infrastructure (excluding load equipment) inside the rack is prefabricated and pre-installed at the factory, reducing on-site installation workload with shorter installation period. Optional air ducts can be installed to exhaust heat from the rack to the outside or into the building’ s ceiling, preventing excessively high ambient temperatures within the rack.	



Typical applications

- Glass curtain wall building, without outdoor unit installation position
- Office-leasing SMEs
- Temporary, quick-setup server room

Typical configuration 2

	Configuration	Remarks
UPS selection	6kVA*1	Actual load: about 3kW, with capacity reserved for future expansion
Cooling unit selection	3.5kW in-rack cooling unit *1	Variable speed design, enabling automatic adjustment of cooling capacity based on load changes
Rack selection	600mm*1200mm*42U	19-inch standard server rack, 33U available
Airflow sealing	Completely enclosed hot and cold airflow	Tempered glass front door for easy observation of the operating status inside the rack; sturdy and durable sheet metal enclosed rear door
Monitoring functions	UPS, power distribution, cooling unit, environmental monitoring	Monitoring of UPS and cooling unit operating status, rack temperature, humidity, smoke detection, water immersion, access control, and other information
Overall configuration features	The highly integrated design allows for future expansion. All infrastructure (excluding load equipment) inside the rack is prefabricated and pre-installed at the factory, reducing on-site installation workload with shorter installation period.	



Typical applications

- Middle school server room
- County bureau’ s branch server room
- Manufacturing plant’ s network server room
- Community health service station affiliated with a hospital

Typical configuration 3

	Configuration	Remarks
UPS selection	10kVA*1	Actual load: about 6-7kW (redundant design supported)
Cooling unit selection	7kW in-rack cooling unit *1	Variable speed design, enabling automatic adjustment of cooling capacity based on load changes
Rack selection	600mm*1200mm*42U*3 (1 integrated rack + 2 IT racks)	19-inch standard server rack, 179U available
Airflow sealing	Completely enclosed hot and cold airflow	Tempered glass front door for easy observation of the operating status inside the rack; sturdy and durable sheet metal enclosed rear door
Monitoring functions	UPS, cooling unit, environmental monitoring, video surveillance	Monitoring of UPS and cooling unit operating status, rack temperature, humidity, smoke detection, water immersion, access control, and other information
Overall configuration features	The key components feature redundant design and high integration. All infrastructure (excluding load equipment) inside the rack is prefabricated and pre-installed at the factory. On-site installation only requires rack placement, assembly, and commissioning, reducing workload with shorter installation period.	



Typical applications

- Company’ s core server room
- Bank branch’ s server room
- School’ s server room

Typical configuration 4

	Configuration	Remarks
UPS selection	20kVA*2	Actual load: about 12-22kW (redundant design supported)
Cooling unit selection	12.5kW in-row cooling unit *2	Variable speed cooling unit, improving system cooling reliability
Rack selection	600mm*1400mm*42U*7 (1 integrated rack + 6 IT racks)	
Airflow sealing	Completely enclosed hot and cold airflow	Tempered glass front door for easy observation of the operating status inside the rack; sturdy and durable sheet metal enclosed rear door
Monitoring functions	UPS, power distribution, cooling unit, environmental monitoring, video surveillance	Monitoring of UPS and cooling unit operating status, rack temperature, humidity, smoke detection, water immersion, access control, and other information
Overall configuration features	The key components feature redundant design and high integration. All infrastructure (excluding load equipment) inside the rack is prefabricated and pre-installed at the factory. On-site installation only requires rack placement, assembly, and commissioning, reducing workload with shorter installation period.	

Typical applications

- Government server room
- University laboratory server room
- Technology company’ s core server room
- Bank branch server room
- Hospital’ s core server room

