AIRSYS-P-FC-DATARAK-E1710V01.1

AIRSYS

DATARAK

Integrated Rack Data Center

www.air-sys.com

The DATARAK unit from AIRSYS is a packaged industry-standard 19” rack enclosure with integrated cooling, power distribution and monitoring systems. The modular design and conformance to current industry standards allow for fast and simple deployment, ideal for both small IT spaces and larger data centers.

High Lights

Safety and Reliability

Unit prefabrication, assembly and commissioning are all undertaken at the factory with strict quality control measures ensuring the safe and stable operation of each unit.

• The fully sealed design, complete with integrated fire/ smoke detection and access control systems, minimize operation interference from the external environment.

• An integrated emergency ventilation system delays extreme high temperatures within the cabinet and continues the rejection of heat even under emergency operation.

• Dual levels of protection are provided through both local and remote monitoring, with the timely reporting of any abnormal conditions. Intelligent control and energy management through a holistic centralized monitoring system.

High Efficiency

The DATARAK unit essentially operates as a closed hot and cold aisle within a small confined space. This allows the integrated inverter air conditioner to accurately match the actual required cooling capacity, in turn efficiently controlling the internal temperature of the rack. When compared to traditional cooling arrangements, energy savings of up to 40% are achievable due to the low annual average PUE of 1.4 of a single rack.

Cost Effectiveness

No further design, modifications or cabling is required on site, with handover being achievable in as little as 3 hours. And with a footprint as small as 0.7m2, DATARAK units can provide several times the efficiency of more traditional construction types.

The closed system design of the DATARAK units makes them highly adaptive and resilient to all operating environments, therefore reducing CAPEX through minimizing additional works. The closed system cooling can also greatly improve overall rack efficiency, significantly reducing OPEX and TCO.

Intelligent Control

Each DATARAK unit has an integrated 7 inch touch screen with real time display of in-rack air conditioning output, power distribution and IT equipment operating status.

Units are able to effectively operate unattended, or under local or remote management. Multiple networks can also be given access to the control platform to enable unified management across all equipment types and cooling systems.

Application

The DATARAK system is ideally suited to small businesses or enterprises, such as Government branches, Educational institutes and medical branches. Due to its flexible design, it can also be utilized within cloud computing data centers.

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Balance the Environment

Using parameter table

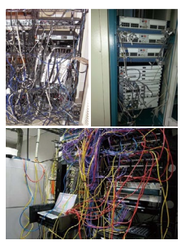
Parameter name	Demand
Operating temperature	Indoor*：17℃～35℃
Environment temperature	Outdoor sdandard configuration：-15℃~45℃；configuration of low temperature：-40℃~45℃
EnvironmentHmidity	20% RH～80% RH
Storage Environmentu	Clean (no dus etc)
Storage temperature	–40℃～+70℃
Storage humidity	5% RH～95% RH，no condensation
Altitude	UPS ：0m～1500m， Morethan1500mm for use of less load，reference GB/T3859.2 Air conditioning：0m～1000m，Morethan1500mm for use of less load。
power	single power：198Vac～253Vac 50Hz L+N+PE

Remark*：If the temperature of rack over 35℃，less loda。

Compare to traditional data centers

Disadvantage of traditional data center

- Difficult to move, expand and deploy
- High energy consumptions, with typically low efficiencies
- Unorganized installation
- Difficult to manage
- Low safety



Advantage of integrated data center

- Integrated systems for ease of moving and deploying
- Industry-standard racking system
- Resilient to operating environment
- Unattended and remote monitoring
- Intelligent controls and highly efficient operation

Product Specification

Model	DATARAK/S600	DATARAK/S800	DATARAK/P600
Rack System			
Rack Dimensions	600Wx1200Dx2000H	800Wx1200Dx2000H	600Wx1200Dx2000H
Power Input	1PH 220VAC 50-60HZ		
Application temperature	0-40°C		
Application relative humidity	10-90%		
Blank panel	1U/2U/4U		
Available U	Max 27U		
PUE	as low as 1.4		
Power Distribution System			
UPS	3kVA/6kVA（optional）		
Battery Backup time	15min/5min (optional)		
Smart Power Distribution BOX	3U，surge protection，UPS bypass, power meter		
PDU	10A/16A/32A（8-24jack socket）Smart PDU (optional)		
Cooling System			
Precision Air Conditioner	Split, variable speed compressor Fixed speed (optional)		Packaged, variable speed compressor Fixed speed (optional)
Cooling Capacity	3.5kW/1.5kW (optional)		
Emergency Ventilation System	Dual row emergency air ventilation system		
Airflow arrangement	Hot and cold aisle, up-front supply air, rear return air		
Monitor System			
Display	7 inch LED touch screen		
Monitor Items	Air conditioning, UPS, PDU, rack front and rear temperatures, access control, water leakage, smoke sensor		
Remote Central Monitor	Remote Central Monitor, connected via RS485		
Extinguisher system			
Fire alarm detection	Smoke detection standard, rack heptafluoropropane fire extinguisher device (optional)		

Altitude≤1000m, consider derating design when Altitude > 1000m

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Balance the Environment

System Diagram

Rack system：It has the characteristics of efficient heat dissipation, safe and reliable, high compatibility, green environmental protection, etc. Which can satisfy the different application scenarios of miniaturized data center

Efficient heat dissipation

the variable speed fan, dynamic regulation of heat dissipation. The hole rate is 75% and the ventilation area is 79%.

Safe and reliable, achieve business stable operation

special anti-static wrist seat design All-directional grounding protection design

High compatibility, meet different equipment installation

special anti-static wrist seat design All-directional grounding protection design

Green environmental protection to meet customer needs

The cabinet meets the environmental requirements of ROHS Meets the isc60297-2 standard

Power system：Flexible configuration, high performance design, high reliability, etc

Flexible configuration to meet the needs of various scenarios:

Two types of UPS and two standby time are optional

High performance design, electric energy utilization

CB and CE certification，High input power factor, PFC control technology.

High reliability:

manual maintenance bypass
Class C lightning protection

Air Conditioner system

The integrated air conditioning system can be configured to suit each specific installation, including both packaged and split options.

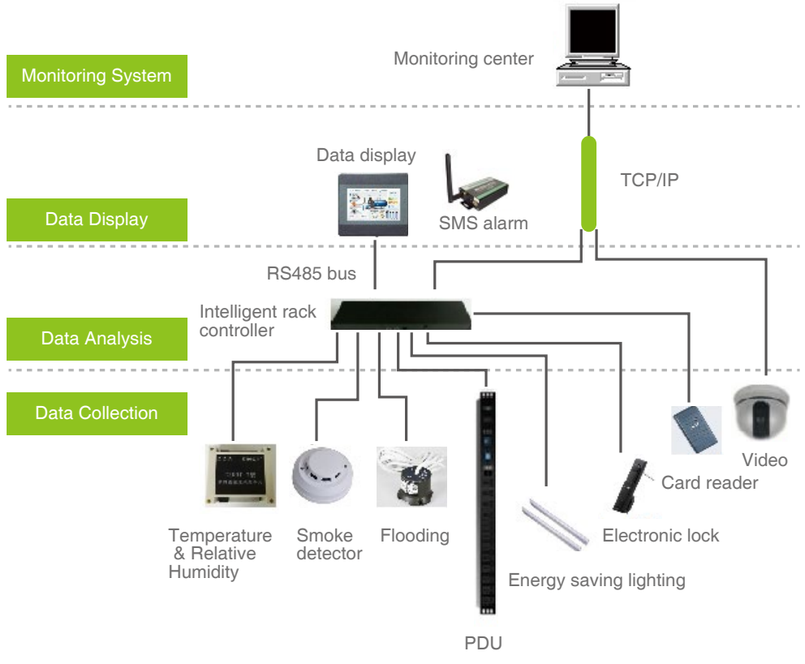
• The packaged air conditioning option (i.e.no external condenser) is ideal for applications which are unable to easily install an outdoor unit for heat rejection, such as some office buildings. These units are easily installed and maintained on site, and offer a ‘plug and play’ solution.

• The split air conditioning option is ideal for unattended data centers, with heat from the internal rack rejected directly to the outside

Monitoring System Display

The micro-environment, power distribution, heat dissipation of cabinet can be real-time monitoring , the GPRS module supports the alarm message notification function, and supports the proximal and remote maintenance configuration.

System architecture



Feature

Unattended, reduce the cost of operation and maintenance: remote management; fault warning SMS notification

Intelligent management of equipment, improve reliability: comprehensive monitoring of micro-environment，Fault intelligence diagnosis, autonomous alarm

Friendly human-computer interaction, simple and intuitive operation: local LCD and remote Web management，Multiple Web client concurrent access, hierarchical management

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