IT Racks and Power Distribution Units
Micro Data Center

Eaton Micro Data Center

iCube



Powering Business Worldwide



Eaton iCube

Eaton Micro Data Center (MDC), known as Eaton iCube, provides power supply, power distribution, thermal energy management, environmental monitoring, system connection, remote and distributed management in one system.

Eaton iCube provides an "all-in-one" or an integrated solution to users with high reliability, low energy consumption, easy maintenance, and high scalability.

All components of the Eaton iCube are integrated and configured at factory before shipping to the customer's site. The on-site set up can be applied even at remote or distributed locations.

Applications

- Finance, insurance, securities (branches and business nodes)
- Government digital systems, educational and medical institution computer rooms
- Transport, shipping, commercial retail (computer rooms and branch nodes)
- Computer rooms of large-sized enterprise branches and small and medium-sized enterprises
- Telecommunications, 5G computer rooms
- Edge computing



iCube Core Values

Quick Deployment

- Standardized design with configurable options tailored to your needs
- Pre-configuration saves more than 65% time on on-site installation compared to conventional solutions
- 1-hour fast installation for single rack
- Centralised monitoring system with a single interface to easily manage your infrastructure

Remote Monitoring & Management

- One interface to see all infrastructure status and IT environments
- SNMP connectivity with Cybersecurity
- Web page/APP for remote monitoring
- Faster troubleshooting with direct one-stop service to reduce downtime

High Reliability

- Reduced dust and noise due to fully enclosed hot and cold aisles design
- Smart door system for temperature control and emergency heat dissipation
- Fire protection and earthquake-resistant
- Supports low-load dehumidification which greatly reduces the risk of condensation in the cabinet
- Comply with industry standard/certification to ensure a safe and reliable system
- Supports multiple configurations of single rack, N+1 redundancy, 2N redundancy to minimize downtime

Cost Effective

- Prefabrication and modular construction saves on-site installation cost
- In-rack cooling system eliminates the need for room-level cooling system and cooling loss thus reducing total infrastructure costs
- Saves electricity bills with PUE* as low as 1.34
- Unified system saves communication cost

$$* \text{ PUE} = \frac{\text{"Total facility power"}}{\text{"IT equipment power "}}$$

* PUE or Power Usage Effectiveness refers to a way to benchmark datacenter's energy efficiency

The key to Edge Computing

Micro Data Center provides all-in-one data center infrastructure solution sized to meet your requirements

SECURE RACK

- IP50 protection, earthquake rated, separates noise and dust
- Known to bear 20% higher load than market standard
- Intelligent door lock and release

PRECISION COOLING

- CE certified in-rack air-conditioning circulates air quickly due to proximity to heat sources

PRE-ASSEMBLY, WIRING

- Except for load equipment, all structures in the cabinet are factory prefabricated and preinstalled



DYNAMIC MONITORING

- Built-in sensors track environmental parameters and provide timely alerts

POWER PROTECTION

- High efficiency UPS provides best in class protection for all your critical applications

INTELLIGENT MANAGEMENT

- Remotely manage all aspects of the system and components via web or phone application
- Interactive LCD provides info and control at your fingertips

Standard single rack

System Size (W*D*H)-mm	600*1200*2000
Power input	220/230/240VAC, 50/60Hz, 1Ph+N+PE
Enclosure type	Enclosed cold and hot aisle Glass front door + solid metal rear door
Color	RAL9005-Black
System IP rating	IP50
UPS rating	3kVA/6kVA/10kVA
Recommended IT load	Integrated DX 3.5kW: 0.3~3kW Split DX 4.2kW: 0.9~3.5kW
Available U space	28U-32U
Cooling	Integrated DX 3.5kW Split DX 4.2kW
PDU outlets	1~2x Basic 20*C13 + 4*C19
User interface	10.1-inch touchscreen display
Connectivity	SNMP/HTTP
Remote monitoring	PC end, mobile APP
Sensor included	1x Smoke / 1x Water Leakage / 1x Temperature / Humidity
Options	air chimney/intelligent PDU/ATS/EBM/BMS...etc *

* Please contact local sales representative

SECURE RACK

- IP50 protection, earthquake rated
- Can bear 20% higher load than other brands
- Glass front door + metal rear door
- Intelligent electrical door lock and release

PREFAB POWER DISTRIBUTION

- Infrastructure devices in the cabinet are factory preinstalled and pre-wired
- Intelligent PDM to track the load and PUE

POWER PROTECTION

- High efficiency UPS (3-10kVA) provides best in class protection for all your critical applications
- Supports Lithium-ion compatible UPS



INTELLIGENT MANAGEMENT

- SNMP connectivity
- Remotely manage via internet Web or phone APP
- 10.1" touchscreen LCD display provides information and control at your fingertips
- Cybersecurity passed

DYNAMIC MONITORING

- Built in sensors track environmental parameters and provides timely alerts
- Temperature and humidity sensors to track environment status
- Smoke and water leakage sensors to prevent any environment risk
- Status lighting system – 3 colors

PRECISION COOLING

- CE certified in-rack air-conditioning circulates air quickly due to proximity to heat sources.
- R410A environment friendly refrigerant
- Have Split and Integrated option
- VSD compressor + EC fan
- Compatible for both gravity drain and condensate pump
- Evaporative free drainage available for integrated cooling

Multiple rack

System Size (W*D*H)-mm	(1800~4200)*1400*2000
Rack quantity	3~7
Power input	380/400/415VAC, 50/60Hz, 3Ph+N+PE
Enclosure type	Enclosed cold and hot aisle Glass front door + solid metal rear door
Color	RAL9005-Black
System IP rating	IP50
UPS rating	10kVA~40kVA
Recommended IT load	7~21kW
Cooling	Split DX 8.1kW
PDU outlets	Basic 20*C13 + 4*C19 (1 per main rack / 2 per IT rack)
User interface	10.1-inch touchscreen display
Connectivity	SNMP/HTTP
Remote monitoring	PC end, mobile APP
Sensor included	1~2x Smoke / 1x Water Leakage / 1x Temperature/Humidity (per rack)
Options	air chimney/intelligent PDU/ATS/EBM/BMS...etc *

* Please contact local sales representative

SECURE RACK

- Cold + Hot Aisle (contained)
- IP50 protection, earthquake rated
- Glass front door + metal rear door
- Intelligent electrical door lock and release
- UP to 7 Racks

PREFAB POWER DISTRIBUTION

- Infrastructure devices in the cabinet are factory pre-installed and pre-wired
- Intelligent PDM to track the load and PUE

POWER PROTECTION

- High efficiency UPS (10~20KVA) provides best in class protection for all your critical applications



INTELLIGENT MANAGEMENT

- 10.1" touchscreen LCD display provides information and control at your fingertips
- Remotely manage via internet Web or phone APP
- SNMP connectivity
- Cybersecurity passed
- Built-in sensors (Temperature/ Humidity, Smoke, Water Leakage)
- Status lighting system – 3 colors

PRECISION COOLING

- CE certified in-rack air-conditioning
- 8.1kW split system
- VSD compressor + EC fan
- R410A environment friendly refrigerant
- Compatible for both gravity drain and condensate pump

Nomenclature

E	M	2	SE	3K	(x)	3C	(x)
E-Eaton	**M-MDC**	**Rack QTY**	**Rack type**	**UPS level**	**UPS QTY**	**Cooling Type**	**Cooling QTY**
		If 1, code is not required	SE-Single Basic 24U with key lock SB-Single Basic 42U with key lock SS-Single Standard 600mm Rack 42U with electronic lock SW-Single Standard 800mm Rack 42U with electronic lock MS-Multi-Rack 600mm Rack 42U with electronic lock MW-Multi-Rack 800mm Rack 42U with electronic lock		If 1, code is not required	3C-3.5kW integrated cooling with condensate pump 3E-3.5kW integrated cooling with evaporative kit 4S-4.2kW split cooling 8S-8.1kW split cooling	If 1, code is not required

Single rack typical configuration

	EMSS6K4S	EMSS6K3E	EMSW6K3C
Power input	220V/1P, 50/60Hz	220V/1P, 50/60Hz	220V/1P, 50/60Hz
Recommended IT load	3.5kW	3kW	3kW
Available U space	31U	28U	28U
PUE (optimized value*)	1.34	1.4	1.4
System size (W*D*H) mm	600*1200*2000	600*1200*2000	800*1200*2000
System protection class	IP50	IP50	IP50
Rack and Enclosure system			
Rack size (W*D*H) mm	600*1200*2000	600*1200*2000	800*1200*2000
Rack QTY	1	1	1
Door lock	Electronic lock	Electronic lock	Electronic lock
Seismic level	Level 8	Level 8	Level 8
LED lighting included	Yes	Yes	Yes
Atmosphere lights (3 colors)	Yes	Yes	Yes
UPS and power distribution system			
UPS configuration	1x 6kVA	1x 6kVA	1x 6kVA
UPS model	9PX6Ki	9PX6Ki	9PX6Ki
UPS efficiency	95%	95%	95%
EBM	Optional	Optional	Optional
Power meter included	Yes	Yes	Yes
Lightning protection	C grade	C grade	C grade
PDU type	Basic as standard, monitor and managed as option		
PDU QTY	1pc/rack	2pcs/rack	2pcs/rack
PDU outlets	20*C13 + 4*C19	20*C13 + 4*C19	20*C13 + 4*C19
PDU certificates	CE	CE	CE
ATS/STS included	Optional	Optional	Optional
Cooling system			
Cooling model	1x E04SE/EW06E	1x R03A	1x R03A
Cooling type	Split DX	Self-contained DX	Self-contained DX
Input Voltage/Freqency	200-240V/50~60Hz	200-240V/50~60Hz	200-240V/50~60Hz
Cooling capacity	4.2kW	3.5kW	3.5kW
Air volume	800m³/h	600m³/h	600m³/h
Form Factor in total	5U	8U	8U
Refrigerant type	R410a	R410a	R410a
Drainage type	Condensate Pump	Evaporative kit - Drainage Free	Condensate Pump
Pump lift-m (if yes)	5	NA	5
Certificates	CE	CE	CE
Monitoring system			
User interface	10.1-inch touchscreen	10.1-inch touchscreen	10.1-inch touchscreen
Connectivity	SNMP/HTTP	SNMP/HTTP	SNMP/HTTP
Remote monitoring	PC end, Mobile APP	PC end, Mobile APP	PC end, Mobile APP
Smoke sensor included	1	1	1
Water leakage sensor included	1x rope type (5m)	1x rope type (5m)	1x rope type (5m)
Temp sensor included	1	1	1
Emergency plan (fire/high temp)	Pop-up Door	Pop-up Door	Pop-up Door



Standard rack with self-contained/split cooling unit

Multiple rack typical configuration

Unit model	EM3MS10K8S	EM5MS20K8S(2)	EM7MS20K(2)8S(3)
Power input	380V/3P, 50/60Hz	380V/3P, 50/60Hz	380V/3P, 50/60Hz
Recommended IT load	7kW	14kW	21kW
Available U space	108U	179U	252U
PUE (optimized value*)	1.34	1.34	1.34
System size (W*D*H) mm	(600*3)*1400*2000	(600*5)*1400*2000	(600*7)*1400*2000
System protection class	IP50	IP50	IP50
Rack and Enclosure system			
Enclosure type	Fully enclosed Hot and Cold Aisles (Glass front door plus solid sheetmetal rear door)		
Rack size (W*D*H) mm	600*1400*2000	600*1400*2000	600*1400*2000
Rack QTY	3	5	7
Door lock	Electronic lock	Electronic lock	Electronic lock
Seismic level	Level 8	Level 8	Level 8
LED lighting included	Yes	Yes	Yes
Atmosphere lights (3 colors)	Yes	Yes	Yes
UPS and power distribution system			
UPS configuration	1x 11kVA	1x 20kVA	2x 20kVA
UPS model	9PX11KiPM31	9SX20KPM	9SX20KPM
UPS efficiency	95%	96%	96%
EBM	Optional	Optional	Optional
Power meter included	Yes	Yes	Yes
Lightning protection	C grade		
PDU type	Basic as standard, monitor and managed as option		
PDU QTY	5pcs	9pcs	13pcs
PDU outlets	20*C13 + 4*C19	20*C13 + 4*C19	20*C13 + 4*C19
PDU certificates	CE	CE	CE
ATS/STS included	Optional	Optional	Optional
Cooling system			
Cooling model	1x E08SE/EW10E	2x ES08E/EW10E	3x ES08E/EW10E
Cooling type	Split DX	Split DX	Split DX
Input Voltage/Freqency	200-240V/50~60Hz	200-240V/50~60Hz	200-240V/50~60Hz
Cooling capacity	8.1kW	2x 8.1kW	3x 8.1kW
Air volume	1500m³/h	2x 1500m³/h	3x 1500m³/h
Form Factor in total	8U	2* 8U	3* 8U
Refrigerant type	R410A	R410A	R410A
Condensate Pump included	Yes	Yes	Yes
Pump lift-m (if yes)	5	5	5
Certificates	CE	CE	CE
Monitoring system			
User interface	10.1-inch touchscreen		
Connectivity	SNMP/HTTP	SNMP/HTTP	SNMP/HTTP
Remote monitoring	PC end, mobile APP		
Smoke sensor included	1	2	2
Water leakage sensor included	1x rope type (5m)	1x rope type (5m)	1x rope type (5m)
Temp sensor included	3	5	7
Emergency plan	Pop-up Door	Pop-up Door	Pop-up Door



Multi rack with split cooling unit

Rack cooling specification

	Cooling Module	Form factor (U space)
Single Rack	3.5kW integrated cooling unit 4.2kW split cooling unit	8U 5U
Multi Rack	8.1 kW split cooling unit	8U



Indoor unit for split cooling



outdoor unit

Split cooling unit



Integrated cooling unit

Basic Feature

- 3 capacity levels: 3.5kW/4.2kW/8.1kW @ 35C return air and 35C ambient temperature
- VSD compressor + EC fan to accommodate both 50/60 Hz
- EEV to provide more precise control
- R410A environment friendly refrigerant
- Compatible for both gravity drain and condensate pump
- CE certified

	3.5kW Integrated	4.2kW Split	8.1kW Split
Model name	R03A	E04SE	E08SE
Rating capacity	3.5kW	4.2kW	8.1kW
Rating Airflow	600m³/h	800m³/h	1500m³/h
Power input	220V~50/60Hz	220V~50/60Hz	220V~50/60Hz
Compressor	VSD	VSD	VSD
Expansive Valve	EEV	EEV	EEV
Indoor fan	EC	EC	EC
Outdoor fan	EC	EC	EC
Form factor	8U	5U	8U
Refrigerant	R410A	R410A	R410A
Reheat	1000W	500W	1000W
Drainage	Evaporative Kit / Condensate Pump	Gravity Drain / Condensate Pump	Gravity Drain / Condensate Pump
Operating range	0~40°C	-40~45°C	-40~45°C
Low temp kit	NA	Optional	Optional
Max piping length	NA	60	60
Elevation	NA	20/-5	20/-5

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