



Eaton xModular Micro DC

Eaton xModular Micro DC: For an edge infrastructure under control

EATON

Powering Business Worldwide

xModular

Eaton xModular Micro DC is an edge engineered compact data centre, integrating advanced power management, right sized cooling, airflow management, security, fire detection & suppression, wiring and intelligent monitoring systems in one specific purpose designed enclosure.

Ready-to-use Eaton xModular Micro DC allows the deployment of a fast and reliable edge environment for IT / OT solutions on a cost effective, safe and energy efficient manner.

Main features

Eaton xModular Micro DC offers a complete, scalable and resilient edge solution in one stand-alone rack or multi-rack form factors allowing installation in non climate-controlled environments:

- Pre-manufactured and pre-tested prior to delivery and deployment to client site, minimizing local activities and ensuring quality performance
- Complete power quality solution with Eaton UPS and batteries, paired with an Eaton Gigabit Network card—the first in the industry to comply with the UL and IEC cybersecurity standards
- Maximize uptime with Eaton IPM management system as the brain of the solution providing unified management an advanced smart power distribution with monitored, metered and switched power distribution units as well as EMS (Environmental Monitoring System). IPM provides a solution that is easy to use and maintains business continuity
- Eaton rPDUs provide real-time power metering and configuration of individual outlets
- Cooling unit up to 6,5 kW (Inrack) or 12 kW (side cooling, only for 42U) features latest inverter technology, meaning that the power consumption adapts to the actual costs incurred by heat load (PUE minimization). Its close loop system avoids any air leakage between internal air and room air
- Protection grade: up to IP55

Optional features

- Access system upgrade: biometric, contactless, secured
- Fire detection and extinguishing module (Novec 1230 / FM 200)
- Additional redundancies of elements
- Customized designs and applications

Benefits

- Efficient operation: full remote management
- Fast time to market
- Quick and secure commissioning on site
- Mobility
- Short period of deployment and re-deployment, minimizing business disruption
- Pay-as-you-grow solution due to flexible modularity and scalability (optimize CAPEX & OPEX)
- Repeatable proved designs, leveraging centralized management
- Straightforward planning with configurator: modify validated reference architectures or configure new custom solutions

Eaton Intelligent Monitoring & Management

- Eaton xModular Micro DC environment and security information can be connected: signals for the temperature and humidity of the datacenter, smoke detection, data centre access, data centre IP camera, and others can be connected to the standard management system
- Inbuilt access control in the system cabinet: prevents non-professional staff from misusing equipment such as UPS or cooling and causing system crashes. Access systems are equipped on the front and rear doors of the system cabinet
- Preserve data integrity and business continuity by enabling automated and graceful shutdown of clusters experiencing unplanned, extended power events
- Protect valuable data from cybersecurity breaches with the first UL 2900-1 and IEC 62443-4-2 certified UPS communication card
- Reduce need for onsite IT staff with simple set-up and remote management of power infrastructure using familiar tools
- Safeguard your IT systems from power anomalies and environmental threats
- In-rack environmental monitoring with 2 x temperature (blowing and return air) and 1 x humidity (return air) sensors
- Door access control for security – optional
- Water rope sensor - optional
- Remote access via SNMP, MODBUS TCP/IP
- Online monitoring & management via Web Interface

Applications

- Edge applications (latency minimization): IoT, IT, OT, 5G, AR, IA, gaming
- Transition to hybrid cloud
- Disaster recovery
- Reconstruction of existing server rooms
- Industrial applications: on-site production, research, and manufacturing automation
- Healthcare sector
- Oil / gas / mining: real-time processing and decision making for exploration
- Branch offices of financial institutions, insurance companies, utilities, telco operators and government bodies
- Small and Medium Size Enterprises (SME's), no need for traditional data center built
- Remote locations where there is no available dedicated IT personnel (unattended operations)

Cost and time saving:
No need to upgrade the available space in the building to a server room

Flexibility: Modular layout, suitable even for sites that are difficult to access

Long-term investment value: Site relocations are supported, thanks to the option of re-assembly

Physical protection:
System-tested room-within-a-room solution offers protection against fire, water, dust, smoke and external access

Fire alarm and active extinguisher for monitoring and extinguishing in the server rack

Reliable monitoring:
Monitoring of the statuses in the server rack with the CMC III system

Intelligent power distribution with demand-based use of PDUs

Efficient cooling with targeted air routing and control of the server inlet temperature, inverter-regulated adjustment of the cooling output, optionally in a redundant design



Reference configuration for 24U 1,6 kW xModular Micro DC single rack



| Pos | Designation | Comment | Q-ty |
|-----|-----------------------------------|--|------|
| 1 | Server rack, closed | 800x1200x1000 (WxHxD) mm | 1 |
| 2 | Side panel | 1200x1000 mm | 2 |
| 3 | Air baffle plate | To separate cold/hot zones inside IT rack | 1 |
| 4 | Base plinth | 800x100x1200 mm | 1 |
| 5 | Blue e+ roof mounted cooling unit | Approx. 1 kW at 24°C server supply temperature | 1 |
| 6 | CMC III | Monitoring system | 1 |
| 7 | DET-AC III | Fire extinguishing system | 1 |

Main features

- IT rack 24U 800x1000, front glass door, rear sheet steel door, front and rear 19" rails
- 1U chassis, detection and extinguishing fire system
- Sliding rails, depth-variable, depth 600-825 mm - load 80 kg (2)
- Roof cooling unit, Blue e+ 1,6 kW
- Access sensors
- Temperature sensor for cooling unit
- EPDU MI 0U (309 16A 1P)20XC13:4XC19 (2)
- UPS Eaton 5PX 1500i RT2U Netpack

Reference configuration for 42U 3 / 6,5 kW xModular Micro DC single rack



| Pos | Designation | Comment | Q-ty |
|-----|----------------------|---|------|
| 1 | Server rack, closed | 800x2000x1200 (WxHxD) mm | 1 |
| 2 | Side panel | 2000x1200 mm | 2 |
| 3 | Air baffle plate | To separate cold/hot zones inside IT rack | 1 |
| 4 | Base plinth | 800x100x1200 mm | 1 |
| 5 | LCU DX internal unit | 3 or 6.5 kW | 1 |
| 6 | CMC III | Monitoring system | 1 |
| 7 | DET-AC III | Fire extinguishing system | 1 |
| 8 | Condenser of LCU DX | Single or redundant | 1 |

Main features

- IT rack 42U 800x1200, 19" mounting angles (front and rear), front glass single door, rear solid double door, roof with cable entries
- 1U chassis, detection and extinguishing fire system
- Temperature / HR sensor CMC III
- IR Access sensor
- EPDU MI 0U (309 16A 1P)20XC13:4XC19 (3 kW option) (2)
- EPDU MI 0U (309 32A 1P)20XC13:4XC19 (6 kW option) (2)
- UPS Eaton 9PX 3000i RT2U Netpack (3 kW option)
- Eaton 9PX 8000i RT6U HotSwap Netpack (6 kW option)
- Liquid cooling unit (LCU), DX Mode, Cooling capacity (3 kW or 6,5 kW), with internal unit (heat exchanger with evaporator) and 1 remote condenser

Reference configuration for 42U 12 kW xModular Micro DC single rack



| Pos | Designation | Comment | Q-ty |
|-----|----------------------|---|------|
| 1 | Server rack, closed | 800x2000x1200 (WxHxD) mm | 1 |
| 2 | Side panel | 2000x1200 mm | 2 |
| 3 | Air baffle plate | To separate cold/hot zones inside IT rack | 1 |
| 4 | Base plinth | 800x100x1200 mm | 1 |
| 5 | LCU DX internal unit | 300x2000x1200 (WxHxD) mm. 12 kW | 1 |
| 6 | CMC III | Monitoring system | 1 |
| 7 | DET-AC III | Fire extinguishing system | 1 |
| 8 | Condenser of LCU DX | To be mounted outdoors | 1 |

Main features

- IT 42U 800x1200, 19" mounting angles (front and rear), front glass single door, rear solid double door, roof with cable entries
- 1U chassis, detection and extinguishing fire system
- Temperature / HR sensor
- IR Access sensor CMC III
- Cooling unit LCP DX 12 kW, Rack, d = 1200 mm, w = 300 mm
- Condenser LCP DX 12 KW
- SNMP card
- EPDU MI 0U (309 16A 3P)36XC13:6XC19 (2)
- UPS Eaton 9PX 11000i 3:1 RT6U HotSwap Netpack
- Eaton 9PX EBM 240V battery module

