

Rittal – The System.

Faster – better – everywhere.

One for all. Your all-in-one solution.

RiMatrix Micro Data Center



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Edge Computing – Data evaluation in real time

Even the cloud has its limits – that's where edge solutions come into their own

The digitalisation of your business operations is the next major step towards becoming a smart company. The rise in world-class digital technology such as artificial intelligence, augmented reality and much more offers undreamed-of possibilities. At the same time, the data volumes generated are growing at an exponential rate.

To make optimum use of this data, it must be processed in real time and converted into usable results. This pushes the cloud to its limits, but micro data centres offer an efficient solution.

Maximise the benefits: Micro data centres

On the periphery (or edge) of the network, micro data centres deliver effective data processing with short latencies. Dependencies on local data centres are eliminated; you retain control of the data at all times. But that's not all micro data centres can do. For example, they can also take over entire IT infrastructures at public administrations or supermarkets. They can also be used for data protection.

52.54%



**Growth of the global
edge data centre market**

2025 to 2028¹

¹ Source: Edge Data Center Market – Global Forecast to 2028, Markets & Markets, p. 48

Micro data centres: Driving your success, now and into the future

The globally standardised all-in-one solution

RiMatrix Micro Data Centers from Rittal expand to keep pace with your requirements. They cover all output categories, are individually configurable, and adapt readily to the ambient conditions. Standardised modules ensure maximum flexibility and extendibility.

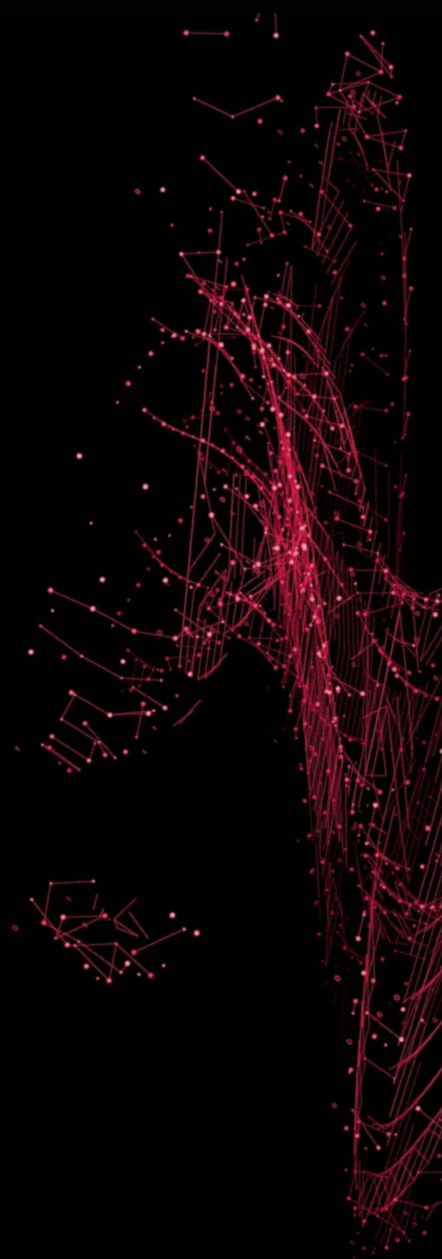
The unique feature of RiMatrix Micro Data Centers are the perfectly coordinated OT bundles of rack, power, cooling, monitoring and security modules, all ready for immediate use.

Maximum flexibility, security and efficiency

RiMatrix Micro Data Centers from Rittal combine the best features from our IT portfolio and deliver maximum flexibility for every requirement. We have the right solution to suit your needs, be it indoor or outdoor, simple or smart power supply, active or passive cooling or bespoke security solutions. Our space-saving bundles come with comprehensive documentation and may be visualised with augmented reality. We optimise your operating costs and climate control with detailed analyses of the TCO (Total Cost of Ownership), PUE (Power Usage Effectiveness) and CFD (Computational Fluid Dynamics). Optionally, you can choose to add on individually selectable service packs ranging from assembly and installation through to maintenance and the supply of spare parts.

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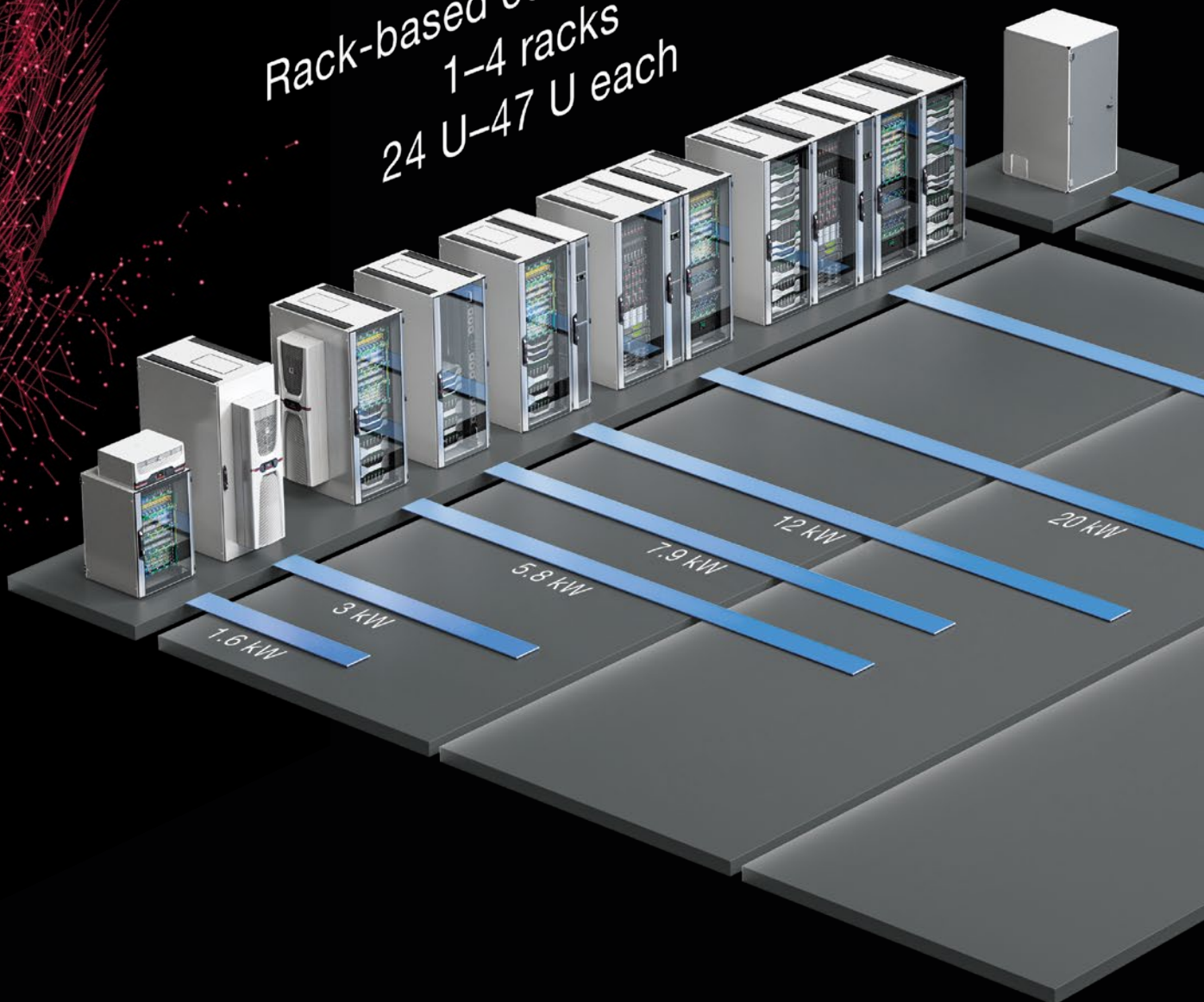
For output categories of up to 53 kW per rack: RiMatrix Micro Data Center

Preconfigured and flexible:
Mini data centres tailored to your requirements.

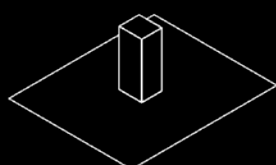
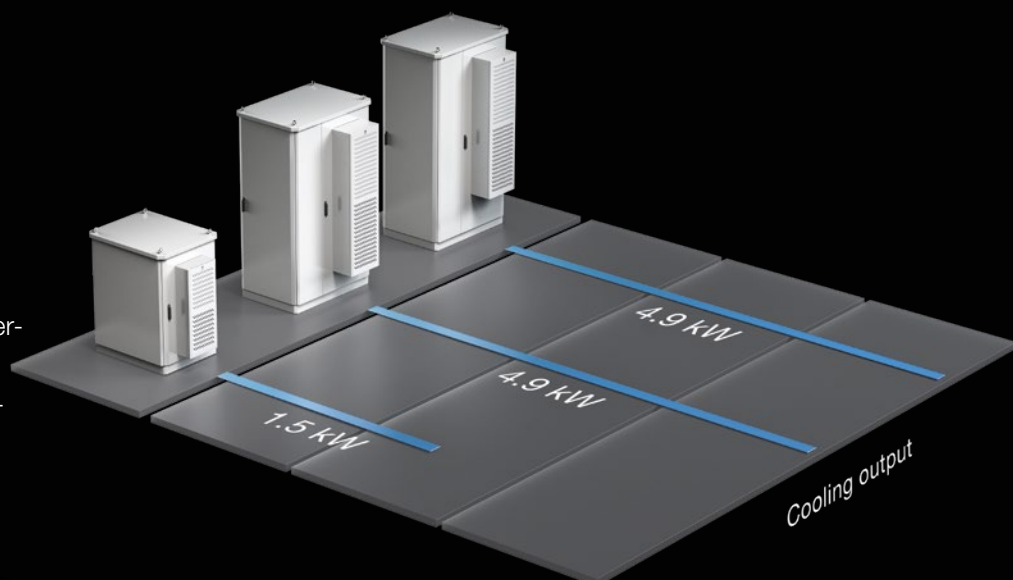
Choose your bundle:

Our wide range of variants and sizes will accommodate your individual requirements, and there's also a range of coordinating accessories such as PDUs, UPS systems and monitoring options. First-class service adds the finishing touch.

*Rack-based cooling solution
1-4 racks
24 U-47 U each*

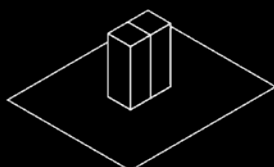


RiMatrix Micro Data Centers are available as indoor and outdoor versions, in rack sizes of 12, 24, 42 and 47 U and with cooling outputs of up to 53 kW.



Small IT applications

IT solutions for lower output applications and small server quantities



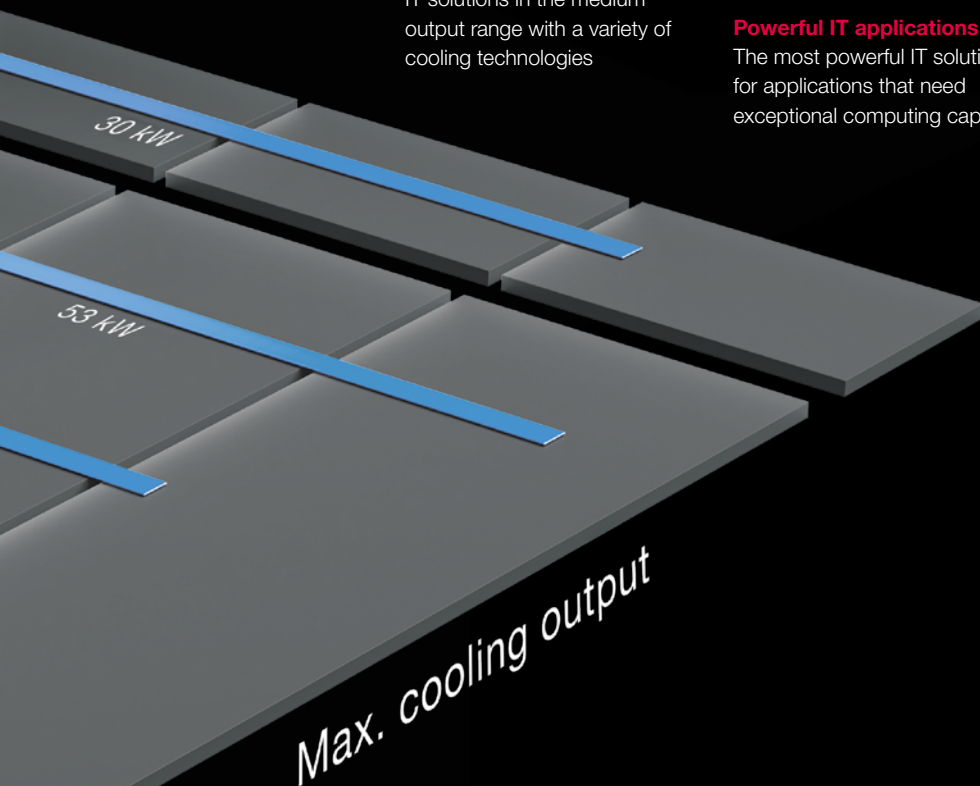
Medium-sized IT applications

IT solutions in the medium output range with a variety of cooling technologies



Powerful IT applications

The most powerful IT solutions for applications that need exceptional computing capacity



Maximum efficiency in a compact space

Micro data centres with innovative cooling technology

Micro data centres are expanding into ever more application areas, from industrial operations and building management to logistics chains and distribution centres. Efficiency and reliability are everything. Rittal's innovative cooling units in the Blue e+ series with integral heatpipe herald a new dimension in efficiency, particularly for micro data centres at the lower end of the output range.



Your benefits:



- Micro data centres with rapid availability for all industries
- Complete solution including all relevant OT components
- Modular and easily configurable, in Rittal's unparalleled quality
- Maximum energy efficiency with innovative Blue e+ cooling units
- Globally standardised, adaptable to local conditions

RiMatrix Micro Data Center Blue e+ S		
Rittal Model No.	Product description	Quantity
5304126	Closed network/server rack VX IT	1
7859000	IT system light LED, 600 lm	1
5302011	Air baffle plate for VX IT	1
3312800	Roof-mounted cooling unit Blue e+ for IT, 1.6 kW	1
7979217	PDU metered 16 A/1~	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	2
7030400	Smoke detector	1



Application example:

RiMatrix Micro Data Centers are designed to take over entire OT and IT infrastructures in all sectors, from public administration and retail to logistics and industry. Individually scalable to your needs and flexibly adaptable to the local conditions.

- Cooling of IT equipment with standalone rack solutions
- Rack-based cooling solution combined with 482.6 mm (19") rack extinguisher systems
- Minimal space requirements for a fully equipped micro data centre
- For use in industrial and commercial environments
- Accommodation of entire IT infrastructures

RiMatrix Micro Data Center Blue e+ L		
Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	1
5302120	Cable route for VX IT	2
7859000	IT system light LED, 600 lm	1
3189940	Wall-mounted cooling unit Blue e+ for IT, 5.5 kW	1
3124300	IoT interface	1
5302014	Air baffle plate for VX IT	1
7979216	PDU metered 32A	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	2
7030400	Smoke detector	1
7030263	Automatic door opening (ADO)	1
7338121	Fire alarm and extinguisher system DET-AC	1

Reliable, redundant and fail-safe

Micro data centres in the lower output range

Micro data centres can handle a wide variety of tasks extending far beyond data capture and condition monitoring. Particularly with critical processes, such as controlling traffic flows or monitoring production processes, it is essential that the IT infrastructure reflects the availability of the application. Scalable redundancy is the key here.

Application example:

Smaller OT infrastructures e.g. with just one or two IT racks must still offer all the features of a large data centre, including a reliable power supply and cooling as well as monitoring. Micro data centres are ideal for distributed installation across various locations and for processing data in real time (such as traffic monitoring and control).



RiMatrix Micro Data Center LCU CW		
Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	1
7859000	IT system light, LED 600 lm	1
3313610	Liquid Cooling Unit LCU CW	1
3334480	Blue e+ hybrid IT chiller	1
3313614	Connection hoses	1
7979216	PDU metered 32 A/1~	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	2
7030263	Automatic door opening (ADO)	1
7338121	Fire alarm and extinguisher system DET-AC	1

High-MTBF, compact and reliable

Micro data centres in a security safe

Highly sensitive information such as patient data must be protected from theft, while production data must be protected from physical threats such as dust, fire and splashed water. The encapsulated RiMatrix Micro Data Center Level E is designed to meet these challenges. The numerous options available, as well as the ability to buy them together, ensure a high degree of flexibility wherever used.

Application example:

Its modular layout and option of dismantling and reassembly at any time means your micro data centre can expand by buying further safes to keep pace with your growing requirements. The security safe provides complete protection from physical threats (e.g. fire, extinguishing water, break-ins and dust) in a minimal space up to the required resistance class, and ensures the requisite fail-safeness for automated production in Industry 4.0 environments.



RiMatrix Micro Data Center Level E

Rittal Model No.	Product description	Quantity
7999009	Micro Data Center safe (42 U)	1
5309106	VX IT for Micro Data Center safe	1
3313610	Liquid Cooling Unit LCU CW	1
7979216	PDU metered 32 A/1~	2
7030111	Temperature/humidity sensor	2
7030120	Access sensor	2
7338121	Fire alarm and extinguisher system DET-AC	1

Scalable in multiple dimensions

Micro data centres in the medium and high output range

Micro data centres are always defined by the application. CPU-intensive applications may require multiple racks with a higher cooling output. The modular system from Rittal safeguards your growth plan, as it is scalable in terms of size, redundancy and maximum load.

Application example:

Smart cities, interconnected vehicles and streaming services pose the challenge of ensuring the continuous availability of safety-relevant data. This calls for data centres with ultimate levels of fail-safeness. Exceptionally energy-efficient data centres with a small footprint are the answer.



RiMatrix Micro Data Center LCP

Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	4
5302014	Air baffle plate for VX IT	4
7859000	IT system light LED, 600 lm	4
3313420	LCP rack DX, 12 kW	1
3311360	Condenser unit for LCP DX	1
7979216	PDU metered 16 A/3~	8
7030111	Temperature/humidity sensor	4
7030120	Access sensor	8
7030263	Automatic door opening (ADO)	4
7338121	Fire alarm and extinguisher system DET-AC	1
7338321	Add-on unit DET-AC	3

Flexible and robust, whatever the weather

Micro data centres in outdoor environments

One for all guarantees flexible use in outdoor environments. Whether guarding against unauthorised access or protecting from pollutants such as humidity, temperature, dust or smoke, solutions for the outdoor sector demand maximum reliability.

Application example:

It is often the case that mobile communications and infrastructure companies must install their solutions outdoors. The IT components should therefore be well-protected from the weather and all types of threats. Solutions for the outdoor sector should be corrosion-resistant, capable of withstanding high ambient temperatures over long periods, and have a long lifecycle.

Your benefits:

- Satisfies the highest quality standards with high-end materials and high protection categories
- The smart design is efficient and weather-resistant
- Allows flexible, individual interior fit-out
- Extensive range of accessories available



RiMatrix Micro Data Center Outdoor M		
Rittal Model No.	Product description	Quantity
9774099	Outdoor enclosure Toptec IT	1
5302120	Cable route for VX IT	2
7859000	IT system light LED, 600 lm	1
3189340	Wall-mounted cooling unit Blue e+ outdoor, 4.9 kW	1
3124300	IoT interface	1
5302005	Air baffle plate for VX IT	1
7979216	PDU metered 32 A/1~	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	1
7030400	Smoke detector	1
7338121	Fire alarm and extinguisher system DET-AC	1



Use cases

The Micro Data Center from Rittal enabled us to use the proposed location, saving considerable time, energy and expense.

Anjanesh Babu, IT Project Manager at GLAM
(Oxford University)



Controlled inventories, rising sales, happy customers

Micro data centres are expanding into ever more application areas, from industrial operations and building management to logistics chains and distribution centres. The emphasis here is on efficiency and reliability. Rittal's innovative cooling units in the Blue e+ series with integral heatpipe herald a new dimension in efficiency, particularly for micro data centres at the lower end of the output range.



Life-saving data, reliably protected

In the healthcare sector, patient data must be processed immediately and protected from unauthorised access. RiMatrix Level E Micro Data Centers deliver system-tested protection and maximum availability, even in an emergency situation. Modular extendibility and end-to-end protection systems safeguard IT infrastructures in GP practices, hospitals and laboratories.



High-performing, high-MTBF solutions for secure banking data

Technologies like blockchain and AI-based analyses are creating new opportunities and business areas. For banking customers, the security and availability of each transaction is crucial.

The RiMatrix Micro Data Center Level E reliably protects financial data from external access, power failures, fire and fire-fighting water. Real-time monitoring is linked to alarm and access systems for maximum control and security in every branch.



Rapid response and KRITIS compliance

As part of the critical infrastructure (KRITIS), e-government services and smart city applications demand the ultimate in protection, availability and performance.

RiMatrix Micro Data Centers ensure short latencies, maximum computing power and a safe solution for world-class protection. Local data processing helps to optimise the response capabilities of municipal systems while easing the pressure on central networks.



Industry 4.0 made easy

RiMatrix Micro Data Centers process sensor data in real time, control machines in situ, and protect IT systems from heat and dust. Their modular solutions help to optimise operations, minimise downtime and create maximum flexibility.



Smooth communications in connected vehicles

Self-driving cars are, effectively, data centres on wheels. Smart sensors collate and deliver huge volumes of data around the clock, and must then be processed at lightning speed. This real-time analysis needs maximum computing power, minimum latency and absolute reliability.

The RiMatrix Micro Data Center makes it possible – by providing powerful IT directly in situ for uninterrupted data exchange with connected vehicles.



Transparency to enhance food safety and confidence

Modern food production demands precise control. Sensors permanently log temperature, humidity and pressure, while automation systems respond at lightning speed. RiMatrix Micro Data Centers process data in real time to ensure that risks are promptly identified and traceability is guaranteed – because food safety is paramount.

Competent. Globally present. Service from a single partner.

Minimise downtime, maximise efficiency – for the ultimate in system availability

Modern IT infrastructures are at the very heart of many companies, and absolute reliability at all times is a must. Downtime and reduced performance cost time and money. Rittal offers a comprehensive portfolio of services covering the entire lifespan of your data centre. Our global IT Competence Center provides in-depth planning and implementation advice.



1. Consultancy

Professional, customer-centric advice from experienced Rittal experts. With careful planning and a bespoke configuration, we tailor the RiMatrix Micro Data Center to your requirements.

Your benefits:



- Professional support throughout every phase of your IT project
- System concepts matched to your particular needs
- Turnkey solutions



2. Implementation

Complete first-time installation of your RiMatrix Micro Data Center by our service engineers: Configuration and assembly, together with instruction and training. Rittal's manufacturer expertise ensures complete system functioning.

Your benefits:



- Complete initial installation performed by professional service technicians
- Compliance with all regulations and guidelines as per your requirements
- Assured system function



3. Commissioning

All functions of the RiMatrix Micro Data Center are extensively tested during commissioning for reliable, flawless operation in the various system operating states. Comprehensive documentation is provided in the form of user and emergency manuals.

Your benefits:



- In-depth testing of all functions
- Precise systems testing in various operating states
- Reliable operation as per the design



4. After-sales service

The Rittal after-sales service ensures your data centre remains available 365 days a year. Maximum efficiency, from trouble-shooting to on-site maintenance by engineers – all at a predictable cost with flexible Rittal service agreements.

Your benefits:



- 24/7 availability of your IT infrastructure, 365 days a year
- Compliance with the statutory regulations to DIN 31051
- Optimum spare parts availability ensures rapid fault resolution
- Enhanced value preservation of your data centre

Plannable costs:

Rittal service agreements allow you to tailor the scope of services to your specific requirements and pick & mix individual modules – all at fixed, transparent terms and conditions.



5. Modernisation

Rittal can carry out regular, in-depth energy efficiency, sustainability, capacity utilisation and scalability analyses of your micro data centre. These checks will tell you whether optimisation or modernisation is needed to prevent possible obsolescence.

Your benefits:



- Evaluation of individual optimisation and modernisation options
- Identification of cost drivers and possibilities for savings
- Risk minimisation through proactive replacement of wearing parts

Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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