

Rittal – The System.

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▶ Micro Data Centre



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ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

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The whole is more than the sum of its parts.

The same is true of “Rittal – The System.” With this in mind, we have bundled our innovative enclosure, power distribution, climate control and IT infrastructure products together into a single system platform. Complemented by our extensive range of software tools and global service, we create unique added value for all industrial applications: Production plant, test equipment, facility management and data centres. In accordance with our simple principle, “Faster – better – worldwide”, we are able to combine innovative products and efficient service to optimum effect.

Faster – with our “Rittal – The System.” range of modular solutions, which guarantees fast planning, assembly, conversion and commissioning with its system compatibility.

Better – by being quick to translate market trends into products. In this way, our innovative strength helps you to secure competitive advantages.

Worldwide – thanks to global networking across 150 locations. Rittal has over 60 subsidiaries, more than 250 service partners and over 1,000 service engineers worldwide. For more than 50 years, we have been on hand to offer advice, assistance and product solutions.

IT INFRASTRUCTURE

SOFTWARE & SERVICES



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Security safe as Micro Data Centre

In addition to the physical cover in the form of an IT security safe, the configuration components listed below complement the Rittal safe and transform it into a fully fitted Micro Data Centre.

- Robust, flexible racks especially for server and network technology
- Efficient climate control solutions in a range of designs and outputs
- IT-specific power distribution
- Networkable monitoring and security solutions with the CMC III system
- Early fire detection and automatic rack fire extinguishing



Benefits of Micro Data Centres



| Level E | |
|--|--|
| <ul style="list-style-type: none"> ■ Complete solution in the smallest possible space and in next to no time ■ No need for expensive upgrades to existing premises ■ Efficient cooling and extinguishing solution | <p>High level of protection for your IT</p> <ul style="list-style-type: none"> ■ Maximum security in the Rittal range of Micro Data Centres ■ Optimum protection concept for one or more server rack solutions for small and medium-sized enterprises ■ Modular layout for installation in hard-to-access locations and for retrospective enclosure of existing IT structures ■ Future-proof investment thanks to the options of extendibility, dismantling and re-assembly ■ System-tested security and a high level of protection; testing has been carried out by accredited institutes and confirmed with test reports ■ Modified air baffle plates for optimum air routing, for efficient cooling of the Micro Data Centre |

Benefits of Micro Data Centres



Level B

Solid protection for your IT

- Optimum protection concept for a server rack
- Modular layout for installation in hard-to-access locations
- Form-fit connection with the stable TS 8 framework structure
- Front and rear 482.6 mm (19") level of the TS IT rack already included with the supply
- Lower weight than the Micro Data Center Level E
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports

Level A

Solid protection for small IT applications

- Ready-installed safe as a complete system
- Integral cooling
- Integral TS 8 frame structure with front and rear pairs of 482.6 mm (19") mounting angles
- Base/plinth with ground clearance
- Tested safety – The tests were carried out as system tests and confirmed via test reports

Overview of Micro Data Centres



| Requirement-based security | Level E | |
|---|--|--|
| Usable U | 42/47 | |
| Usable interior depth mm | 1000/1200 | |
| Colour of enclosure/service door | RAL 7035 | |
| Colour of operator door | RAL 9005 | |
| Fire protection | Fire resistance class F 90 to DIN 4102 Part 2, compliance with limits $\Delta T < 50$ K, rel. humidity $< 85\%$ over 30 minutes ¹⁾ | |
| Burglar resistance | WK II tool attack analogous to DIN V ENV 1630/1999-04/WK II ⁴⁾ WK III tool attack analogous to DIN V ENV 1630/1999-04/WK II ³⁾ WK IV tool attack analogous to DIN V ENV 1630/1999-04/WK II ³⁾ | |
| Protection category | IP 56 to IEC 60 529 ⁴⁾ | |
| Smoke protection | Based on DIN 18 095-2: 1991-03 ⁴⁾ | |
| Modularity | ■ | |
| May be enclosed with the system operational | ■ | |
| Extendibility | ■ | |

¹⁾ The Micro Data Centre was tested as a system.

²⁾ The critical connection points were tested as a system.

³⁾ The single safe was tested as a system with single-leaf doors and mechanical lock.

⁴⁾ The single safe was tested as a system with one single-leaf door and one bifold door and mechanical lock.

Overview of Micro Data Centres



| | Level B | Level A |
|--|--|---|
| | 42/47 | 15 |
| | 1000/1200 | 1000 |
| | RAL 7035 | RAL 7035 |
| | RAL 9005 | RAL 9005 |
| | Fire resistance class EI 90/F 90 to DIN EN 1363-1: 1999 / based on DIN 4102-2:1997 ²⁾ | Fire resistance class F 90 to DIN 4102 Part 2, compliance with limits $\Delta T < 50$ K, rel. humidity $< 85\%$ over 10 minutes ¹⁾ |
| | RC 2 tool attack analogous to DIN EN 1630/2011-09/RC 2 ³⁾ | WK II tool attack analogous to DIN V ENV 1630/1999-04/WK II ¹⁾ |
| | IP 56 to IEC 60 529: 2000 ³⁾ | IP 55 to IEC 60 529 ¹⁾ |
| | Based on DIN EN 1634-3: 2005-01 ³⁾ | – |
| | ■ | Safe is supplied assembled including cooling unit |
| | – | – |
| | – | – |

Micro Data Centre Level E



Applications:

- A high level of protection against potential physical threats for IT
- Targeted configuration components transform into a complete Micro Data Centre

Benefits:

- As well as facilitating installation in poorly accessible sites, the modular design also makes it possible to retrospectively enclose existing IT structures.
- Extendibility, dismantling and re-assembly mean targeted, future-safe investments.
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports

Protection standards:

- Fire protection – fire resistance class F 90 to DIN 4102 Part 2
- Compliance with limit values $\Delta T < 50$ K, relative humidity 85% for 30 minutes
- Burglar resistance WK II, III and IV, tool attack analogous to DIN V ENV 1630/1999-04/WK II
- Smoke protection based on DIN 18 095-2: 1991-03

Material:

- Sheet steel, coated

Colour:

- Enclosure and service door: RAL 7035
- Operator door: RAL 9005

Protection category IP to IEC 60 529:

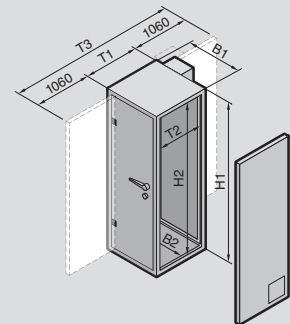
- IP 56

Supply includes:

- Micro Data Centre with operator door and service door
- Cable entry in both side elements
- Both doors with key lock

Optional:

- Choice of door hinges
- Bifold doors
- Different cable entry systems
- Cable entry additionally in the top or base unit
- Different lock variants
- Supporting structure



Note:

The Micro Data Centre is configured on a project-specific basis

Technical details:

Available on the Internet.

| U | | 42 | 47 | 42 | 47 |
|--|-------------|----------------------------|-----------------|-----------------|-----------------|
| External dimensions mm | Width (B1) | 1100 | 1100 | 1100 | 1100 |
| | Height (H1) | 2210 | 2410 | 2210 | 2410 |
| | Depth (T1) | 1200 | 1200 | 1400 | 1400 |
| | Depth (T3) | 3320 | 3320 | 3520 | 3520 |
| Internal dimensions mm | Width (B2) | 920 | 920 | 920 | 920 |
| | Height (H2) | 2030 | 2230 | 2030 | 2230 |
| | Depth (T2) | 1000 | 1000 | 1200 | 1200 |
| Model no. (Safe is configured on a project-specific basis) | | 7999.009 | 7999.009 | 7999.009 | 7999.009 |
| Empty weight excluding cooling unit and excluding rack approx. kg | | 660 | 700 | 730 | 800 |
| Accessories | | | | | |
| Fire alarm and extinguisher system DET-AC/EFD Plus | | see page 18 | see page 18 | see page 18 | see page 18 |
| CMC monitoring system | | see page 19 | see page 19 | see page 19 | see page 19 |
| PSM – Power System Module busbar | | see Internet | | | |
| PDU – Power Distribution Unit | | see Internet | | | |
| Split cooling solutions | | from page 15 | from page 15 | from page 15 | from page 15 |
| LCP – Liquid Cooling Package, rack depth 1000 mm | | see Catalogue 33, page 461 | | | |

Standard protection from:



Fire



Extinguishing water



Corrosive gases



Vandalism



Unauthorised access

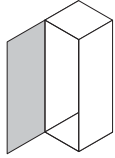
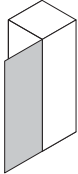
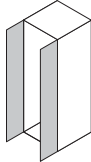


Dust

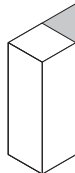
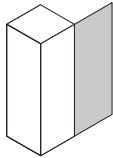
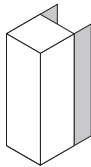


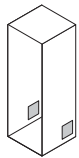
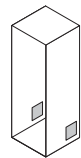
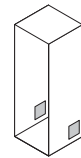
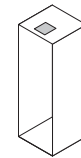
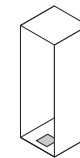
Theft/burglary

Options for Micro Data Centre Level E

| | | | |
|----------------------|---|---|--|
| Operator door | L/h DIN door hinge | R/h DIN door hinge | Bifold door |
| |  |  |  |
| | ■ | □ | □ |



| | | | |
|---------------------|---|---|--|
| Service door | L/h DIN door hinge | R/h DIN door hinge | Bifold door |
| |  |  |  |
| | ■ | □ | □ |

| | | | | | |
|--------------------|---|---|---|---|--|
| Cable entry | Soft duct ¹⁾ in both side elements | Hard duct ²⁾ in both side elements | Cable box ³⁾ in both side elements | Hard duct ²⁾ in top element | Hard duct ²⁾ in base element |
| |  |  |  |  |  |
| | ■ | □ | □ | □ | □ |



¹⁾ Size of soft duct: approx. 267 x 165 mm
For fire protection reasons, the duct may be configured up to a max. of 60% with cable up to a diameter of 15 mm and conduits up to a diameter of 18 mm.

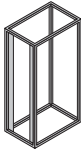

²⁾ Size of hard duct: 2 panels each 120 x 120 mm

³⁾ Size of cable box: Cables up to a diameter of 15 mm and hoses up to a diameter of 44 mm may be routed through the cable box. No conduits may be routed through the cable box.

| | | | |
|--------------|----------------------|---|--|
| Locks | Key lock with 2 keys | Electronic combination lock ¹⁾ | Electronic combination lock for activation via an access control system supplied by the customer |
| | ■ | □ | □ |



¹⁾ First code, second code and double code allocation possible. Key-based opening for inspection purposes supported.

| | | | | | | | | |
|--|---|------|------|------|---|------|------|------|
| TS-IT rack with air baffle plates |  | | | |  | | | |
| | 600 | | | | 800 | | | |
| Width mm | | | | | | | | |
| Height mm | 2000 | 2200 | 2000 | 2200 | 2000 | 2200 | 2000 | 2200 |
| Depth mm | 1000 | 1000 | 1200 | 1200 | 1000 | 1000 | 1200 | 1200 |
| | □ | □ | □ | □ | □ | □ | □ | □ |

■ Included with the supply □ Optional



| | | |
|-----------------------------|---|---|
| Supporting structure | Steel supporting structure to compensate for the raised floor height when siting the modular safe on the bare floor. The height of the supporting structure is selectable between 100 mm and 1000 mm. | Steel supporting structure to compensate for the raised floor height when siting the modular safe on the bare floor. The supporting structure has a fire-proof covering. The height of the supporting structure is selectable between 100 mm and 1000 mm. |
| | □ | □ |

■ Included with the supply □ Optional

Micro Data Centre Level B



Applications:

- Basic protection against potential physical threats for IT components. Targeted configuration components transform the safe into a complete Micro Data Centre

Benefits:

- Modular layout for installation in hard-to-access locations
- Lower weight than the Micro Data Centre Level E
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports.

Protection standards:

- Fire protection – fire resistance class EI 90/F 90 to DIN EN 1363-1: 1999 based on DIN EN 4102-2: 1997
- Burglar resistance RC 2, tool attack analogous to DIN EN 1630/2011-09/RC 2
- Smoke protection based on DIN EN 18 1634-3: 2005-01

Material:

- Sheet steel, coated

Colour:

- Enclosure and rear door: RAL 7035
- Operator door: RAL 9005

Protection category IP to IEC 60 529:

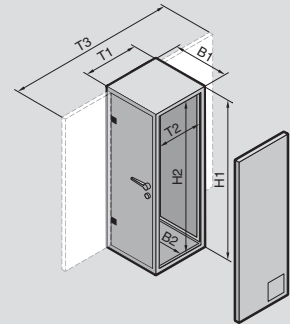
- IP 56

Supply includes:

- Security safe with integral TS 8 frame
- Front and rear 482.6 mm (19") level
- Adjusted air baffle plates
- Every side element is prepared for one cable entry at the bottom and one cable entry at the top
- Operator and service door with swing-lever handle and semi-cylinder

Optional:

- Choice of door hinges
- Bifold doors
- Different cable entry systems
- Cable entry additionally in the top and base element
- Different lock variants
- Supporting structure with fire protection



Note:

The Micro Data Centre is configured on a project-specific basis

Technical details:

Available on the Internet.

| U | | 42 | 47 | 42 | 47 |
|---|-------------|----------------------------|-----------------|-----------------|-----------------|
| External dimensions mm | Width (B1) | 1115 | 1115 | 1115 | 1115 |
| | Height (H1) | 2205 | 2405 | 2205 | 2405 |
| | Depth (T1) | 1377 | 1377 | 1577 | 1577 |
| | Depth (T3) | 3274 | 3274 | 3474 | 3474 |
| Internal dimensions mm | Width (B2) | 905 | 905 | 905 | 905 |
| | Height (H2) | 2000 | 2200 | 2000 | 2200 |
| | Depth (T2) | 1060 | 1060 | 1260 | 1260 |
| Model no. (Safe is configured on a project-specific basis) | | 7999.709 | 7999.709 | 7999.709 | 7999.709 |
| Empty weight excluding cooling unit approx. kg | | 595 | 630 | 660 | 700 |
| Accessories | | | | | |
| Fire alarm and extinguisher system DET-AC/EFD Plus | | see page 18 | see page 18 | see page 18 | see page 18 |
| CMC monitoring system | | see page 19 | see page 19 | see page 19 | see page 19 |
| PSM – Power System Module busbar | | see Internet | | | |
| PDU – Power Distribution Unit | | see Internet | | | |
| Split cooling solutions | | from page 15 | from page 15 | from page 15 | from page 15 |
| LCP – Liquid Cooling Package, rack depth 1000 mm | | see Catalogue 33, page 461 | | | |

Standard protection from:



Fire



Extinguishing water



Corrosive gases



Vandalism



Unauthorised access

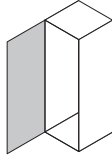
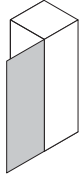
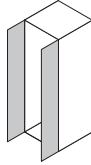


Dust

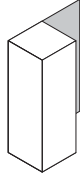
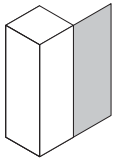
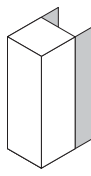


Theft/burglary

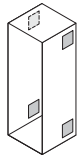
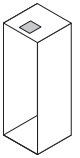
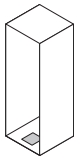
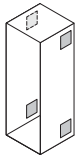
Options for Micro Data Centre Level B

| | | | |
|----------------------|---|---|--|
| Operator door | L/h DIN door hinge | R/h DIN door hinge | Bifold door |
| |  |  |  |
| | ■ | □ | □ |



| | | | |
|---------------------|---|---|--|
| Service door | L/h DIN door hinge | R/h DIN door hinge | Bifold door |
| |  |  |  |
| | ■ | □ | □ |



| | | | | |
|--------------------|---|---|---|--|
| Cable entry | Soft duct ¹⁾ in both side elements | Cable box ²⁾ in top element | Cable box ²⁾ in base element | Cable box ²⁾ in both side elements |
| |  |  |  |  |
| | ■ | □ | □ | □ |



¹⁾ Size of soft duct: approx. 267 x 165 mm
For fire protection reasons, the duct may be configured up to a max. of 60% with cable up to a diameter of 15 mm and conduits up to a diameter of 18 mm.

²⁾ Size of cable box: Cables up to a diameter of 15 mm and hoses up to a diameter of 44 mm may be routed through the cable box. No conduits may be routed through the cable box.

| | | | |
|--------------|---|---|---|
| Locks | Swing lever handle with interchangeable semi-cylinder | Swing lever handle with electronic lock for external activation | Swing lever handle with electronic lock with combination code |
| | ■ | □ | □ |



| | | | |
|-----------------------------|---|---|---|
| Supporting structure | Steel supporting structure to compensate for the raised floor height when siting the modular safe on the bare floor. The supporting structure has a fire-proof covering. The height of the supporting structure is selectable between 100 mm and 1000 mm. | | |
| | □ | □ | □ |

■ Included with the supply □ Optional

Micro Data Centre Level A



Applications:

- Protection for servers and storage applications
- Protection for business-critical data
- Storage of personal data, e.g. doctors' surgeries or tax advisors

Benefits:

- Complete system with built-in cooling and 482.6 mm (19") rack
- High level of operational and service-friendliness thanks to the two-door system
- Compatibility with other infrastructure elements
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports

Protection standards:

- Fire resistance class F 90 to DIN 4102 Part 2, compliance with limits $\Delta T < 50$ K, rel. humidity $< 85\%$ over 10 minutes
- Burglar resistance WK II, tool attack analogous to DIN V ENV 1630/1999-04/WK II

Material:

- Sheet steel, coated

Colour:

- Enclosure and service door: RAL 7035
- Operator door: RAL 9005

Protection category IP to IEC 60 529:

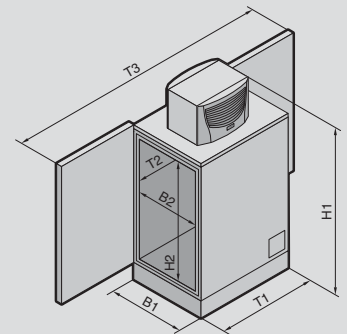
- IP 55

Supply includes:

- Security enclosure with operating and service doors (three-point locking)
- Cable entry in both side elements
- Cooling 2.4 kW designed as a split unit

Technical details:

- Available on the Internet.



| | | |
|---|-------------|-----------------|
| U | | 15 |
| Cooling capacity kW | | 2.4 |
| External dimensions mm | Width (B1) | 806 |
| | Height (H1) | 1699 |
| | Depth (T1) | 1270 |
| | Depth (T3) | 2746 |
| Internal dimensions mm | Width (B2) | 620 |
| | Height (H2) | 827 |
| | Depth (T2) | 1024 |
| Weight excluding internal fittings, including climate control unit approx. kg | | 360 |
| Model No. Micro Data Centre with built-in 482.6 mm (19") rack | | 7999.999 |
| Model No. Micro Data Centre without built-in 482.6 mm (19") rack | | 7999.898 |
| Accessories | | |
| 482.6 mm (19") rack, 15 U, depth 1000 mm | | 7995.992 |
| Fire alarm and extinguisher system DET-AC/EFD Plus | | see page 18 |
| CMC monitoring system | | see page 19 |
| PDU – Power Distribution Unit with busbar | | see Internet |

Standard protection from:



Fire



Extinguishing water



Vandalism



Unauthorised access



Dust



Theft/burglary

Compact split cooling solution for Micro Data Centres



- Separate, hermetically sealed internal and external circuits
- No ingress of dust or smoke gases
- The internal and external unit are connected to one another via coolant lines and control cables and shielded for fire protection.
- Air routing inside the Micro Data Centre is horizontal. Modified air baffle plates ensure targeted air routing. By separating the “cold side” from the “hot side”, air short-circuits are avoided, and the efficiency of cooling is enhanced.

- Used in rooms with climate control in the building or adequate ventilation, and low or no noise level requirements. The evaporator coil is fastened to the side panel on the inside of the Micro Data Centre, and the external unit on the service door.

Colour:

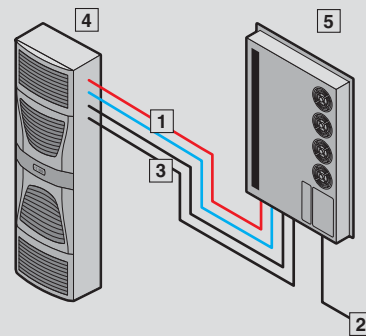
- RAL 7035

Protection category IP to IEC 60 529:

- External circuit IP 24
- Internal circuit IP 54

Supply includes:

- Internal unit
- External unit
- Coolant lines
- Data and power supply cables



- 1 Flexible coolant lines inlet/return
- 2 Power supply
- 3 Data cable
- 4 External unit
- 5 Internal unit

| Model No. | | 3126.230 | 3126.240 |
|---|-------------------------|---|------------------|
| Rated operating voltage V, Hz | | 400/460, 3~, 50/60 | |
| Dimensions mm | W x H x D external unit | 500 x 1580 x 231 | |
| | W x H x D internal unit | 804 x 1544 x 100 | |
| Useful cooling output \dot{Q}_k to DIN 3168 | L 35 L 35 | 2500 W/3090 W | 4000 W/4010 W |
| | L 35 L 50 | 2070 W/2300 W | 3020 W/3250 W |
| Rated current max. | | 3.3 A/3.5 A | 4.1 A/4.8 A |
| Start-up current | | 14.2 A/14.7 A | 15.2 A/15.8 A |
| Pre-fuse T | | 6.3 – 10.0 A | |
| Motor circuit-breaker | | ■ | ■ |
| Power consumption P_{el} to DIN 3168 | L 35 L 35 | 1275 W/1615 W | 1620 W/2125 W |
| | L 35 L 50 | 1525 W/1920 W | 1825 W/2835 W |
| Refrigeration factor $e = \dot{Q}_k/P_{el}$ | L 35 L 35 | 2.0 | 2.5 |
| Refrigerant | | R134a, 1500 g | R134a, 2900 g |
| Permissible operating pressure p. max. | | 28 bar | 25 bar |
| Temperature and setting range | | +20 °C to +55 °C | +20 °C to +55 °C |
| Noise level dB (A) | | < 70 | < 72 |
| Weight | External unit | 65 kg | 65 kg |
| | Internal unit | 70 kg | 70 kg |
| Colour | | RAL 7035 | RAL 7035 |
| Temperature control | | Comfort controller (factory setting +25 °C) | |

Split outdoor cooling solution for Micro Data Centres

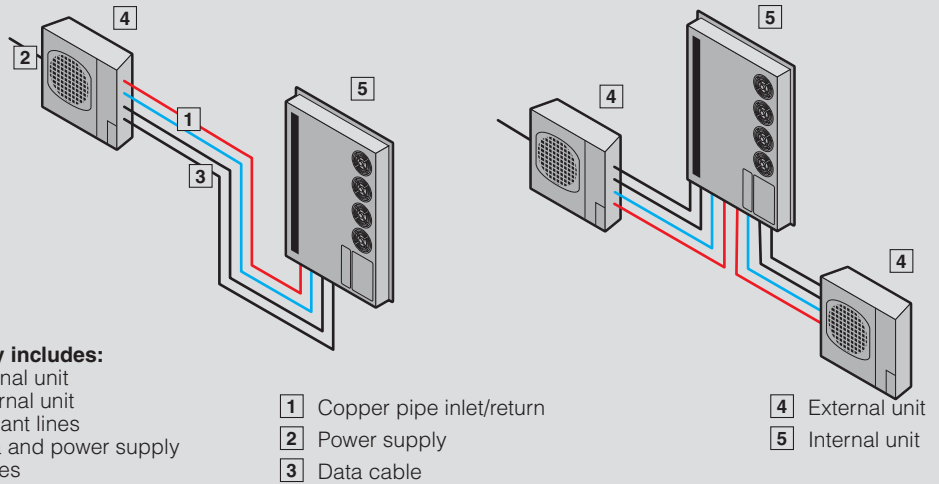


- The internal circuit of the cooling unit is attached to the side panel inside the Micro Data Centre
- The external unit is positioned outside of the building. Internal and external units are connected to one another via coolant lines and control cables
- The hot air from the servers is drawn in at the rear, and the cooled air is expelled in front of the 482.6 mm (19") level
- The waste heat is routed directly to the outside. As a result, room ventilation or air-conditioning is not necessary

Colour:
– RAL 7035

Supply includes:

- Internal unit
- External unit
- Coolant lines
- Data and power supply cables



| Model No. | 7999.963 | 7999.965 | 7999.964 | 7999.966 | |
|---|------------------|------------------|------------------------|------------------------|-----------------------|
| Redundancy | – | – | ■ | ■ | |
| Rated operating voltage V, Hz | 230 V, 50 Hz, 1~ | 400 V, 50 Hz, 3~ | 230 V, 50 Hz, 1~ (2 x) | 400 V, 50 Hz, 3~ (2 x) | |
| Dimensions of external unit, mm | W x H x D | 795 x 610 x 290 | 900 x 680 x 340 (2 x) | 795 x 610 x 290 | 900 x 680 x 340 (2 x) |
| Useful cooling output \dot{Q}_k to DIN 3168 | L 35 L 35 | 2400 W | 5000 W | 2400 W | 5000 W |
| Rated current max. | 3.8 A | 4.1 A | 3.8 A | 4.1 A | |
| Start-up current per unit | 19.5 A | 35 A | 19.5 A | 35 A | |
| Pre-fuse T | 16 A | 3 x 16 A | 16 A (2 x) | 3 x 16 A (2 x) | |
| Refrigerant | R410 a | | | | |
| Temperature and setting range | –15 °C to +35 °C | | | | |
| Weight | External unit | 38 kg | 74 kg | 2 x 38 kg | 2 x 74 kg |
| | Internal unit | 59 kg | 59 kg | 63 kg | 66 kg |
| Colour | RAL 7035 | | | | |
| Accessories | | | | | |
| Coolant line incl. electric control cable for 2400 W, length 20 m | 7999.961 | – | 7999.961 | – | |
| Coolant line incl. electric control cable for 5000 W, length 20 m | – | 7999.962 | – | 7999.962 | |

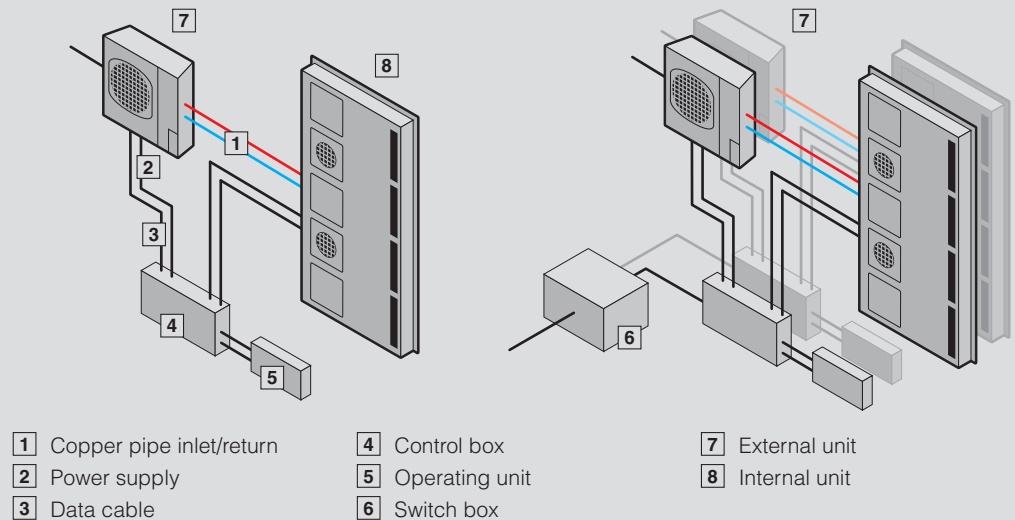
Split outdoor cooling solution with inverter technology



- Targeted speed control of the compressor. The volume of refrigerant is regulated via the electronic expansion valve
- Up to 40% energy saved. The cold air is expelled in front of the 482.6 mm (19") level by the internal unit (evaporator coil), while the hot air is drawn in at the rear

Colour:
– RAL 7035

- Supply includes:**
- Internal unit
 - External unit
 - Coolant lines
 - Data and power supply cables



| Model No. | 7999.991 | 7999.992 |
|---|---|--------------------------------|
| Redundancy | – | ■ |
| Rated operating voltage V, Hz | 230 V, 50 Hz, 1~ | 230 V, 50 Hz, 1~ (2 x) |
| Dimensions of external unit, mm | W x H x D | 900 x 795 x 320 |
| | 900 x 795 x 320 | 900 x 795 x 320 (2 x) |
| Useful cooling output \dot{Q}_k to DIN 3168 | L 18¹⁾/L 35 L 18/L 43 | 7850 W 7030 W |
| | 7850 W 7030 W | 7850 W 7030 W |
| Rated current max. | 13.9 A | 13.9 A |
| Start-up current | 36 A | 36 A |
| Pre-fuse T | 25 A | 25 A (2 x) |
| Refrigerant | R 410a | R 410a |
| Temperature and setting range | –15 °C to +43 °C | –15 °C to +43 °C |
| Noise level | 48 – 49 dB (A) | 48 – 49 dB (A) |
| Weight | External unit Internal unit | 63 kg 70 kg |
| | 63 kg 70 kg | 63 (2 x) kg 70 (2 x) kg |
| Colour | RAL 7035 | |
| Also required | | |
| Heat exchanger (evaporator coil) | 3126.270 | 3126.270²⁾ |

¹⁾ Server inlet temperature

²⁾ 2 heat exchangers are required.

Fire alarm and extinguisher system DET-AC/EFD Plus



Benefits:

- Early fire detection
- Automatic extinguishing
 - Innovative extinguisher gas NOVEC 1230
 - Eco-friendly
 - Uncritical for IT components
- 482.6 mm (19") rack mount with just 1 U

Colour:

- RAL 7035

DET-AC Plus

Compact fire alarm and active extinguisher system with smoke extraction system, built into one height unit. The detection system is identical to that used in the EFD Plus system. Fire extinguishing with the extinguisher gas NOVEC 1230 is automatically activated when a main alarm is triggered. With the extinguisher gas supply provided, a volume of up to 3 m³ can be extinguished. The collective fault signal and the alarms may be forwarded to the CMC.

DET-AC Plus slave

In conjunction with the DET-AC Plus slave system, up to five bayed enclosures may be extinguished. In addition to the DET-AC Plus unit, a DET-AC Plus slave unit is used for each additional enclosure and contains the extinguisher gas for one enclosure. The pipework from the DET-AC Plus system is laid in all enclosures to facilitate detection.

EFD Plus

Compact early fire detection system with active smoke extraction system. The integral fan continuously extracts the air from the enclosure, and passes it over two smoke detectors. The first smoke detector is extremely sensitive and triggers a pre-alarm. The second smoke detector triggers the main alarm.

Photo shows a configuration example with equipment not included in the scope of supply.

| | Fire alarm and extinguisher system DET-AC Plus | Add-on unit DET-AC Plus slave | Early fire detection system EFD Plus |
|---------------|--|-------------------------------|--------------------------------------|
| Width (B) mm | 482.6 (19" rack mount) | 482.6 (19" rack mount) | 482.6 (19" rack mount) |
| Height (H) mm | 44 (1 U) | 44 (1 U) | 44 (1 U) |
| Depth (T) mm | 640 | 570 | 500 |
| Weight kg | approx. 15 | approx. 12 | approx. 8 |
| Model No. | 7338.120 | 7338.320 | 7338.220 |

| | | | |
|---|--|-----------------------------|---|
| Protection category | IP 20 | IP 20 | IP 20 |
| Ambient temperature (operation) | +10 °C to +35 °C | +10 °C to +35 °C | +10 °C to +35 °C |
| Battery storage | –10 °C to +50 °C | –10 °C to +50 °C | –10 °C to +50 °C |
| Operating voltage | 100/240 V AC 50/60 Hz | 24 V DC | 100/240 V AC 50/60 Hz |
| Uninterruptible mains electricity operation | 2 x 12 V; 2.2 A/approx. 4 h | 2 x 12 V; 2.2 A/approx. 4 h | 2 x 12 V; 2.2 A/approx. 4 h |
| Connections | 3 RJ 12 connectors for connecting to the CMC, alternatively 3 relay outputs, max. contact load 24 V DC/0.5 A | | |
| Sensors | 2 different scattered-light sensors | – | 2 different scattered-light sensors |
| Display | LCD display with plain text information | – | LCD display with plain text information |
| No. of slave modules | max. 4 | – | max. 5 |
| No. of monitored enclosures | max. 5 | – | max. 5 |
| Extinguisher gas | NOVEC 1230 | NOVEC 1230 | – |
| Fill volume of extinguisher gas | 3.2 kg | 3.2 kg | – |
| Admissible max. protection volume | 3 m ³ | 3 m ³ | – |

Also required

| | 7338.130 | 7338.130 | 7338.130 | Cat. 33, page |
|---|------------------------|------------------------|------------------------|---------------|
| Pipe kit | 7338.130 | 7338.130 | 7338.130 | |
| RJ 12 cable for alarm relaying to CMC, packs of 2 | 7320.814 ¹⁾ | 7320.814 ¹⁾ | 7320.814 ¹⁾ | 775 |
| Access sensors | 7320.530 | 7320.530 | – | 773 |
| Depth-variable slide rails | – | – | 5501.480 | 749 |

¹⁾ 2 packs are required.

CMC III monitoring system

CMC III monitoring system

The CMC III monitoring system controls physical parameters such as the temperature inside the Micro Data Centre.

The user defines limits for the various parameters. These are fully automatically monitored by the CMC. If the limits are exceeded or undercut, the CMC emits an alarm which may optionally be notified via e-mail or SMS.

The system may also be connected to the customer network (via OPC/SNMP) to represent messages or values directly in the control room system (SCADA/BMS/NMS).

The CMC III system is plug & play-ready, sensors are detected automatically, and the Web user interface is easy to use even with no prior knowledge.

The CMC Compact basic unit is available for small monitoring units, and supports the connection of up to four sensors. The CMC III Processing Unit for larger monitoring units supports the connection of up to 32 sensors.

There is a 24 V DC power supply with a redundant design, but power can also be supplied via the integral Power over Ethernet (PoE).

In addition to temperature monitoring, both the alarms and collective fault signal from the fire alarm and extinguishing system, as well as the fault signalling from the climate control system, may be switched to the CMC.

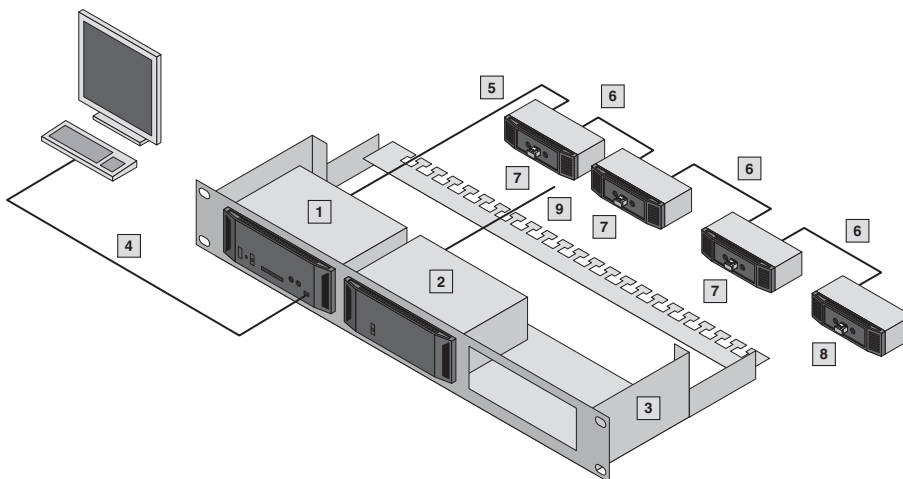
| | Packs of | Model No. |
|--------------------------------------|----------|-----------|
| CMC III Processing Unit Compact | 1 | 7030.010 |
| Power pack 100 – 240 V AC to 24 V DC | 1 | 7030.060 |
| Mounting unit, 1 U | 1 | 7030.070 |
| USB programming cable | 1 | 7030.080 |
| CAN-bus cable 0.5 m | 5 | 7030.090 |
| CAN-bus cable 1.0 m | 1 | 7030.091 |
| CAN-bus unit for CMC-TC sensors | 3 | 7030.100 |
| Temperature sensor | 1 | 7030.110 |
| Connection cable | 1 | 7200.210 |

Note:

For more CMC III sensors, see Catalogue 33, page 773.



Application example for monitoring a Micro Data Centre with fire alarm and extinguisher system



- 1 CMC III Processing Unit Compact (with front infrared access sensor, temperature sensor, 2/1 inputs/outputs)
- 2 Power pack 100 – 240 V AC to 24 V DC
- 3 Mounting unit, 1 U
- 4 Programming cable USB
- 5 CAN-bus connection cable 1 m
- 6 CAN-bus connection cable 0.5 m
- 7 CAN-bus sensor
- 8 Temperature sensor
- 9 Connection cable

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