Data Center Products

DC **IT** ROOM

Customised protection for your IT!

Top priority for increasing number of companies: The functional security of IT

IT has to work – reliably, smoothly, without interruptions

Modern, successful companies are dependent on the high availability of their IT. Communication with clients, partners and suppliers takes place largely through IT-supported media and processes. Internal transactions – particularly in the fields of product management, production and logistics – are also controlled through the pivot point of "information technology." For this reason, there exists a direct connection between the functional security of IT and the competence and, consequently, existential security of the company. It is necessary to avoid risks and take preventative security measures.

Recognising and systematically minimising potential hazards

Irrespective of how many servers are in an IT room and how much the equipment changes over the course of time: the external physical risks are there and do not change. RZproducts already offers the highest standards, e.g. against fire and explosion, unauthorised access and electromagnetic radiation – to name but a few of the risks. Often, the potential risks depend on the location of the company's building or the location of the IT room within the building.

DC-Products offers a customised solution for all situations, and with a high degree of investment reliability: Due to the modular structure and the high safety standard, the DC IT Room solutions can also be adjusted to modified requirements, meaning they are economical and ensure long-term use.

Guidelines and recommendations from legislation and leading IT associations also demand action from company and IT managers.
The objective of the European Standard EN 50600 is to define standards for the "availability, security and energy efficiency for the planned lifetime of the data center". But the Federal Office for Information Security and BITKOM also make clear recommendations for ensuring the availability of IT infrastructures.

Reasons for IT losses

Fire	66 %
Human failures	62 %
Virus attacks	61 %
Hackers/sabotage	39 %
Downtimes caused by service/maintenance	33 %
Floods	17 %
Terrorism	11 %
Acts of war	3 %
Earthquakes	2 %
Not specified	2 %

A risk for IT is not just a major fire, which wipes out the entire building. Even a smaller fire, e.g. in the kitchenette of an office floor is sometimes enough to destroy the IT houses in the neighbouring rooms.

Real case study: Major fire at a telephone provider

- 100,000 clients had no access to their landlines, mobile phone network or internet
- Companies and police in the region were not contactable.
- Cash dispensers, charge card payments, etc. were down.
- Immense economical damage and loss of image

Our **DC IT Room** solutions offer customised protection for your IT

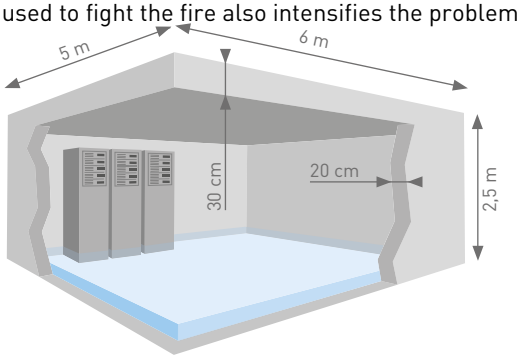
Resistance against external influences and risks are some of the decisive factors for IT security rooms. The DC IT Room solutions – depending on the design and requirement – are available in different protective categories and can be adapt-ed individually to the requirements of our clients.

Risk from fire

One of the most probable risks for sensitive IT components is a fire. For this reason, DC IT Room solutions provide par-ticularly efficient protection in this respect and are inspect-ed / certified in accordance with European standards.

Risk from water / moisture

In the case of a fire near the IT room, moisture escapes from the concrete of the walls due to the development of heat. With a room size of 5 x 6 x 2.5 m, approx. 870 litres of water arise during a fire. The water used to fight the fire also intensifies the problem.



Residual moisture 2 % = approx. 870 litres water

Risk due to corrosive gases

The corrosive gases, which arise in any fire, are very aggressive and can penetrate through even the smallest gaps or cracks into neighbouring rooms. If the walls and doors distort even slightly as a result of the immense heat of a fire, the corrosive gases can spread and immobilise IT components. At the same time, the risk of explosion increases.

Risk from debris

Depending on the severity of a fire, parts of the building can collapse, destroying the IT infrastructure on the sto-reys below.

How much protection does your IT need? **DC IT Rooms** offer various protection levels

Is basic protection enough? Or is premium protection the better choice? A precise analysis of the potential risks shows how much protection needs your IT really requires and which DC IT Room solution is the best for your requirements. As well as the premium Granite solution, DC-Products also offers Quartzite 9.3 and 9.0 solutions.

Basic protection

All DC IT Room solutions offer tested **basic protection** against


Fire


Fire-fighting water


Corrosive gases


Explosions


Debris


Dust


Vandalism


Unauthorized access


Burglary/ Theft


Noise

Premium protection: The Plus in security

The DC IT Room **Granite** offers an even higher and certified **premium protection** against


Fire


Explosions


Fire-fighting water


Debris


Burglary/ Theft

Typical structure of a DC IT Room: This is the **Premium Granite design**

How much protection does your IT need in case of fire?

One of the greatest risks for an IT room is fire. For this reason, it is only logical to take particular measures to protect this. DC-Products offers you various protection levels, with the premium Granite solution having a certified type test in accordance with the highest standards. In an emergency, the fate of your data is often determined in just a few minutes, when it is exposed to the fire – with or without protection. Here is a direct comparison of the test certificates and the tested parameters.

DC-Products provides tested fire protection for your IT

Type testing

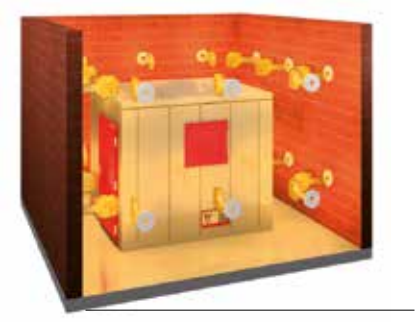
Granite
Premium protection in accordance with
EN 1047-2 (Test time 24 hours with cooling curve)

Worldwide the first
IT-Room System
tested acc. to EN 1047-2:2009
(amendment 2010)

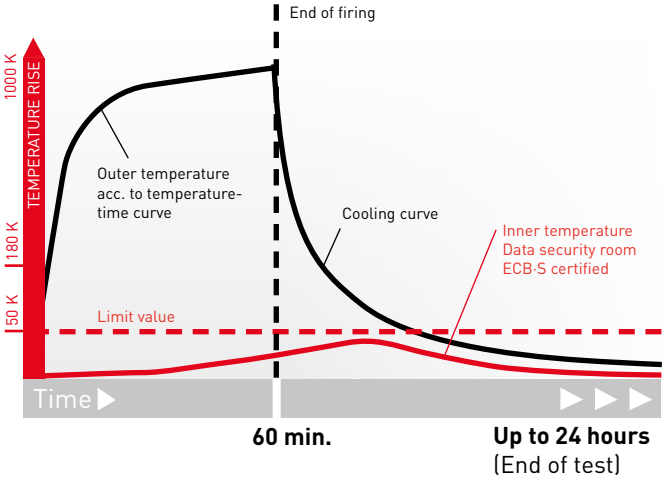
ECB·S

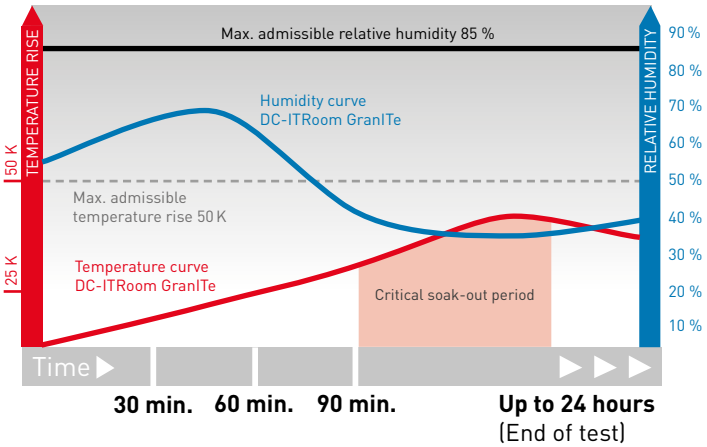
TYPE-TESTED

The temperature increase of an ECB-S test speciment must not exceed 50 Kelvin during the entire test (even during the cooling phase).
At the same time, the relative air humidity must not exceed 85 %. A complete data security room is tested with all its components (door, air conditioning, cable and pipe compartment openings). The testing period is 24 hours and also includes the critical cooling phase at the end of the actual flaming.
In another test, a wall or ceiling of the data security room is subject to an impact test in accordance with EN 1047-2. A wall is exposed to flames for approx. 45 minutes according to the standard time/temperature curve (ETK).
Then an impact with a force of 3,000 Nm is fired onto the burned surface. Afterwards, the test speciment must withstand a further flaming of approx. 15 minutes. If all the necessary inspections in accordance with EN 1047-2 are successfully completed at a certified testing institute, the data security room receives the quality grade R60 D and is certified by the European Certification Body GmbH (ECB) in accordance with its guidelines.



Type testing





System testing

SYSTEM-TESTED

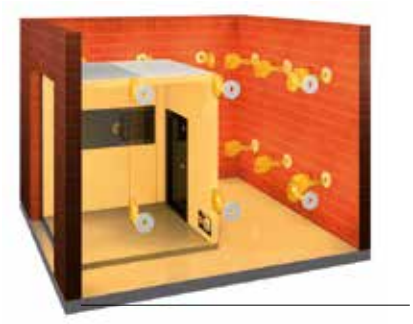
Quartzite 9.3

EI 90 in accordance with EN 13501 and EN 1363 with compliance with threshold values in accordance with EN 1047-2 over 30 minutes

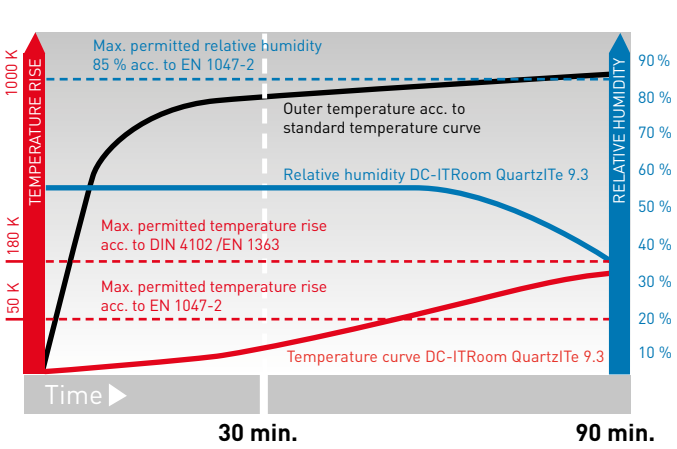
QuartzITe 9.0

EI 90 in accordance with EN 13501 and EN 1363

An internal temperature increase of 50 Kelvin and a relative air humidity of 85 % must not be exceeded during the first 30 minutes of this test. Then the threshold values are valid in accordance with EN 1363. QuartzITe 9.3. fulfils this requirement. The Quartzite 9.0 only corresponds with the EI 90 requirement. In this test scenario, the design-related components are test-ed together with their critical connections.



System testing

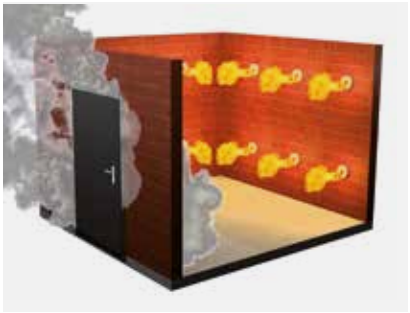


Component testing

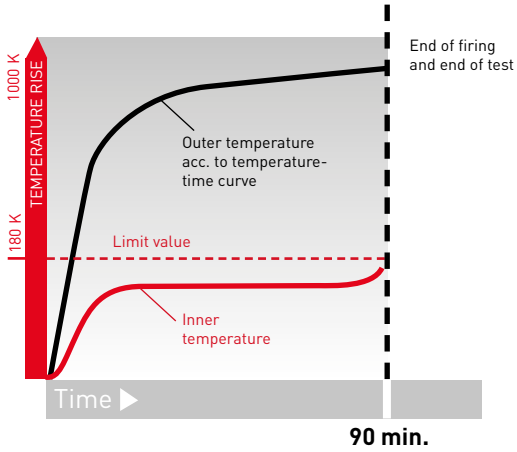
(Conventional design)

EI 90 in accordance with EN 13501 and EN 1363

During an EI-90 inspection, the measured internal temperature increase can reach up to 180 Kelvin after a 90-minute flaming. The relative air humidity is not measured and can have already reached 100 % within a few minutes, depending on the material. The test record is restricted to individual components and has absolutely no validity in terms of the entire IT room system.



Component testing of a door



DC IT Room

Tested protection against the most frequent risks

Protection against dust and water

DC-Products' IT security rooms fulfil dust and water imperme-ability requirements in accordance with EN 60529 with protection class IP 56. During tests, a small complete data security room is initially subjected to several hours of impermeability testing in a dust chamber. In a second test stage, the room is then exposed to several minutes of high-pressure water jets. The impermeability test is only considered successful if both of these tests are successfully completed.

Test speciment after dust testing

Test against high-pressure water jets

Protection against flue gas

A complete room system is also tested in the flue gas test in accordance with EN 1634-3. The test speciment is installed in the flue gas chamber of the testing institute and tested with excess and negative pressure. It must fulfil the requirements of the leakage rate in accordance with EN 1634-3 at 50 Pa and 200 °C smoke, among other criteria.

Test speciment in front of the smoke protection chamber

Test speciment in smoke protection chamber

Protection against break-in

DC IT Rooms fulfil the requirements in accordance with EN 1627/EN 1628/EN 1629/EN 1630 for manual attempted break-ins in resistance classes RC 2 to RC 3. The room is subjected to system testing, during which all the critical design points have to withstand an attempted break-in using tools for a defined period of time.

Break-in test: Attack on the hinges

DC IT Room Granite
Maximum security in case of explosions

Impressively demonstrated: the explosion protection of the DC IT Room Granite

DC-Products was the first company in the world to have a security room tested in accordance with EN 13123/4-2 by the Federal Institute for Materials Research and Testing (BAM) in Berlin. The test results of the Granite in comparison with a standard IT security room (F90) are impressive.

The test:

1 The DC IT Room Granite (left) and a F90-tested room (right). The explosive in front of it.

Unique!
EXR-3-classification for GranITe

BAM
Bundesanstalt für Materialforschung und -prüfung

The BAM is a higher federal authority in Germany within the jurisdiction of the Federal Ministry of Economics and Technology (BMWi) and is considered a renowned testing institute throughout Europe.

2 The powerful detonation of 12 kg of explosives at a distance of 5.5 m jolted both server rooms.

See the video of the explosion test here!

3 While the F90 room is completely destroyed after the explosion, the Granite room looks almost undamaged – and the IT inside is still running smoothly!

DC IT Room Granite

ECB·S – Accolade in terms of security

ECB·S – is it necessary? Yes, it is! Because it is more than a badge. The ECB·S certification is the same as an accolade in terms of fire protection security. The European Certification Body GmbH (ECB) is a leading certification service for security products at a European and international level. The ECB issues the ECB S certificate after the test is completed successfully.

This means the highest security provided through:

- **Type testing and certification as per the current EN 1047-2**
- **Quality assurance thanks to independent quality control in the production and assembly of data security rooms**
- **Improvement of the rating situation for lending and residual risk insurance**
- **Transparency for banks and insurance companies**
- **International recognition of the ECB·S standard (accreditation)**

If a data security room is ECB S certified, it guarantees the highest possible type-tested fire protection level, especially for housing IT infrastructures. The unbiased quality surveillance also guarantees the best possible investment protection and can make a decisive contribution to improving insurance conditions.

The ECB·S Certificate

authenticates the successful system test acc. to EN 1047-2 to an accredited and recognized testing institute and confirms the tested grade of quality. The certificate is issued by the EN 45011 accredited certification institute European Certification Body GmbH.

The ECB·S Test Label

can be seen to identify each product to prove that this particular product fulfils the demands of European standard EN 1047-2 and ECB-standard. Every test label displays the quality grade awarded by ECB and the unique project number belonging to the particular project. This test label is proof of the continual monitoring of production & assembly quality and last but not least, guarantees that the characteristics and certified values of test specimens are identical to the produced product. Each project is registered at ECB before installation.

DC IT Room
A comparison of tests and certifications

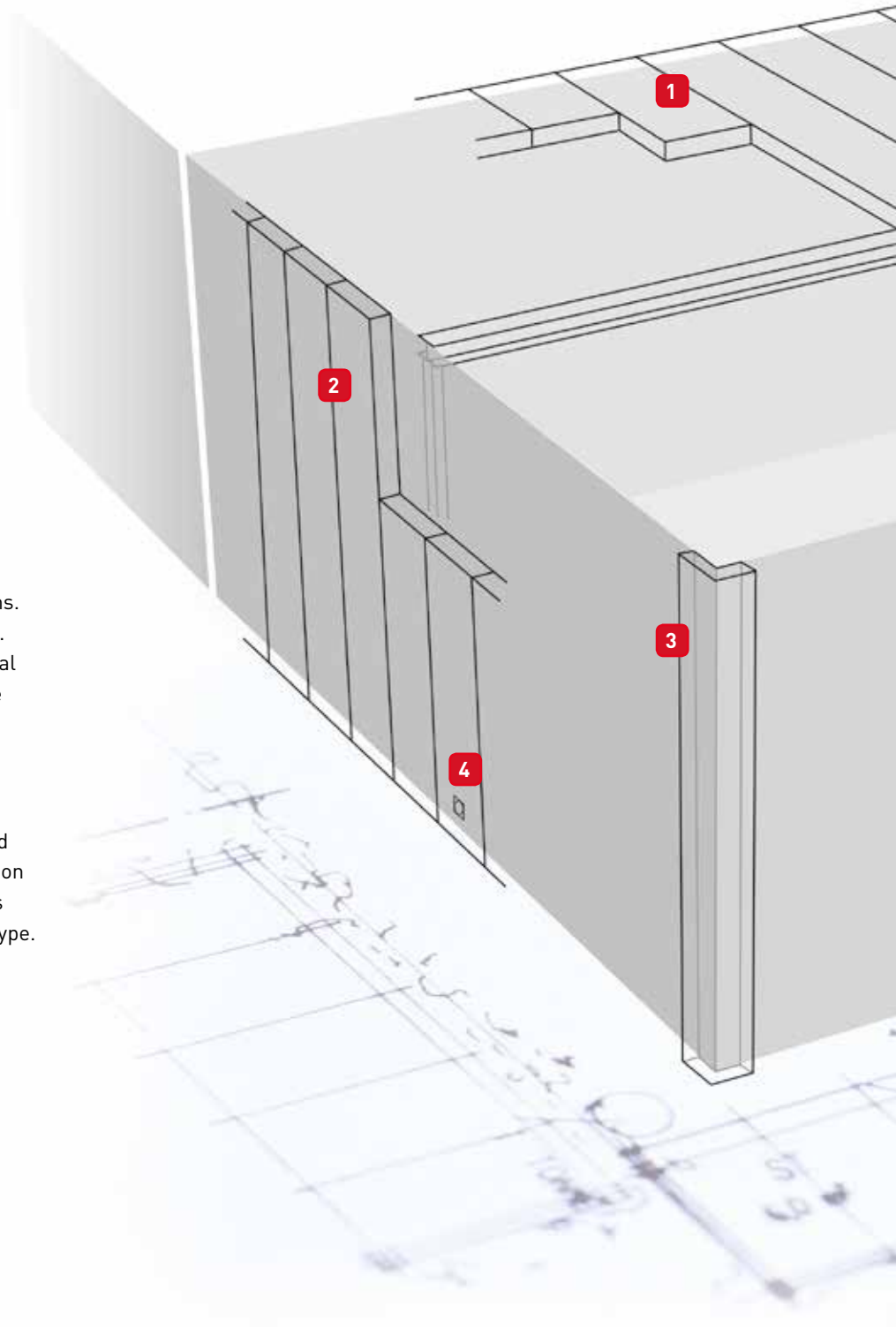
All DC IT Rooms are **type-tested or system-tested**. A component test is sufficient for the basic design of a building, but not for IT installation area. In an emergency, it is crucial that the entire "IT room system" works – only in this way the maximum availability and security is guaranteed.

Tests, values and certifications	DC IT Room		
	Granite	Quartzite 9.3	Quartzite 9.0
Certification (fire protection)			
ECB·S certification as per EN 1047-2:2009+A:2013	✓	–	–
External quality surveillance in production	✓	–	–
External quality surveillance on the building site	✓	–	–
Fire protection			
Type-tested as per EN 1047-2, 60 minutes flaming plus cooling curve up to 24 hours	✓	–	–
System testing with compliance of threshold values (50 K, 85 % air humidity) as per EN 1047-2 over 30 minutes	✓	✓	–
"General Approved Test Certificate" according to German building standard F90	✓	–	–
System testing EI 90 as per EN 13501-2/EN 1363-1 from external to internal	✓	✓	✓
System testing EI 90 as per EN 13501-2/EN 1363-1 from internal to external	Optional	Optional	Optional
Component testing (wall/ceiling) EI 180 as per EN 13501-2/EN 1363-1 from external to internal	✓	–	–
Component testing (wall/ceiling) EI 120 as per EN 13501-2/EN 1363-1 from external to internal	✓	✓	✓
Component testing (wall/ceiling) EI 120 as per EN 13501-2/EN 1363-1 from internal to external	✓	✓	✓
Break-in protection			
Certified break-in resistance RC 3 in accordance with EN 1627/1628/1629/1630	✓	–	–
System testing break-in resistance RC 3 in accordance with EN 1627/1630	✓	Optional	Optional
System testing break-in resistance RC 2 in accordance with EN 1627/1630	✓	✓	✓
Explosion protection			
System testing explosion resistance EXR 3 as per EN 13123-2/EN 13124-2	✓	–	–
Flue gas impermeability			
System testing flue gas impermeability as per EN 1634-3	✓	✓	–
Dust and water impermeability			
System audit dust and water impermeability IP 56 as per EN 60529	✓	✓	✓
500 mm water column over 72 hours	✓	–	–
400 mm water column over 72 hours	✓	✓	✓
Screening effectiveness (EMC-protection)			
Screening effectiveness testing as per 50147-1	✓	✓	✓
Resistance to debris			
Impact testing as per EN 1047-2 (impact energy approx. 3,000 Nm)	✓	–	–
Triple impact as per DIN 4102-2	–	✓	✓

Further evidence on request.

The **DC IT Room** assembly unit: Flexibly combine standard elements

The principle is simply great: With the standard elements shown here, the DC IT Room can be planned and implemented easily. If required, the room can be enlarged by as many standard elements as needed, or reduced in size, too. The DC IT Room Granite, for example, can be enlarged and reduced in size by the standard modular dimension of 605 mm. The precise dimensions of the standard elements for Granite can be found on pages 18/19 and for Quartzite on pages 22/23.*



1 Ceiling elements*
Ceiling elements are available in defined grid dimensions, depending on the room geometry and type.
For larger security rooms, these are connected using supporting structures.

2 Side walls*
Side walls are supplied in standard widths. The height can be scaled in 50 mm steps. Adaptable elements, with which structural space can be used to its full capacity, are possible on request.

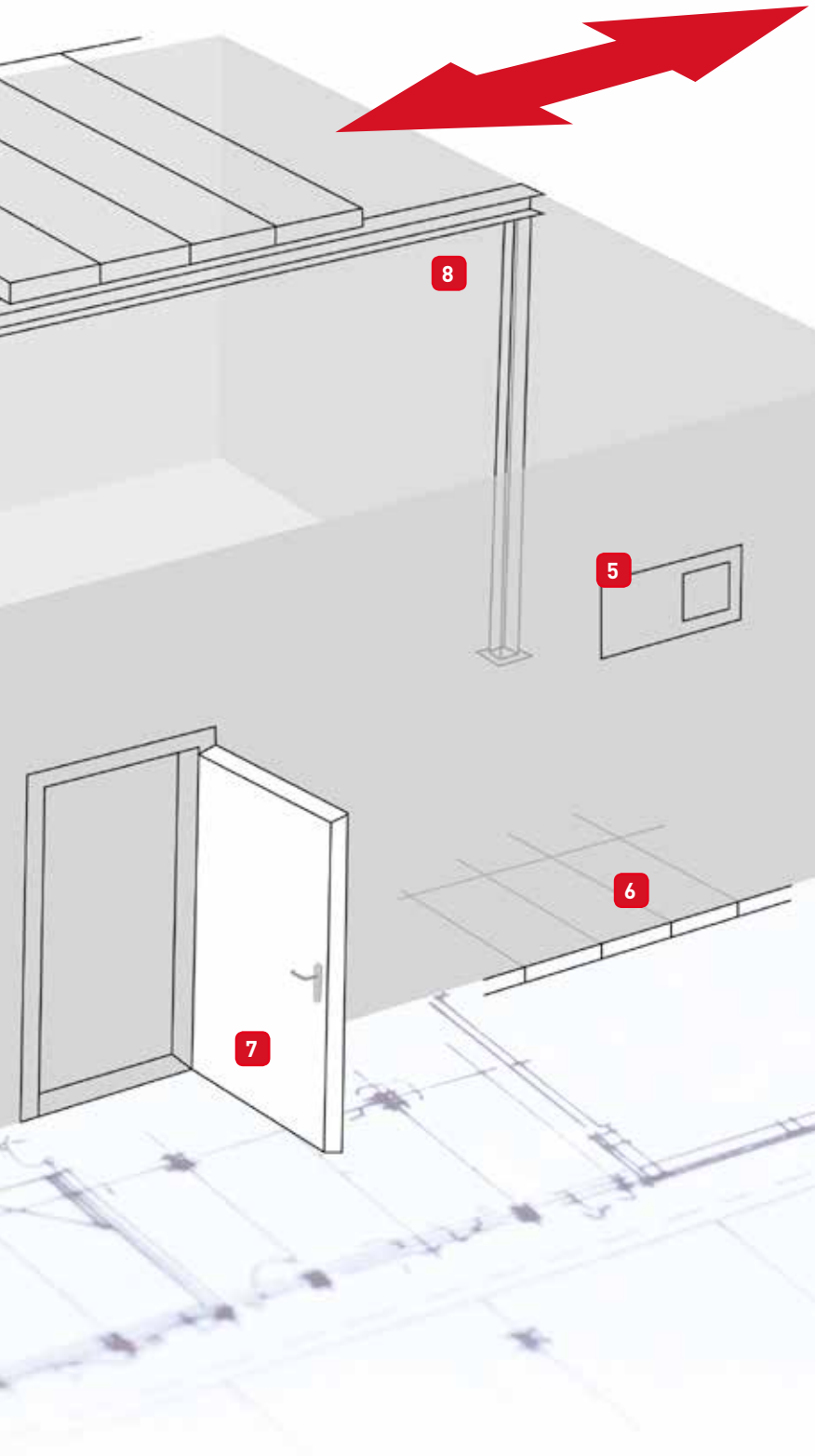
3 Corner elements*
These sandwich panels are pre-produced 90° corners, which offer optimal protection in the corner areas. The side dimensions are predefined, depending on the room type.

4 Cable and pipe compartments
Cable and pipe compartments can be supplied as soft or hard systems. The position must be defined in advance or on-site, depending on the room type.

* Other sizes are available on request.

Extremely flexible:

DC IT Rooms can be adapted perfectly to your requirements: Due to the modular structure, the DC IT Room can be easily expanded or reduced in size.



5 Slider and flap systems
Depending on the room type, slider or flap systems are used for ventilation and to discharge excess pressure for extinguishing systems.

6 Floor systems
Depending on the room type and location, the room system is designed with a variety of floor systems. These are installed on the built-in raw EI-90 flooring.

7 Door systems
Of course, we have the right security door system in a variety of dimensions for every room system, depending on the clearance*.

8 Supporting structures
From rooms of 3.60 metres and upwards, supporting systems are used. These consist of side supports and supporting beams, which are dimensioned on the basis of static calculations.

DC IT Room Granite

High-security wing for your IT infrastructure

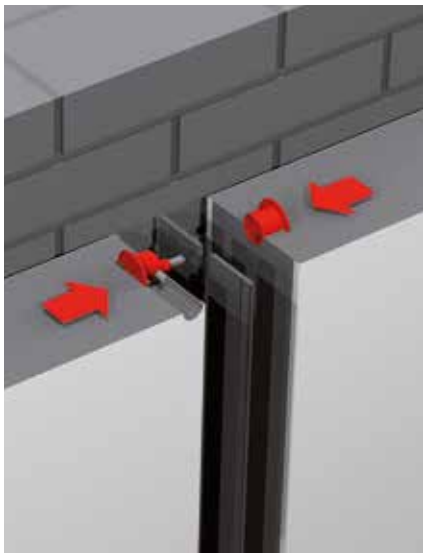
Sophisticated technical details for premium IT protection

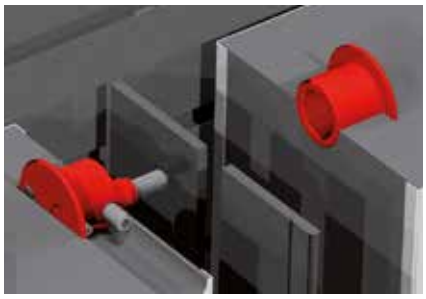
GranITe stands for security and resilience! The DC IT Room Granite offers the highest protection level for IT infrastructure. The special properties of this room system makes it a real high-security wing for IT.

A multitude of unique technical selling points also ensure advantages for IT operation. Because often, the details are crucial to efficient protection: Are the wall parts connected together well or do they distort under heat meaning gaps develop? Do the cable compartments remain sealed and do the doors close correctly?
From a structural point of view, this room type adopts a pioneering role in terms of room efficiency due to its modularity and complete use of the available building space (practically without any distance to the walls). Whether in the cellar or on the top floor, every surface can be used to capacity. From 5 to 5000 m^2.

On the following pages, you will find an overview of the most important technical details of the Granite series and the available accessories.

Only the Granite offers you:





Patented “Click” assembly technology

- Short assembly times with top-quality assembly
- Can be dismantled and reassembled at any time
- Space-efficient due to optimal use of surfaces
- Guaranteed protection against manipulation and break-in
- Internally protected connection technology

Volumes that can be used optimally and efficiently at the highest security level

Certified cable compartment system

- Modular, tested and certified compartment system
- Space-saving, clear, clean
- Flexible use of modules from any suppliers possible
- No need for critical fibre material
- Low maintenance and service costs
- Simple retrospective configuration or modifications

Security and flexibility through certified cable compartments

Certified high-security door

- Escape door (tested personal protection in accordance with EN 179 and EN 1125)
- Certified object protection
- State-of-the-art lock technology
- Self-locking with patented 6-point locking
- Smooth-gliding and user-friendly opening and closing mechanisms
- Use of profile half-cylinders

High-quality door system offers users security and comfort

DC IT Room Granite
The technology in detail

Product features and dimensions of the standard elements

The DC IT Room Granite is a free-standing, self-supporting room construction, which is erected from tested wall and ceiling elements and a floor system. The industrially pre-fabricated individual elements can be fitted without any contamination. The special connection technology enables assembly, even with ongoing computer operation. Larger security rooms are realised by integrating an internal support structure. The low weight of the individual elements (approx. 45 kg/m) makes it possible to install them in buildings with static issues.

1 Ceiling elements*

For room without supports:
Width 600 mm, thickness 135 mm,
Standard lengths: 1210, 1815, 2420, 3025, 3630 mm

For room with supports:
Width 600 mm, thickness 135 mm,
Starting and final lengths: 300, 905, 1510, 2115, 2720 mm
Intermediate lengths: 600, 1205, 1810, 2415, 3020 mm

Note:
A supporting structure must be installed for rooms with a width of more than 3.60 m. There must be at least 100 mm between the structure and the existing ceiling.

2 Side elements*

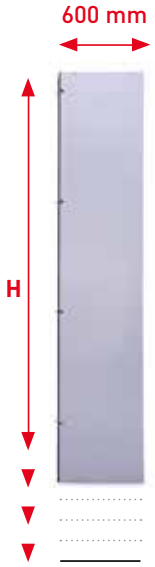
Width 600 mm, thickness 135 mm,
Height 2500 – 4000 mm (grid dimension 50 mm)

3 Corner elements*

Side dimension 300 x 300 mm, thickness 135 mm,
Length as per side elements

6 Floor system

The floor is put together with pre-fabricated, pressure-resistant insulating panels and covered with galvanised, 1.5 mm thick steel sheets.
Dimensions of insulating panel (H x W): 1200 x 600 mm
Thickness 41.5 mm when fitting onto ground floor
Thickness 61.5 mm when fitting onto higher storeys



Flexible dimensions

All ceiling, side and corner elements are available in various lengths as standard!
This modular structure makes it possible to adapt it perfectly to the existing surface and height dimensions*.

High-quality materials

The elements consist of galvanised and pre-coated sheet steel cassettes in white aluminium (RAL 9006) with a core of ultra-efficient insulation materials. Seals with a resistance to high temperatures as used on the element joints.

* Other sizes and designs available on request.

Equipment

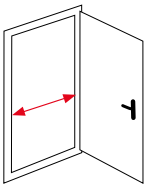
4 Cable and pipe compartment system

Hard duct DN 200
Free reserve space for installing cables and pipes: 120 x 120 mm.*
Locking with sealing modules depending on cable and pipe diameters.
It is possible to retrofit data and supply cables.

5 Slider and flap systems

Climate-control slider for ventilating the room system.
Excess pressure slider to discharge excess pressure when using a fire extinguishing system.
Combi-slider for electrical ventilation and as pneumatic pressure release.
Dimensions (internal wall opening): approx. 300 x 300 mm, 500 x 500 mm or 700 x 700 mm*.

7 Security door system



Sizes
Standard dimensions (clearance):
2130 x 970 mm, 2330 x 970 mm, 2130 x 1270 mm or 2330 x 1270 mm.
All door systems are available with DIN left or DIN right door hinges.
Standard door colours: Traffic red (RAL 3020)
Other clearance dimensions and RAL colours on request.

Locking system
With motorised multi-locking mechanism for control through an on-side access control system.

Door closer
Door closer GEZE TS 5000 is standard. However, model GEZE TS 5000E with electric lockable retainer and model GEZE TS 5000R with electric lockable retainer and integrated smoke alarm are also available.

Contacts
The door is equipped with two magnetic contacts of VdS class C as standard, for access surveillance.

Other equipment

- **Entrance controls**
- **Raised floor**
- **Lighting**
- **Electrical system control**
- **Monitoring system**
- **Server and network cabinets**

There is a wide range of **additional equipment** options available for the DC IT Room Granite.
We are happy to provide you with advice on how to best equip your DC IT Room.

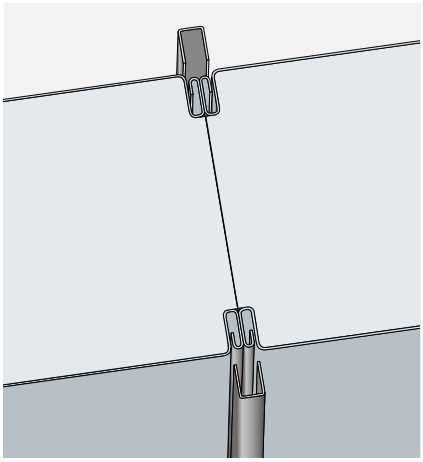
DC IT Room Quartzite 9.3 and 9.0
System-tested IT security

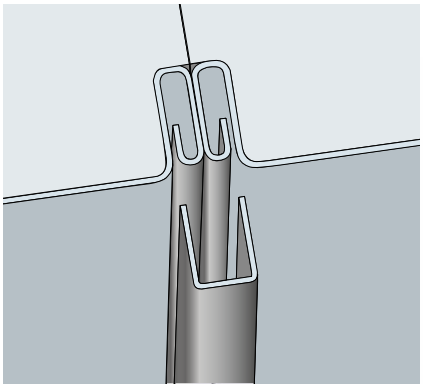
IT security – Modular and appropriate

Quartzite has always stood for resistance to external influences. For this reason, the name says it all when it comes to IT security rooms from this product series. Security and modularity are characteristic for DC ITRoom Quartzite.

DC IT Room Quartzite – depending on the design and requirement – are available in different protective categories, meaning they can be adapted ideally to the specific practical requirements. Here is an overview of the most important technical details of the Quartzite series and the available accessories.

Quartzite – High quality for protecting your IT





Innovative clamped connection technology

- Simple connection technology using a C-connector terminal block with matching clamp fold on the panels
- Extremely quick and easy assembly
- Smooth, leak-proof and stable joints and surfaces
- Can be dismantled and reassembled at any time
- Core material made of non-combustible insulating material

Ideal connecting technology for high optical demands

Efficient cable and pipe compartment systems

- Soft compartment system as standard for simple opening and closing
- Also available as a hard compartment system for higher demands
- Quick positioning and integration on the building site
- Low service and maintenance costs

Cost-efficient, low-planning and secure compartment systems

Certified security doors

- High-quality multi-functional doors made of sheet steel and insulating materials
- Large selection of designs and equipment
- High-quality closing and locking systems

Optimal protection for a wide range of needs

DC IT Room Quartzite
The technology in detail

Product features and dimensions of the standard elements

The DC IT Room Quartzite is a free-standing, self-supporting room construction, which is erected from tested wall and ceiling elements. The industrially pre-fabricated individual elements can be fitted quickly and cleaning. The special connection technology enables assembly, even with ongoing computer operation. Larger security rooms are realised by integrating an internal support structure. The low weight of the individual elements (approx. 30 kg/m) makes it possible to install them in buildings with static issues.

1 Ceiling elements*

Width 550 mm, thickness 100 mm,
Lengths up to max. 3.60 m

2 Side elements*

Width 550 mm, thickness 100 mm,
Height 2000 – 6000 mm (grid dimension 50 mm)

3 Corner elements*

Side dimensions of 150 – 400 mm,
Thickness 100 mm,
Length as per side walls

6 Floor system

QuartzITe 9.3: Floor sealing when fitting onto ground floor
Thickness 41.5 mm when fitting onto higher storeys

QuartzITe 9.0: No floor system

Extremely adaptable

DC-ITRooms can be adapted perfectly to your requirements: All the ceiling, side and corner elements are available in various lengths!

High-quality panels

All panels are self-supporting sandwich elements, with double layered adhesive: The core material made of non-combustible mineral fibre is glued to the outer shells made of coil-coated sheet steel. Standard colour Pure white (RAL 9010).

Equipment

4 Cable and pipe compartment system

Standard: Soft compartment system 300 x 200 mm*
Optional: Hard duct DN 200
Free reserve space for installing cables and pipes: 120 x 120 mm.*
Locking with sealing modules depending on cable and pipe diameters.
It is possible to retrofit data and supply cables.

* Other sizes and designs available on request.

Equipment

5 Slider and flap systems

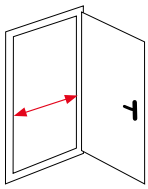
Quartzite 9.3:

Climate-control slider for ventilating the room system.
Excess pressure slider to discharge excess pressure when using a fire extinguishing system.
Combi-slider for electrical ventilation and as pneumatic pressure release.
Dimensions (internal wall opening): approx. 300 x 300 mm, 500 x 500 mm or 700 x 700 mm*.

Quartzite 9.0:

Flap system for ventilating and/or draining excess pressure.
Size depending on technical design.

7 Security door system



Sizes

Standard dimensions (clearance):
approx. 2100 x 950 mm, approx. 2300 x 1100 mm*.
All door systems are available with DIN left or DIN right door hinges.
Standard door colours: Traffic red (RAL 3020). Other RAL colours on request.

Locking system

Self-locking electronic security lock with panic function for control through an on-side access control system. Other lock designs on request.

Door closer

A mechanical door closer is provided as standard. Door closers are also available with lockable retainers as an additional extra.

Contacts

Standard: 1 magnetic contact VdS class C and 1 locking contact.

Other equipment

- **Entrance controls**
- **Raised floor**
- **Lighting**
- **Electrical system control**
- **Monitoring system**
- **Server and network cabinets**

There is a wide range of **additional equipment** options available for the DC IT Room Quartzite.
We are happy to provide you with advice on how to best equip your DC IT Room.

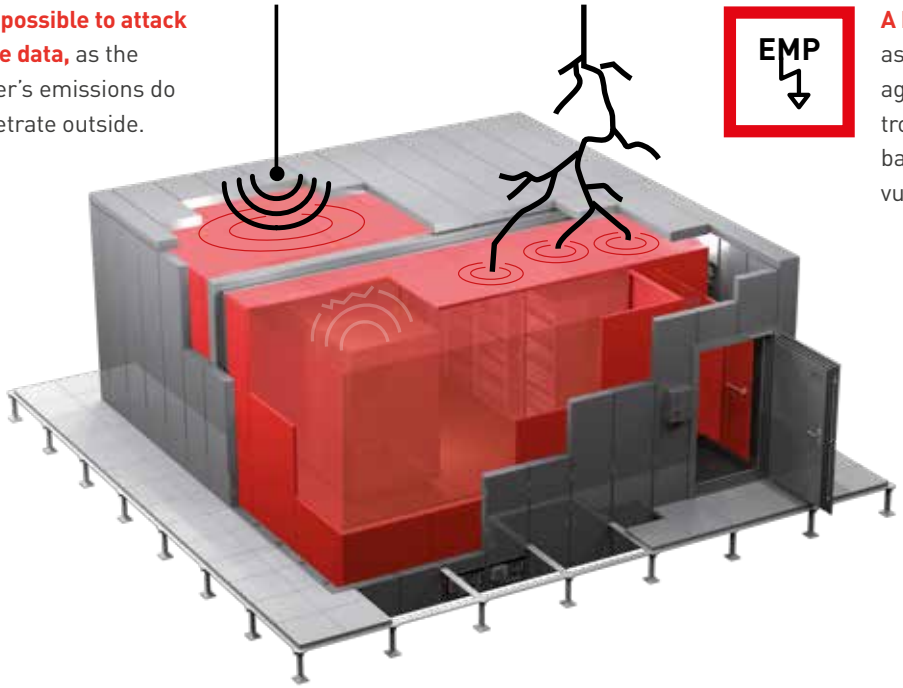
DC IT Shielding

Protection from espionage, electromagnetic attacks and technical eavesdropping operations.

How high can the potential interference be for your data?

DC IT Shielding is a real protective shield for the extensive security of data centers. By using this ultra-modern shield, electronic manipulations and industrial espionage are prevented. The function of the tested room shield solution is based on a physical high-frequency shell, which protects IT rooms and the equipment contained therein from external electrical and magnetic interruptions. Furthermore, the emission of important information within the server room is minimised considerably. DC IT Shielding is available in three designs, meaning it can be tailored precisely to your requirements.

It is not possible to attack sensitive data, as the computer's emissions do not penetrate outside.



A high-frequency shell as a protective shield against external electromagnetic disturbances surrounds the vulnerable racks

See how DC-ITShielding works for yourself here!

Product features:

- Eavesdropping and shielding security up to 60, 80 oder 120 dB
- Compliance with requirements of Tempest, NSA 65-2, NATO
- Guaranteed shielding attenuation up to 40 GHz
- Modular design made of 2 mm steel sheet modules
- Panel dimenions: max. 1500 x 50 mm (WxD)
- System-tested acc. to EN 50147-1, NSA 65-6,IEEE-STD 299 (MIL-STD 285)
- In compliance with BSI (Federal Office for Information Security)

The advantages:

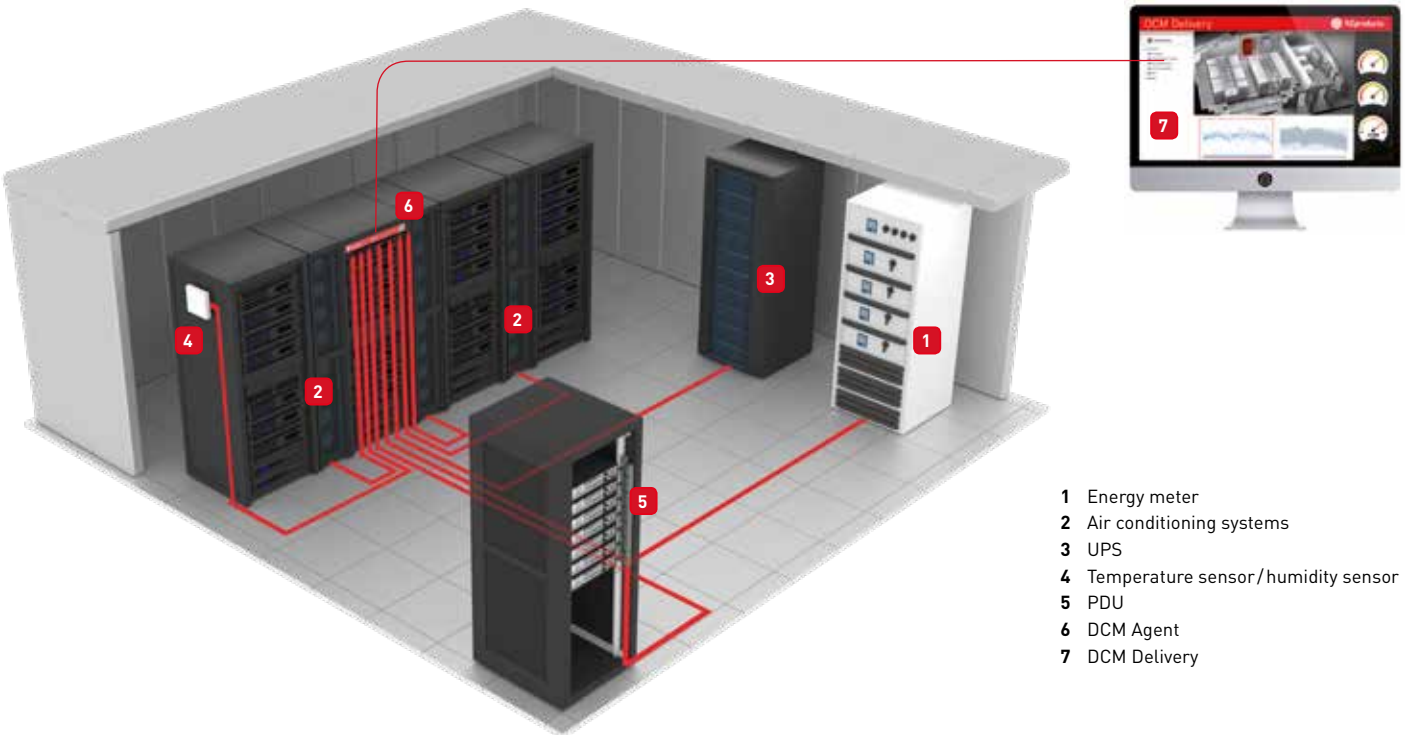
- Quick and simple to assemble
- Integration into existing IT security rooms, outdoor containers and buildings
- Investment reliability as it can be dismantled and reassembled (e.g. for relocations)
- Increased break-in protection combined with security products from the DC-ITRoom solutions

DC Monitoring

How more surveillance leads to added value

What is your data center doing right now?

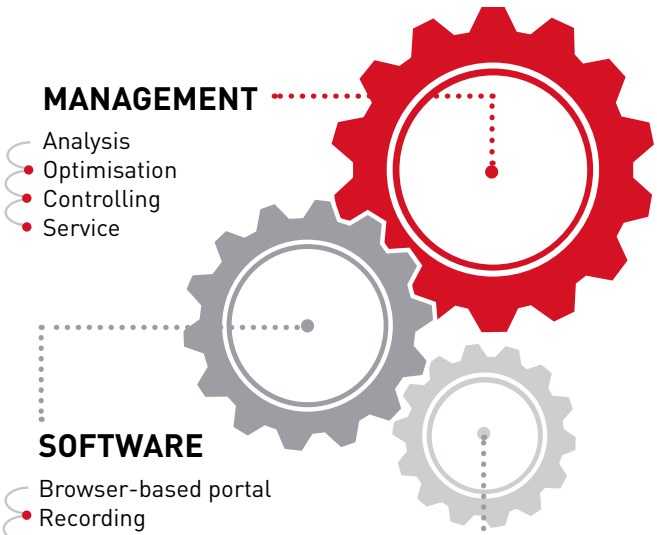
"No alarm" does not necessarily mean optimal operation. Because alongside security and availability, efficiency is one of the core challenges of a data center. In order to operate a data center effectively and strategically, there is a basic prerequisite: comprehensive monitoring.



1 Energy meter
2 Air conditioning systems
3 UPS
4 Temperature sensor/humidity sensor
5 PDU
6 DCM Agent
7 DCM Delivery

Constant monitoring of the data center does not just show its operating status. It makes it easier for managers from IT, facility and finances to avoid foreseeable interferences, increased energy consumption and unnecessary costs in equal measure. We fulfil all these requirements for our customers. In DC-MonIToring, our many years of experience and market knowledge are combined into a complementary solution. They monitor the data center with all its equipment, analyse and above all, visualise the data amounts and raise the alarm for the relevant employees where needed.

This interplay makes it possible for IT managers and facility managers to immediately identify defective equipment and rectify any damage. Secondly, processes can be adapted and improved at a glance. Last but not least, the management benefits due to the short amortisation periods in terms of the cost-effectiveness of the data center (rapid return on investment).



MANAGEMENT
- Analysis
- Optimisation
- Controlling
- Service

SOFTWARE
- Browser-based portal
- Recording
- Visualisation
- Evaluation

HARDWARE
- Data logger
- Measuring devices
- Interfaces
- Transfer

Operational management systems for maintenance and operation of data centers

The high-quality products from DC-Products require a profes-sional service concept to protect investments and achieve sus-tainable value preservation.
To this end, DC Services offers classic and individual mainte-nance concepts for all data center infrastructure areas.
For example, all procedural messages, alarm messages and relevant energy data can be visualised and evaluated using DC Monitoring to ensure availability of the various systems and sections.
Thanks to the agreed service level agreements (SLA) and a 24/7 service hotline, DC Services ensures structured service assignments, guaranteeing the availability of the data center.

1 Security technology
2 Air conditioning systems
3 Emergency standby systems
4 Patch / cable management
5 Electrical engineering
6 Cleaning
7 Relocations

Service hotline
Available 24 hours
a day

Troubleshooting
24 hours
7 days a week
365 days a year

Cost transparency
through defined services
and prices

In addition, customised operational management systems are developed on the basis of these maintenance and service concepts, which support the operator of a data center in fulfilling their responsibilities, thus ensuring available and economical operation. To do this, service staff is used which has to be provided with specific and regular training in the technical systems as required. This service staff is an important interface between the client's operators and the back office of DC Services.

To ensure the success and quality of an operational management system, it is established in new and existing data centers using a tried-and-tested method.

The following components of an operational management concept are available:

Supported by this process, specific or standardised operation and management disciplines can be included in the normal operation of the data center.

Examples of operational and management disciplines:

- **Operational and fault management**
- **Inventory and configuration management**
- **Capacity and energy management**
- **Data center strategy**

In this way, the basis of sustainable operation of the data center is ensured. The identified information and data is used to form specific KPIs and implement quality-enhancing measures to increase the cost-effectiveness of the data center operation.

As a result, the operator of a data center has the basis for available and economical operation. In addition, the operator is continually informed and advised about the conformity of the legal, regulatory and other requirements.

Secure IT infrastructures for our clients. Day after day. Worldwide.

More than 1000 satisfied clients have already put their faith in our knowledge and many years of experience in the development, production and realisation of security products. This includes companies from industry and telecommunication, banks, insurance companies as well as energy providers, authorities and IT service providers.

Max-Planck-Institut, Greifswald

Two-storey high-security data center offers maximum protection for IT

In a hall complex of the Max-Planck-Institut in Greifswald, the only two-storey data center of its kind in Germany has been constructed. The top floor is supported by an extremely sold, certified, fire-protection-clad steel construction and includes four ECB·S certified Granite high-security rooms including separate climate control link on 480 square meters of pure data center. A 180 square meter, modular IT container landscape has also been erected for the corresponding F90 technology.

Festo, Ostfildern

DC IT Room Quartzite for the world market leader in automation technology

This self-sufficient room-in-room solution with integrated technology sections has been positioned in a hall area and offers a certified IT security zone for 48 racks on a total floor space of approx. 500 square metres. The system is characterised by its modularity and can be increased in size at any time to meet its users' requirements. It is a 100 % redundancy concept with USV A + USV B provisions in use.

Edeka, Minden

Edeka relies on DC IT Room Granite

A data center with 800 square metres of IT and technology space has been integrated into an existing hall complex of the central logistics warehouse of Edeka. The centre-piece: A high-security room – equipped for 160 rack systems. The data center, which has been customised specifically to the client's requirements, has been planned and constructed including a climate control link by means of a sluice function to the main doors and to the corridor area. A nitrogen fire alarm and multi-zone extinguishing system is fitted to this. The directly adjacent technology rooms are constructed in accordance with a 100 % redundancy concept.

IT-Consult, Halle

Data center including maintenance and service

IT-Consult Halle GmbH is the IT service provider for Stadtwerke Halle near Leipzig. A 400 square meter IT outdoor solution with integrated technology space has been developed on the Stadtwerke site. The service data center with maximum availability protection in accordance with TIER 3 Plus and the TÜV certification Level III was created as a complete turnkey package and designed as a room-in-room system with maximum availability protection in line with ECB·S. All adjacent technology rooms have been completely implemented with USV concepts in the redundant N+1 in all climate control and electrical zones. In addition, an emergency power supply has been provided in case of power failure.
As part of the project acceptance, DC Services was commissioned with a turn-key maintenance and service contract.

proService, Bielefeld

Everything from one single source: perfect interplay of the Data Center Group subsidiaries

After just four months of construction, the outdoor data center of proService GmbH was completed, consisting of a Granite IT security room with approx. 55 square me-ters, hot aisle containment, QuartzITe 9.3 rooms for expansion areas and Quartzite 9.0 technology rooms.
The new outdoor data center of proService GmbH impressively demonstrates the entire range of services provided by the Data Center Group: The DCG undertook the entire construction, equipped the data center with its own products and supported proService during the certification of the data center.

TMR, Herne

Turnkey outdoor solution for IT service provider

Telekommunikation Mittleres Ruhrgebiet GmbH (TMR) successfully leases out ultra-modern data centers and has established itself as a reliable IT service provider over the course of many years. As the existing data center in Bochum is almost full to capacity, TMR had a new data center built on the site of the Stadtwerke Herne in just seven months. The total surface area of the turnkey outdoor solution and integrated technology zones is 1740 square meters.

DC-Products: We protect **IT**

Specialised in the development and production of high-quality products for IT infrastructures, the needs of our clients and the requirements of the market are the focus of all our activities. On this basis, our specialists develop innovative and pioneering solutions for professional data centers and IT sites.

Through our collaboration in expert committees and associations, such as the ESSA (European Security Systems Association), we support the definition of and compliance with European directives and standards, which are taken into account worldwide. Because only tested and certified security solutions guarantee our clients the security standard, which they need and for which DC-Products stands.

Our services – your advantages

The Data Center Group affilities all the competence needed for IT security under one roof. One contact person from consultation and planning through to professional operation

Very **high handling speed,** adjusted to the growing demands of our clients

Consultation, planning, project development and project management with implementation of all building services and subsections provided ready to use including commissioning, training, acceptance and handover to the end user **carried out exclusively by the companies of the Data Center Group**

At DC-Products, **"Made in Germany".** stands for tested quality at the highest level, based on our quality management ISO 9001:2015

Global network of partners guarantees rapid and competent local consultation and services

Data Center Products

Integrated service concepts guarantee **the highest level of availability in operation** and an economical overall solution in terms of TCO (Total Cost of Ownership)

All services concerning the operation of a data center provided by **highly-qualified specialists**

Involvement in associations and universities allows us to work and act in line with the very latest state of technology and scientific developments

DC-Products: Maximum security for your IT

DC **IT** Safe:
For the security of your IT infrastructure

DC ITSafe is a mini data center, which offers individual racks a high level of security and can be expanded at any time. It withstands all fundamental physical risks, is quick and easy to disassemble and reassemble due to its size and can also be used in any location. Its space-saving properties make it possible to use it in very small IT locations.

DC-Mon**it**oring:
When more surveillance leads to added value

The monitoring systems of DC-Products make a decisive con-tribution to professional energy management and interrup-tion-free monitoring of IT. They immediately highlight any dis-turbances and can considerably improve the cost-effectiveness of your IT operations by analysing energy consumption.

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