

Fulfilling all requirements

System solutions for electrical infrastructure within data centres

Data centres are constantly changing – we are involved!



High availability

Data security and operating safety

Energy efficiency

Flexible and future-proof

The future has begun



Data centres are the hub of any company. This is demonstrated by how extensively the operators are protecting them: Uninterruptable power supplies, over-specifying to allow for redundancy and for cross-connections, efficient and reliable air conditioning systems, access control and fire protection; these all provide the safe and secure environment for business-critical data and applications.

There are many schools of thought regarding the requirements within electrical infrastructure solutions. The operators require stable and future-proof systems, as well as well-organised and clear structures. The networks need to be highly available and as easy to manage as possible. In view of the sensitive information that is often held within data centres, security is also becoming the most important consideration.

Due to the continuously increasing demands on data centres, installed systems must also offer a high degree of flexibility in order that alterations and additions can easily be made. Furthermore, as energy consumption is always an issue for data centres, the chosen system needs to manage power as efficiently as is possible.


When selecting the cabling systems and the materials, it is also important to consider the future air conditioning requirements from the outset. The quantity and type of cable used within data centres has a large impact on the energy consumption and cooling requirements, so is therefore a key consideration at design stage.

Not only do the operating costs place a decisive role within the design and specification of data centres, but as we are becoming increasingly aware, also the environmental impact.


Harmonised design!




Intelligent infrastructures



Focus on the environment



Building automation



Single-source solutions

Balance it!

Nowadays even high-performance systems are limited. Energy and space capacities are not endless. In many cases it is not possible to provide the necessary cooling capacity and it is no longer possible to reliably exhaust the performance reserves of servers, routers and memory media.

Using intelligently planned and carefully selected cabling solutions, it is possible to eliminate your overflowing 'copper mines' and to avoid confusing and inflexible structures.

Our unilan® product range comprise intelligent, high-speed and high-density solutions in both copper and fibre optic variants, which are designed to fulfill all current and future requirements within data centres.

Additionally, the ecobus® range offers a flexible flat cable system for the building automation, which connects power and bus data in one single cable. If used within the data centre design from the outset, this system supplies the necessary power to the control components of the building management system within the data centre. It will also simultaneously supply the necessary information, i.e. for air conditioning and smoke detection systems, to safely monitor data centre. If it is correctly used, the ecobus system will enable a considerable reduction at the design and procurement stage, then in ongoing operation.

Dätwyler Cables supply this single-source design, and will be on hand to assist with any queries from support regarding energy efficiency to making future network alterations.

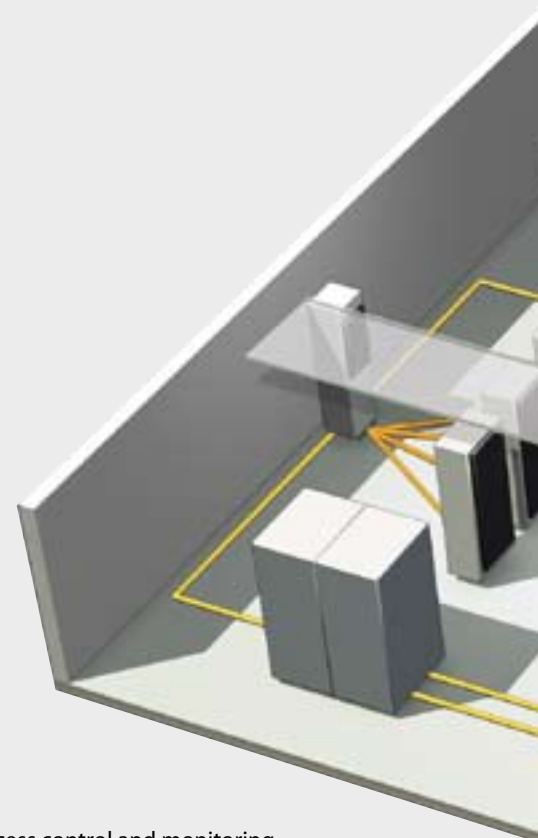
Your accomplished partner for data centres

Our research and development is focused on elevating your success and your investment security. Being a leading company for innovations, we implement overall solutions for the electrical building infrastructures of the future, leading to a unique price/performance ratio. Each customer-specific application is based on many years of experience and the proven expertise of our engineers and technicians.

We offer single-source solutions for any customer-specific application. Starting with careful consultation, through to planning and installation, then to the maintenance and updates, advice, training and support are vital elements of our service. Dätwyler Cables always have systems in stock and can therefore guarantee short delivery terms. We rapidly answer both easy and complex queries in a clear-sighted and in an efficient manner.

Year on year we invest in constantly improving our material and process engineering, resources and test methods. Our system solutions are therefore always in advance than the applicable standards, and as always, we are setting benchmarks. The vital functions which our solutions need to comply with require the highest levels of safety and reliability. We therefore test all of our products against the most strict of quality standards before delivering systems to our customers.

The highest level of quality is constantly demanded of our employees, and is our guarantee to our customers.



- 1 Access control and monitoring
- 2 Safe energy supply
- 3 Server and rack management
- 4 Real-time monitoring of complete network infrastructures
- 5 Efficient copper connections
- 6 High-speed fibre optic connections
- 7 Efficient electrical building infrastructure design
- 8 Optimised cable usage

Applications



Applications in the data centre



Access control and monitoring

Modern video monitoring and access control systems can be integrated in the data network. This enables rapid reaction to possible external risk. For security, access to certain rooms may be allowed or refused depending on the time and/or the task of the person concerned. The monitoring of access within data centres also contributes to security.



Safe energy supply

Emergency lighting, escape routes, fire alarms and fire fighting systems are vital elements in protecting personnel or property in case of emergency. Halogen-free cable is a must for data centres and any business critical environment, so as to enable systems to continue during fire. Datwyler Cables manufacture the pyrosys® portfolio with function integrity E30 to E90.



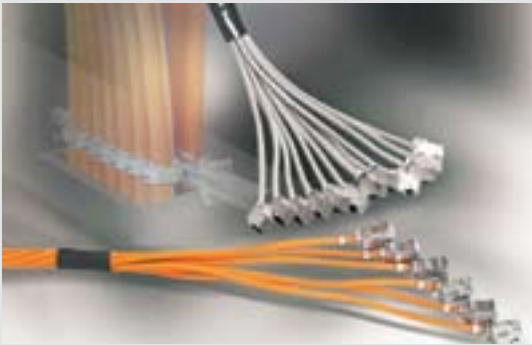
Server and rack management

It is possible to centrally monitor and remotely maintain the most important elements of any data centre environment using the appropriate infrastructure. System information can be displayed, documented and analysed, and reaction times in cases of emergencies can be greatly improved.



Real-time monitoring of complete network infrastructures

The Datwyler infrastructure management system, unilan® View, offers an intelligent tool for the centralised monitoring, logging and management of the cabling infrastructure. Additionally, all connected IP-based terminals can be monitored by the network manager. This is particularly useful for Organisations operating decentralised distributed networks, and would like to manage them centrally, e.g. via the Internet.



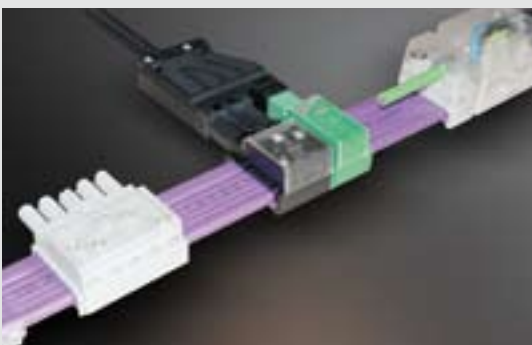
Efficient copper connections

The use of pre-terminated unilan® trunk cables made by Dätwyler Cables enables your 1 to 10 Gbit/s infrastructure to be clear more flexible and more efficient. Our pre-terminated trunk cables are cut to size as required by our customers, and equipped with the chosen corresponding connections. Our high-density distribution systems are specifically designed for space critical installations.



High-speed fibre optic connections

Using Datwyler fibre optic solutions, it is possible to achieve transfer speeds of up to 100 Gbit/s. Single and trunk cables are constructed with up to 144 cores, and our fibre optic components enable clear, efficient and space-saving connections.



Efficient building technology

Using Datwyler ecobus®, the modern building management system differs from common electrical installations. Less cable is required, rapid installations and alterations can be carried out, and less space within cable containment, risers or tray is required. The flat cables and associated pre-assembled plug-in and screwed components do not require stripping, therefore considerably reducing termination times. Using this system, alterations and enhancements of the installation can be performed without time-consuming planning efforts or downtime.



Optimised cable routing

The pyrosys® fire system combines all advantages of the above mentioned cable systems. Installation in to false floor, suspended ceilings or directly on to racks enables a reduced space requirement, and provides a clear and precise installation within the data centre environment.

Invest in solutions for the future!

The demands on data centres are constantly changing due to re-organisation, company consolidations, and the centralisation of multiple sites.

Deciding factors are, as always, budget and the availability of local power, whether for new build data centres, or alterations to existing. Uniform and coordinated cabling systems are therefore becoming more and more important. If, for example, the individual components

of the building automation are perfectly coordinated, it is much easier to enable centralised operation and monitoring. Effective systems also enable the centralized control of temperature, humidity, ventilation and air conditioning.

The design and material costs for any system can be substantially reduced if the network systems are all supplied by one manufacturer.



Secure a long-term ROI!

Investors and operators will also profit from integrated, future-proof systems, as data centres will be completed more quickly, more efficiently, with lower material cost and a greater return on investment.

High-quality system solutions will offer the necessary stability, reliability, performance and flexibility even after 10 or 15 years of operation. As such, the initial investment will offer even greater yield in the long term.

A sophisticated building management system does not only monitor security-relevant functions such as access control and fire detection. As the system enables the centralised control of the air conditioning, lighting and cooling, power usage is also kept at an optimum level.

Intelligent cabling solutions within data, building automation and power management systems enable moves, additions and changes to be made rapidly and smoothly. This ensures that your original investment is protected from the design stage to future updates.



Advantages at a glance

Increasing the return on investment

- Cost saving when purchasing the products and systems
- Reduced wastage of the cabling infrastructure

Securing the investment in the long-term

- Strong appeal for the end-user
- Protecting your investment with high-quality solutions and corresponding guarantees
- Integrating all room functions
- Energy savings
- Efficient operations
- Centralised control options
- Easily implemented network alterations

We support you with design and implementation

Being a leading supplier of data networking for building automation and safety systems, the specialists at Dätwyler Cables will help you with your project from design to delivery with expert advice and support.

We are able to provide you with information and decision-making aids for the ideal infrastructure for your data centre. Being a manufacturer of complete network solutions, we will be delighted to advise you which cables, connections, components and topographies

would be the most appropriate for your particular project, both to meet the current requirements, and those you may have in the future.

We are available to assist you with queries regarding building automation, wired and wireless networking, functional integrity and lift cabling. Our experience has been gained from hundreds of implemented projects, and we have many useful tips for a time and cost-savings.



Benefit from our capable advice!

The most efficient route to assessing your client's requirements is always to carry out the evaluation yourself. The proof that our support is always welcome is demonstrated by the increasing number of participants of our designer training every year.

Aspects such as performance, reliability, flexibility and safety are playing a more critical role in our designs. These considerations are as important as compliance with current standards and implementation regulations. At Daetwyler, our expert advice and support covers all of these criteria.

Due to our active cooperation with worldwide standards committees, we are also able to inform you regarding future standards and regulations.

During the design phase we will offer you the ideal products and systems for any task; all from a single source. Our products range from power distribution accessories to centralised control systems, high-speed data connections.

Our support during installation is supported by system warranties and by external system tests, as well as decision-making tips regarding the design for future alterations.



Advantages at a glance

Reducing the design and implementation effort by

- expert advice and support with the design of data centre infrastructure:
 - power
 - communications
 - building automation
 - safety
- system warranties
- external system tests
- adaptable solutions

Modular installations



For installation companies, the choice of the system manufacturer may be the deciding factor between cost-efficiency and the guarantee that the customer will be completely satisfied with the result.

You will soon realise the benefits of our systems. Datwyler installers are repeatedly highlighting the stability and easy of installations that our cabling solutions offer.

During the design phase, we will offer you an unlimited level of support. You can access our catalogues and detailed datasheets online at anytime, plus speak to any member of your local Datwyler team. We also offer comprehensive training opportunities should you choose to gain further experience.

When purchasing the materials, the installer will profit from many "base-to-field advantages":

We have manufacturing in central Europe, local warehousing and technical support, and further substantial stock throughout Europe. As such, for either scheduled or fast turnaround deliveries, we offer a comprehensive logistics service.

Should our assembly instructions be insufficient, or should there be any unexpected challenges on-site, we will also be glad to help you on-site at short notice.

Rely on systems that are designed for an easy and rapid installation. Using our perfectly adapted, fully tested cabling solutions, we will help you to be able to accept and to react to works with the shortest of lead times.

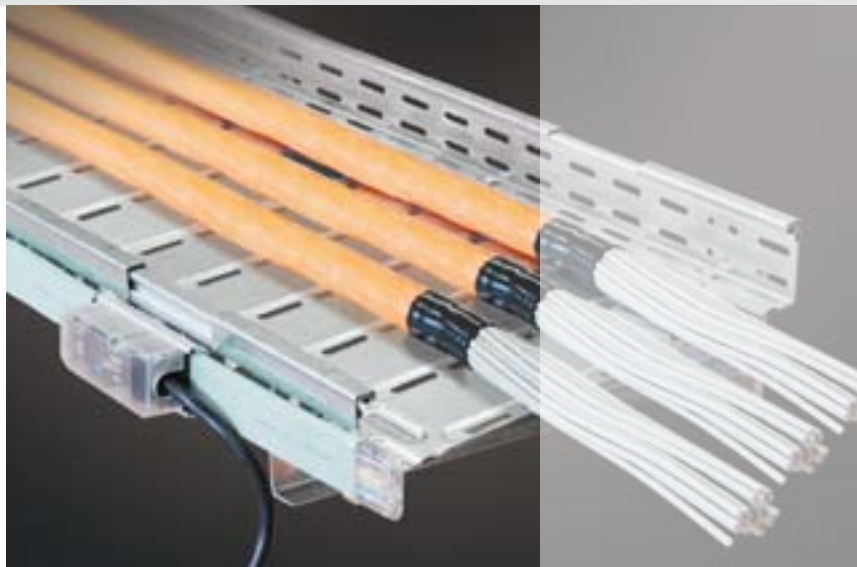
Reduce your installation time and save on cost!

For high-speed data, we offer pre-terminated fibre optic systems, which can be installed quickly and efficiently. Furthermore, we have developed a two-stage fibre optic distributor that substantially reduces installation times within data racks. All pre-terminated fibre optic cables are delivered in safe, protective tubes.

For high-performance copper cabling, we have manufactured stable systems that conform with industry standard up to class F_A' with 1000 MHz or more. Our tool-less modules substantially reduce installation, and our multi-trunk copper cables are available in various configurations, pre-assembled and cut to size if required. We also offer high-density distribution systems.

Using halogen-free flat cable, we also offer systems with IP65 class protection, that combine power and data circuits. Plug-in/screwed adapters allow outlets to be produced at any position without need to interrupt the cable. This way, even temporary installations can be rapidly deployed.

Do you need complete safety cabling systems with integrated functional integrity E30 to E90? Our systems can be installed using many methods which are far beyond the classic installation techniques, and which allow you to realise considerable material time and cost savings.



Advantages at a glance

Reducing the cost, space requirements, and installation times through

- comprehensive advice and support from design to building hand-over
- tested, standards-compliant complete systems for any task
- stable products during installation
- pre-assembled systems and pre-terminated data
- space-saving high-density solutions
- rapid, easy assembly
- efficient installation techniques
- easy, flexible alterations and system additions
- considerable material savings

High-quality is the best policy



A primary concern for operators and users of data centres is that the installed infrastructure fulfills both their current and future requirements.

The most critical aspects with any new infrastructure are long-term durability, high operational safety and low operating cost. The cabling system should be designed from the outset that enables simple changes to be made in the future.

With hundreds of installations and many years of experience, our systems are proving that whether it is in the field of data networking, building system technologies or energy supply, that they fulfill such exactly requirements. The stability and high performance for instance lead to long operating times. Easy central control and monitoring of automated systems can be delivered with low operating costs. Thanks to the sophisticated design, these systems allow easy commercial changes of usage, additions and moves to be made without any problems.

In many modern server rooms and data centres, copper and fibre optic cables are installed onto cable tray above the racks. Pre-terminated cable bundles, which

Future-proof and durable

had been labeled and cut to size, allow easy, clear and exceedingly flexible installation. Dätwyler Cables also offer patch panels and distribution point housing, as well as a large range of network and server racks.

These advantages also extend to Dätwyler power cabling (standard network and UPS). Flat safety cabling installed on to cable tray enables a comprehensive and efficient power supply to the IT racks. The installation of safety systems is performed with halogen-free pyrofil® safety cables.

Using the right infrastructure, the options are infinite. Would you like to optimise your energy consumption and to respect the environment? Do you require clear and accurate costs for your data centre build, in order that the correct on-wards costs can be charged?

Do you want to have only one expert to contact for all of your support queries regarding electrical infrastructure in the data centre? Following the original installation, would you require on-going support for future alterations?

Just advise us of your requirements!



Advantages at a glance

- High performance
- Long service life
- High operational safety
- Low space requirement
- Transparent energy consumption
- Optimising the energy costs
- Low operating costs
- Flexible, efficient changes of use and alterations

References



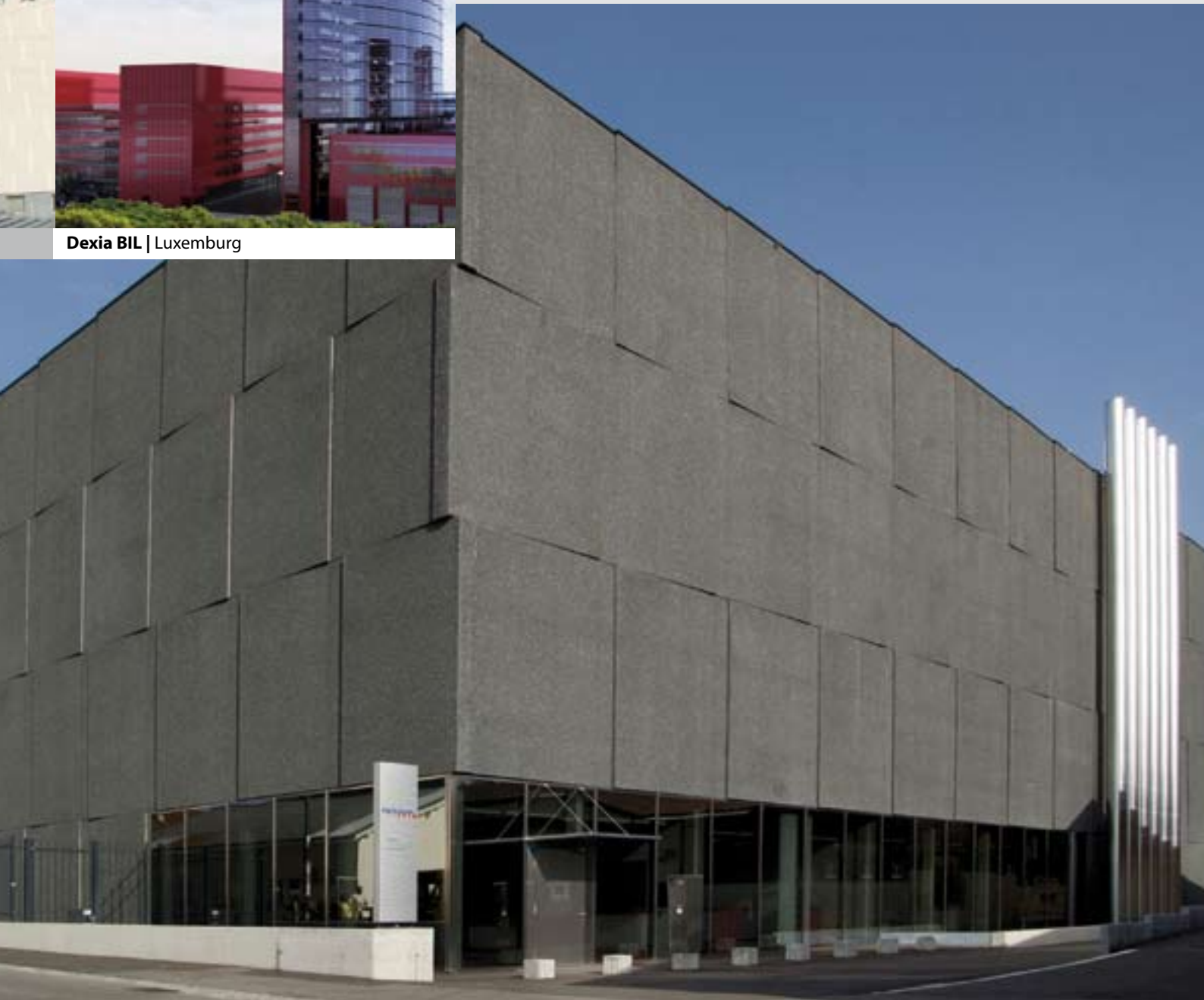
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