METZ CONNECT
We realize ideas

Building automation and cabling infrastructure

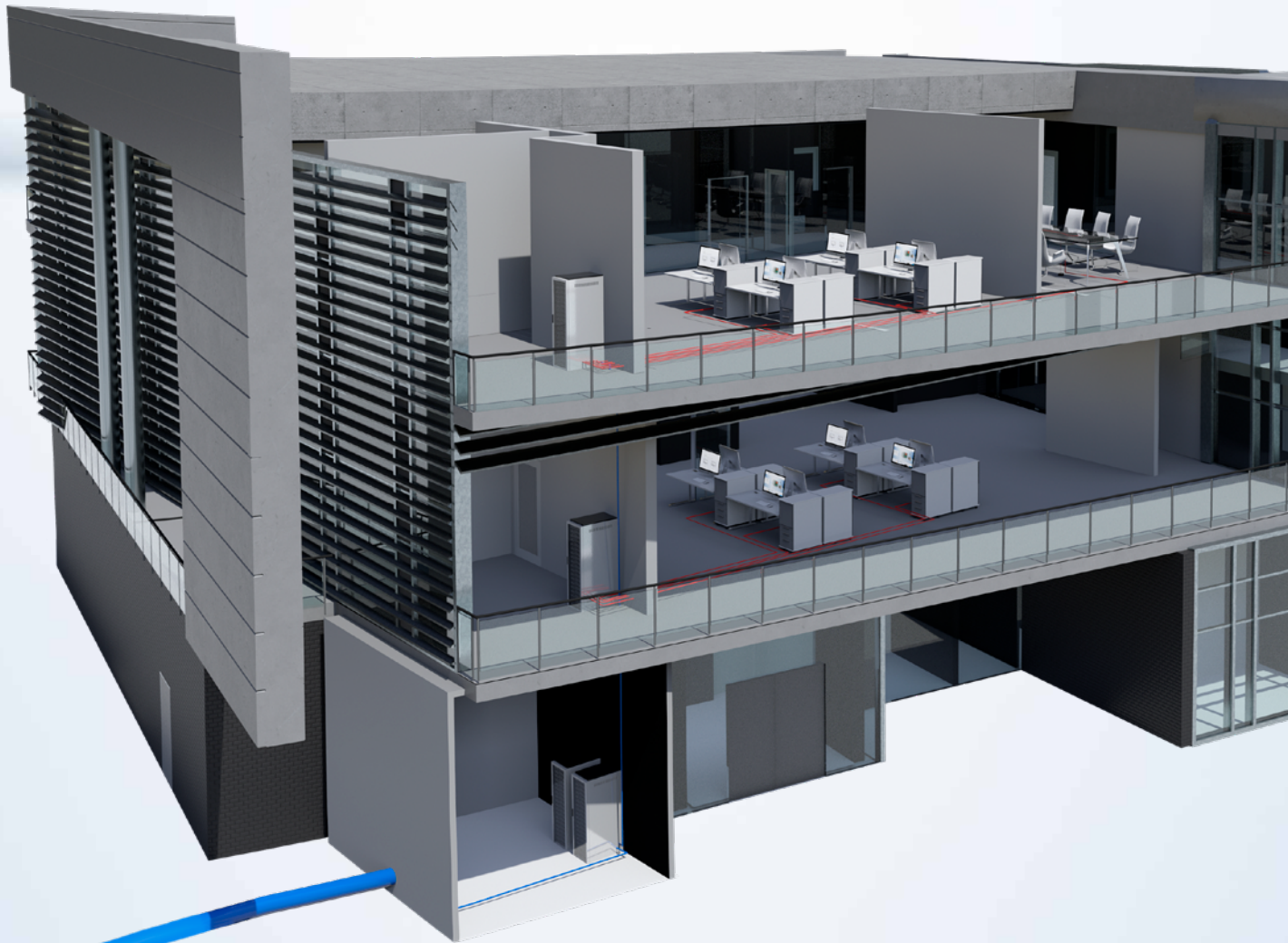METZ CONNECT Highlights at a glance

Table of Contents

METZ CONNECT
YOUR Partner for Company-wide Networking

Around the world, METZ CONNECT products guarantee safe and reliable connections for smooth information flow – from the circuit board to the infrastructure environment. Highly specialized, internationally standardized and high-performance network solutions in WLAN, copper and fiber optic technology impress with simple installation, maximum quality and highest systems capability across all relevant performance classes.

STRUCTURED
BUILDING CABLING

CEILING CABLING

IP-PROTECTED
CONNECTORS
INDUSTRY

MOUNTING RAIL
HOUSINGS

P | Cabling

Cabling Solutions for Networks

Copper and fiber optic components as well as WLAN solutions for structured network cabling.

U | Contact

Connection Technology

Circuit board connection technology for connecting devices and controllers in building and industrial automation.

C | Logline

Intelligent System Components

Intelligent system and switch cabinet components for building and process automation.

DEVICE CONNECTION

FIBER OPTIC CABLE ASSEMBLY
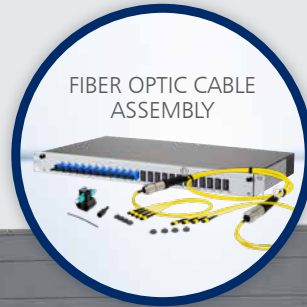
DISTRIBUTION TECHNOLOGY

CABLES AND WIRES

M12 CIRCULAR CONNECTORS

CONSULTING AND CONCEPTION

PRODUCT DEVELOPMENT

Our Competencies

METZ CONNECT is a successful, internationally growing family-owned company that employs more than 900 people worldwide. The METZ CONNECT Group has been synonymous with high quality in the field of contact technology and connecting elements in the electrical engineering and electronics sectors for over four decades.

SPECIAL MACHINE CONSTRUCTION

PLASTIC INJECTION MOLDING

LABORATORY

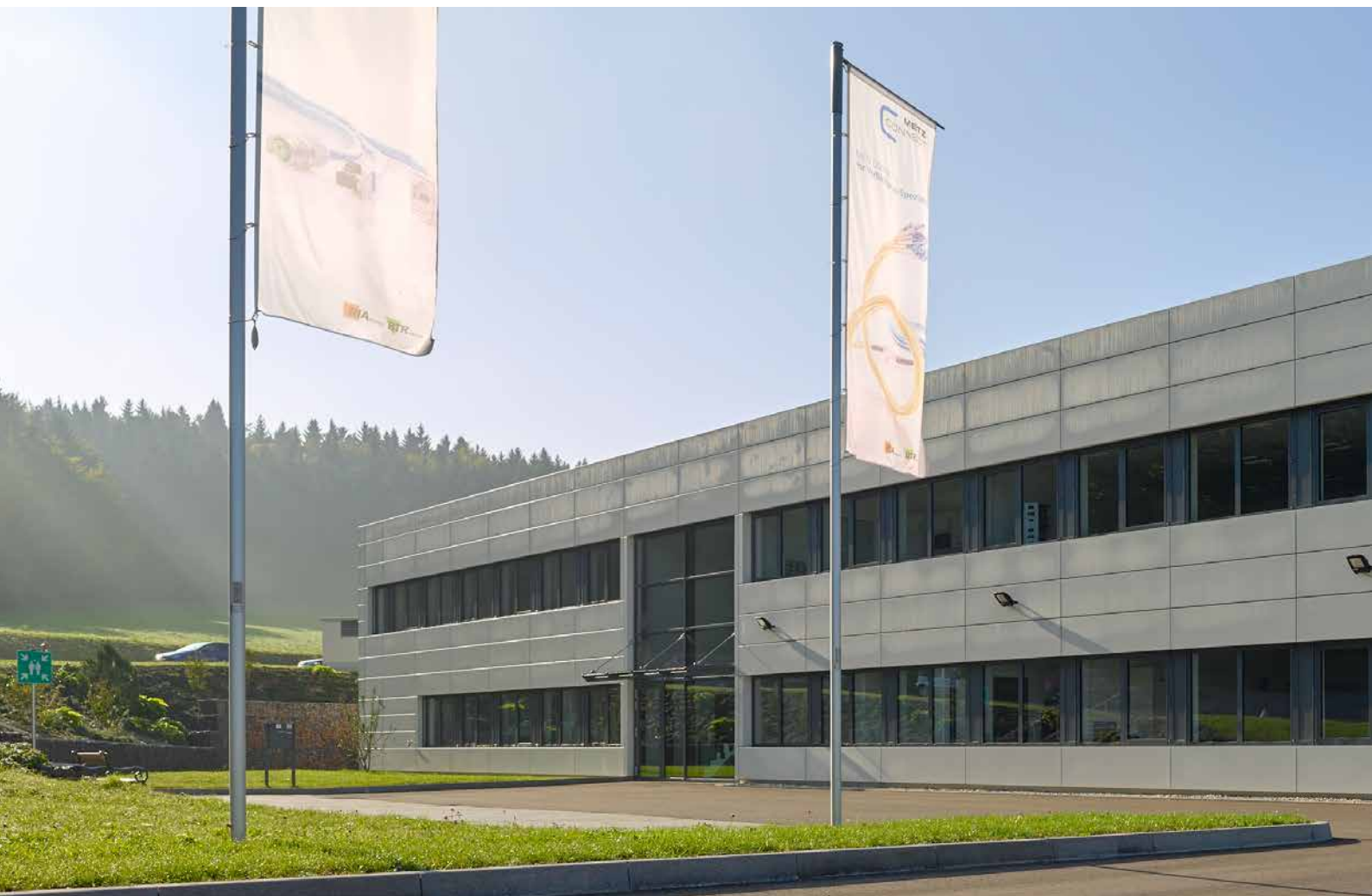## SOFTWARE + ELECTRONIC

TOOL AND MOLD MAKING

PUNCHING SHOP TOOL

AUTOMATED ASSEMBLY

FIBER OPTIC MANUFACTORY

The company

> Family business
> approx. 922 employees
> 34,570 m² office and production space
> 6 sales offices
> Global group turnover 2021: approx. 120 million euros

Home Networking

The advancement of new communication and information technologies leads to the fact that more and more media and communication devices can be found in living areas. Ever higher data rates are required for everything from smart home applications, IP TV with HDTV, streaming, downloads of large data volumes from the Internet, uploads to the cloud, and even home offices. To ensure continuous and smooth data transfer, application-neutral data network technology is a pre-requisite.

WLAN
SOLUTIONS

DATA NETWORK
TECHNOLOGY

FIBER IN
THE HOME

SMART
METERING

CABLES AND
WIRES

Home Networking
Fiber In The Home

The advancement of new communication and information technologies leads to the fact that more and more media and communication devices can be found in the home. Ever higher data rates are required for smart home applications, IP TV with HDTV, streaming, downloads of large data volumes from the Internet, uploads to the cloud, and even home offices. For a continuous and smooth data transfer, residential buildings are increasingly equipped with a fiber optic connection (Fiber to the Home, abbrev: FTTH).

FTTH means that data transmission from the exchange to the customer's connection is entirely via optical fiber. A fiber-optic home connection is installed in the building, with the cabling inside a house or apartment running via copper cabling from the provider's network connection device. This means that users can enjoy speeds of 10 Gbit/s and more.
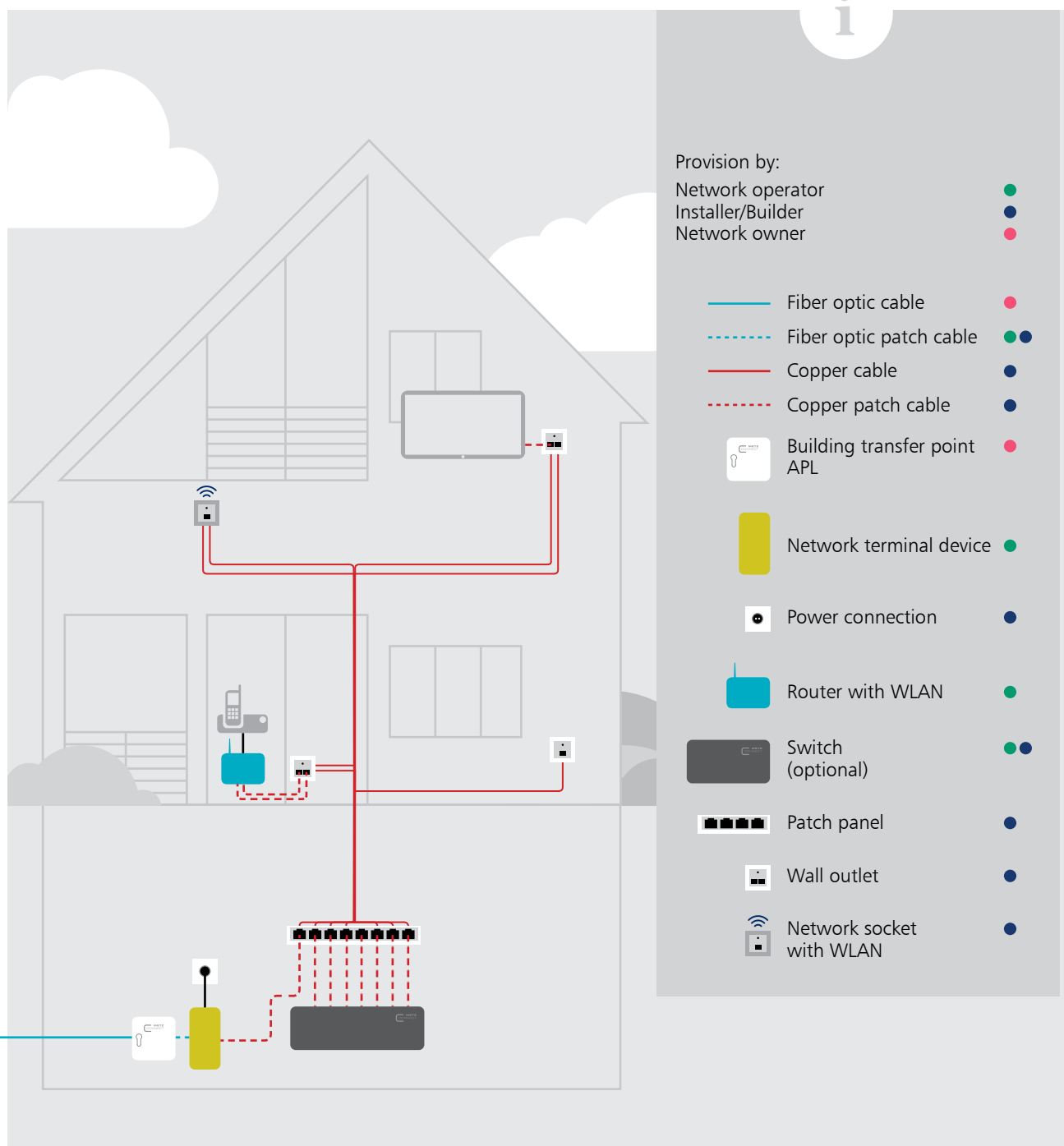
From FTTH to FITH

The network owner (e.g. municipality or municipal association) lays a fiber-optic line to the home (network level 3) as part of the network expansion. To this end, the end customer concludes a house connection contract with the network operator. The line ends in the basement, for instance, at the APL house transfer point. From network level 4 (house distribution | network level 5 apartment distribution), the provision of suitable cabling is the responsibility of the owner of the building, and the installation is carried out by an installer.

This means for a single-family house: The network termination device provided by the network operator, which is installed near the APL, requires a power connection. For an apartment building, a fiber optic distributor must be placed in the basement and fiber optic cables laid to the individual apartments. These end at the respective apartment transfer point.

Once the house connection has been installed and the cabling laid, the owner can arrange for the network operator to install the network termination device. A signal supply contract must have been concluded before this can be done. The network termination device supplies the router and the terminal devices with fast Internet.

In order to implement the best possible solutions here, it is beneficial if one can rely on manufacturers who provide end-to-end support for the installation of advanced network solutions with products and services – from the house transfer point through fiber optic and copper cabling to WLAN solutions. After all, Fiber in the Home cabling systems are high-quality and durable data highway connections for single-family and multi-family homes and should be technically prepared for future applications. Also, the systems should interconnect various home network and communication technologies such as telephone systems, consumer electronics, household appliances, surveillance cameras, door intercoms, lighting and access control systems, and smart home applications. Ideally, the applications will enable further monitoring, control, regulation and optimization capabilities from home or on the go.

Detached House

Provision by:
Network operator	●
Installer/Builder	●
Network owner	●

|		
——	Fiber optic cable	●
----	Fiber optic patch cable	● ●
——	Copper cable	●
----	Copper patch cable	●
	Building transfer point APL	●
	Network terminal device	●
	Power connection	●
	Router with WLAN	●
	Switch (optional)	● ●
	Patch panel	●
	Wall outlet	●
	Network socket with WLAN	●

Home Networking
Fiber Optic Components
Once installed – enjoy unlimited freedom!

Fiber Optic Installation Cable

Application area, number of fibers or fiber class. With our high selection of fiber optic installation cables, we always have the right cable for your future-ready network.

The best cables for your FITH cabling:

> **FITH cable** – The cable with up to 4 fibers and 2.3 mm is easy to install and highly suitable for splice connections.

> **Mini-Breakout Compact** – The robust 4.5 mm cable offers high mechanical stability and is ideally suited for the installation of field plugs.

> **Universal cable** – For outdoor installation such as building connection. Without plug, number of fibers between 4 and 48.

> **Pre-assembled installation cables (VIK)** – All installation cables can be assembled with plugs. This allows fast and convenient installation in high quality.
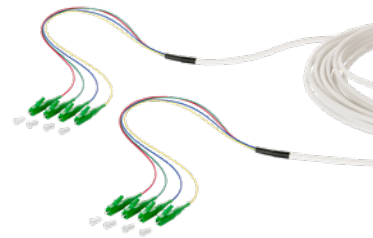
FO Patch Cords

For fiber optic cabling, we offer patch cords in different lengths in fiber types OS2 (singlemode) and OM3 to OM5 (multimode) and with all common connector types. For your fiber in the home cabling:

> **Fiber optic patch cord** – For connecting the house transfer point or network termination device. Length available from 0.2 to 10 m.
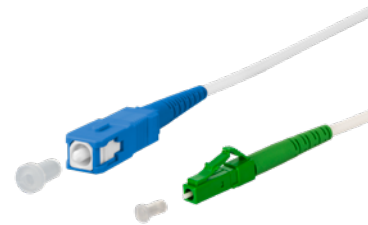
Fiber Optic Wall Distributor / Housing

High-quality distributor housings for wall mounting. Individually applicable for your application. The housings ensure easy handling and thus less time for the installation. We offer these in different sizes with different couplings and performance classes. For your fiber in the home cabling:

> **House transfer point APL** – The house transfer point is the termination of the street network and the starting point of in-home cabling.

> **Apartment transfer point with cable drum** – The apartment transfer point connects the apartment with the central distribution box of the house. The preconfigured cable makes installation quick and easy.

> **Apartment transfer point without cable drum (ADT)** – This apartment transfer point is suitable for the subsequent installation of pre-assembled cables or for splicing installation cables with up to 8 fibers.

> **Wall distributor** – A central distribution box for structured routing of the fiber optic cables to the apartments.

Home Networking
Copper Components
For a smooth data flow in the building

Wall Outlets

We provide junction box solutions for structured cabling that ensure maximum flexibility. Whether modular or compact wall outlets, underfloor units or DIN rail outlets, we have a range of options in different performance classes for copper (RJ45) and FO wall outlets with different numbers of ports. In addition to solutions with module installation form, we also carry keystone installation form.

> **Flush-mounted network socket** with one or two RJ45 jacks
> **Surface-mounted wall outlet** with one or two RJ45 jacks

Consolidation Point (CP) | Service Concentration Point (SCP) | Service Outlet (SO)

Whether as a classic collection point distributor/consolidation points in the tertiary cabling or as a service concentration point for distributed building services for decentralized floor distributors, the wall-mounted, ceiling-mounted or floor-mounted housings for mounting modular connections (copper and fiber optic) are versatile for decentralized distribution of network cabling. Service outlets can be regarded as terminal outlets or subscriber connections and serve, for example, as unconventional wall outlets for devices in the field of distributed building services.

> **Module AP housing** 6/12/16, unassembled – for single modules in modular design

Access Points

An access point interconnects users with other users in the network and can also act as a connection point between the wireless network and the wired network (LAN). The perfect solution for you is created in conjunction with the user-friendly configuration app for W-DAT Line WLAN access points. METZ CONNECT offers plug+play and thus easy-to-use access points.

> **W-DAT Line PoE AP-300 UP0 plug –** With RJ45 jack on the rear for connection to a standard PoE switch according to PoE 802.3 af/at
> **W-DAT Line PoE AP-300 UP0 LSA –** With LSA terminal on the back for connection to a standard PoE switch according to PoE 802.3 af/a

Installation Cable

We provide the twisted pair installation cables in different wire cross sections, shieldings, lengths and performance classes like Cat.6_A, Cat.7 and Cat.7_A for a future-proof network. Further cable variants on request.

> **Ethernet installation cable** – MC GC1300 pro22 Cat.7_A S/FTP 4P LSHF-FR 500 m.
> fire performance: Class D_{ca} s2 d2 a1 suitable for 10 Gigabit Ethernet

Patch Cords

Patch cords from METZ CONNECT are the solution for your application in structured building cabling. Our high-quality patch cords are used where high-speed data transmission in local area networks (LAN) is required.

> **Patch cord Cat.6_A AWG 26** – Suitable for 10 Gigabit-Ethernet, available in further colors and lengths from 0.5 to 20 m
> **Patch cord Cat.6 Ultraflex500 VoIP AWG 26** – Especially suitable for unshielded and shielded Class E_A systems, available in white, gray and black; lengths from 0.3 to 20 m available

Patch Panels

For the distribution of structured cabling, we offer patch panels, module or subracks with suitable accessories for copper and fiber optic connections in modular or compact design in different performance classes, height units and with different port numbers.

> **Multimedia distributor** – 12; 16; 24 Port - module holder empty for mounting data, COAX and fiber optic modules, mounting types: Module

RJ45 Plugs and Sockets

The innovative, robust, high-quality and high-performance RJ45 connectors from METZ CONNECT are part of the basis of a reliable network infrastructure. The connection technology of the field-assembled RJ45 plugs and jacks makes installations quick, effortless and easy without special tools.

> **Field-assembled RJ45 plug, C6_A RJ45 field plug pro** – For direct connection, e.g. access-point camera suitable for 10 Gigabit Ethernet
> **C6_Amodule 180° Jack** – Modular Cat.6_A Connection unit RJ45 suitable for 10 Gigabit-Ethernet. For installation in module AP housing and network socket

Office Solutions

Highly specialized, internationally standardized, and high-performance network solutions in WLAN, copper, and fiber optic technology impress with simple installation, maximum quality, and highest systems capability across all relevant performance classes.

CABLES AND WIRES

PATCH PANELS

CONSOLIDATION
POINT (CP)

PLUGS AND
SOCKETS

FIBER OPTIC WALL
DISTRIBUTOR/
HOUSING

CONNECTION
SOCKETS

Office Solutions
Cabling Solutions for Networks

Structured cabling or universal building cabling is a uniform structure plan for a future-oriented and application-independent network infrastructure on which different services (voice or data) are transmitted. The aim is to avoid expensive incorrect installations and extensions, and to facilitate the installation of new network components. With products from METZ CONNECT, you are optimally networked: From floor distribution (patch panels, patch cables), to installation lines in copper and fiber optics, to subscriber connection (wall outlets) and much more.

Cables and Wires in Copper and Fiber Optics

The decision of whether to use fiber optic or copper data cables as the ideal solution up to the workstation depends on many factors: the application environment, the network base, and the planning horizon. Our high-quality cables are always used where high-speed data transmission in local area networks (LAN) is required. The cables are used for structured and application-neutral networks with transmission speeds from 100BaseT to 25 GBit Ethernet. Apart from voice and data communication, our solutions are also suitable for remote power supply of various end devices via Power over Ethernet (4PPoE up to 100 W) as well as high-end 4K video, e.g. HDBaseT. Our product range consists of, among other things, installation and connection cables that have been tested for compatibility with common connection components.
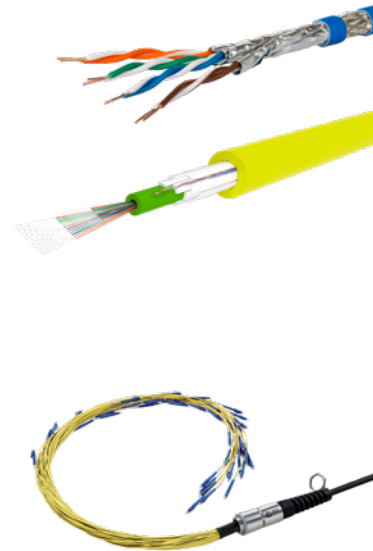
Pre-assembled Fiber Optic Installation Cables

Pre-assembled installation cables (VIK) are fiber optic cables equipped with plugs on one or both sides, which are manufactured under the highest quality standards in manual individual production.

Fiber Optic Cabling | Plugs and Couplings for Network Cabling

For fiber optic transmission, we offer plugs and couplings in different performance classes like OS2 for singlemode and OM3 to OM5 for multimode connections in protection classes IP20 and IP67.

> OpDAT FAST™ hybrid plug
  for Singlemode
> OpDAT FAST™ plug
  for Multimode

> OpDAT Adapters
> OpDAT REGpro
> OpDAT Wall Distributor
> OpDAT Consolidation Point

Copper Cabling | Plugs and Sockets

The portfolio with RJ, SPE, USB, M12, coax and FO connectors for cabling systems offers a wide range of plugs and sockets in different performance and protection classes for copper and FO connections.

> 10/100 MBit, 10 GBit and 25 GBit Ethernet systems

> simple mounting without special tools

> robust zinc diecast casing

> Suitable for PROFINET, EtherNet/IP, EtherCAT, etc., Remote Powering (PoE, PoE plus and 4PPoE) and HDBaseT, AV over IP, SAT-IP, etc.

Patch Panels and Patch Cords

For structured cabling distribution, we offer patch panels, modules, or subracks with suitable accessories for copper and fiber optic connections in modular or compact designs in different performance classes, height units, and different port numbers.

Patch panels:

> for copper and fiber optic connections

> modular or compact design

> Cat.5, 5e, 6, 6_A

> DCCS Data Center Compact Solutions for up to 48 ports in one height unit

Patch cords:

> Ethernet Cat.6_A – up to 40 GBit Ethernet

> seven colors, 0.5 m to 30 m long

Subscriber Connections –
Terminal Casing for Copper and Fiber Glass Plug Connections

> Wall outlets

> Top-hat rail adapters

> Under-floor systems

> Surface-mounted distributors

> Consolidation points

Office Solutions
Distributed Building Services

Digital Ceiling in the field of network technology can be understood in a sense as the digital ceiling. This means the integration of, for example, intelligent PoE LED lighting, sensors, customized WAPs for each workstation and other Ethernet & Power-over-Ethernet applications in the suspended ceiling.

Basic Components for Distributed Building Services

> Network infrastructure/cabling
> Switches with PoE for data exchange and power supply as central interface
> Network-capable sensors and actuators with IP interface
> Software for data acquisition, analysis evaluation and control

Actuators/Devices for Various Applications

> Intelligent lighting
> Air conditioning systems, ventilation, or heating
> Security systems
> Access control

Benefits

> Combination of many building control and building automation systems into one
> Merging of different proprietary cabling solutions for the respective applications/ systems into one
> New intelligent applications with lower voltage power supply
> Increase in energy efficiency

> Cost savings
> Low installation and operating costs
> Simple, fast, variable, and easily accessible installation, new or retrofit
> Easy ceiling mounting in the low voltage range
> Setup and configuration via software or mobile app, cabling for data transmission and power supply
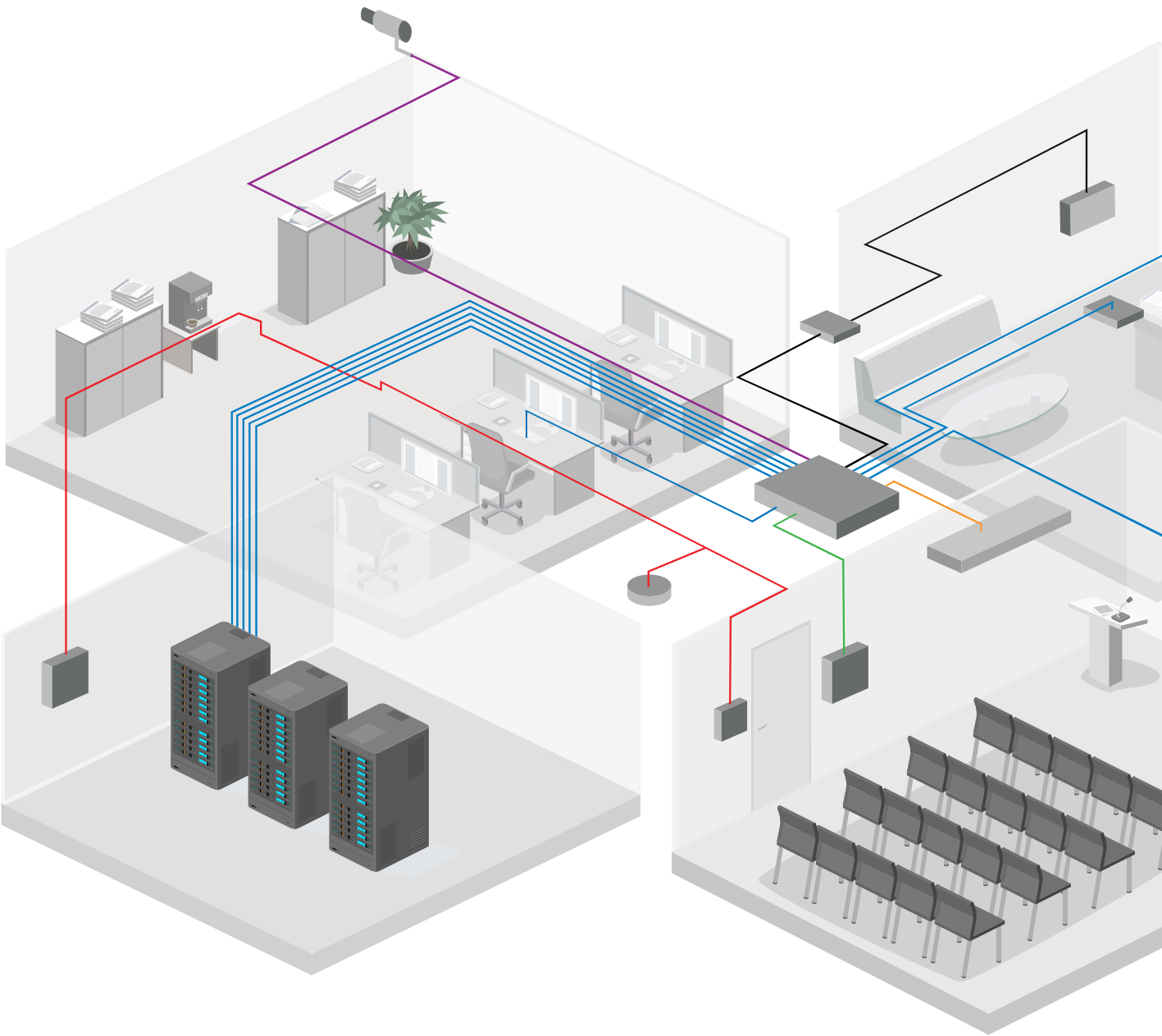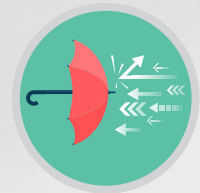
MCO IP69k protective housing

Digital networking | The demand for outdoor cabling solutions is growing unabated. This is due to modern network and IP interface technologies, which are essential for digitization. These will enable the networking and deployment of surveillance cameras, sensors and digital traffic signs, as well as wireless access points.

METZ CONNECT Outdoor | Our MCO IP69k protective enclosures provide reliable protection for your permanent outdoor connections. They are not only completely dustproof and waterproof, but also resistant to ozone, UV radiation and salt water. Furthermore, they withstand high temperatures, strong vibrations and high-pressure jet cleaning, thus providing reliable protection against external interference. The flexible and easy-to-install solutions have been specially designed to accommodate and protect field-assembled cables, pre-assembled patch cables and fiber optic (FO) connections.

Flexible & reliable | Our universally applicable protective housings for outdoor applications are available in three different versions, and cover all conceivable applications in practice. The three variants of the protective housings have been specially designed for free installation, as well as for wall, DIN rail, quick and pole mounting. In addition, we also offer a solution for wall or housing feed-through. Thanks to the adapter plates included in the delivery contents, countless combinations are possible with various modules, plug-in connectors, and cable connectors, regardless of whether it is a matter of accommodating and protecting field-assembled cables or pre-assembled patch cables and fiber optic (FO) connections.

Solutions from METZ CONNECT

Set for
free laying

Set with
mounting bracket

Set
wall & housing bushing

The benefits

> universal and flexible use for MC module, keystone and fiber optic components

> completely dust- and waterproof

> resistant to ozone, UV radiation and salt water

> resistant to high pressure jet cleaning, high temperatures and strong vibrations

> tested according to IP69k, IP67 and IP66

> suitable for cable sheath diameters from 4.5 to 15 mm

Application examples
Mast mounting

Data Network Technology for Schools
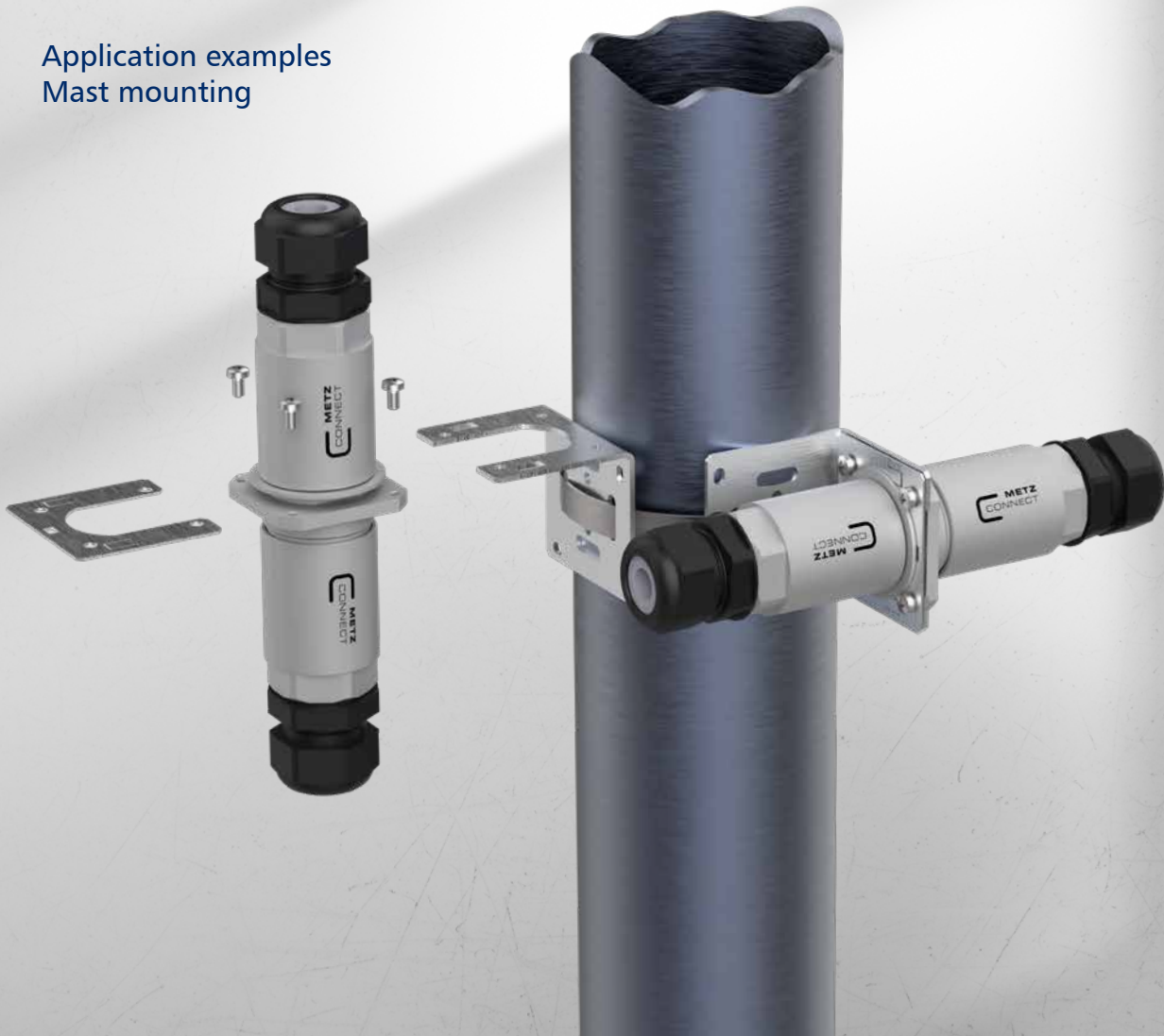
CONNECTION
TECHNOLOGY

FIBER OPTIC CABLE
ASSEMBLY

CEILING
CABLING

DEVICE
CONNECTION

DISTRIBUTION
TECHNOLOGY

School buildings are increasingly being equipped with fiber optic connections to ensure continuous and smooth data transfer. In order for the available bandwidth to reach the classrooms, the administrative rooms, and the entire infrastructure of the building, continuous structured network cabling is required.

Data Network Technology for Schools
Networking for the Future – Digital School

With the DigitalPakt Schule (Digital Pact for Schools), the federal and state governments want to ensure that schools are better equipped with digital technology. The federal and state governments have signed the administrative agreement for the DigitalPakt to help achieve this goal. Prior to this, the Bundestag (German parliament) and Bundesrat (German upper house) amended Article 104c of the German Basic Law, thus creating the constitutional basis for the DigitalPakt Schule. The pact consists of at least 5.5 billion available euros. In purely arithmetical terms, this means an average of 137,000 euros for each of the approximately 40,000 schools in Germany.
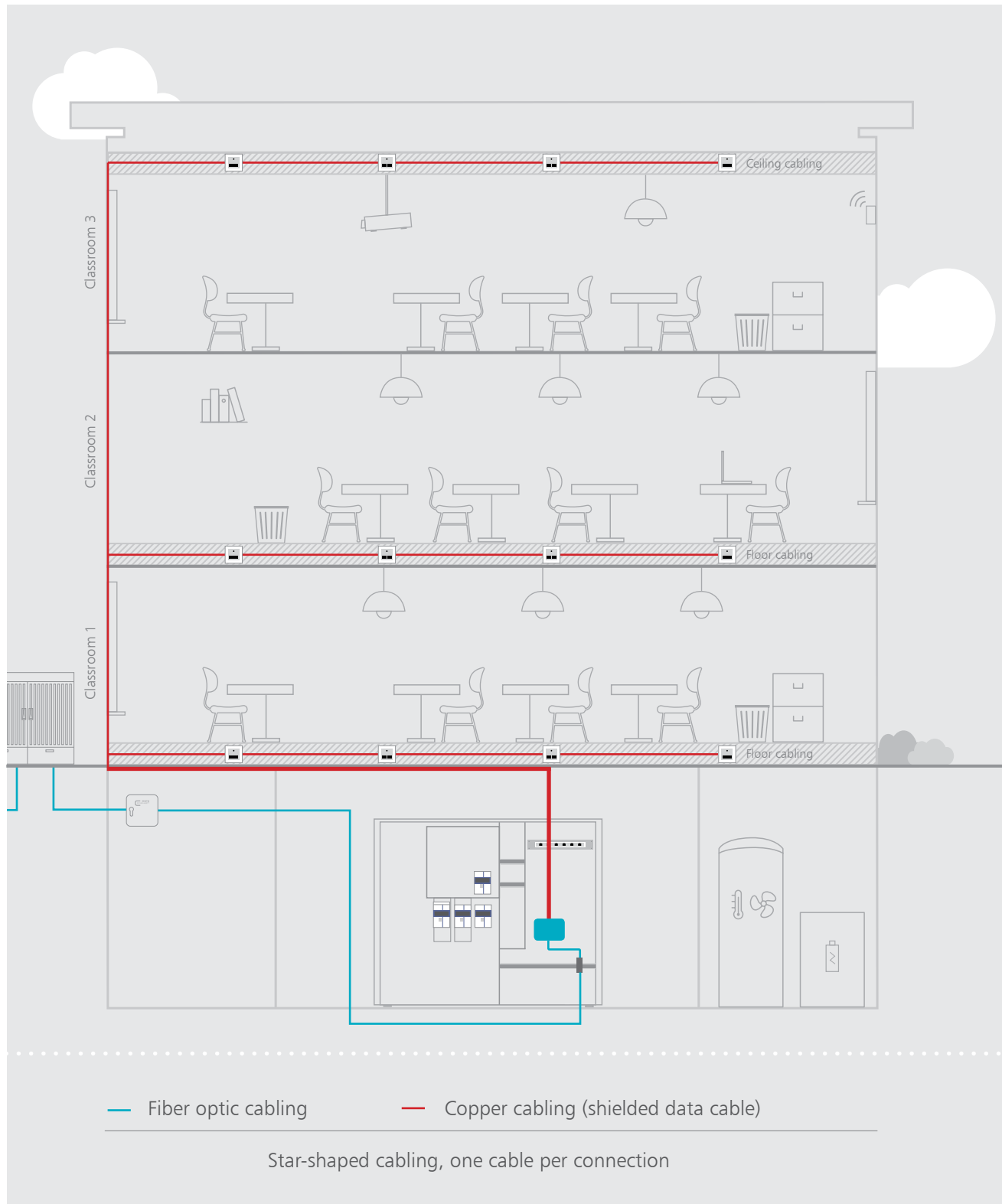
Connection to the Broadband Network

For a continuous and smooth data transfer, school buildings are also increasingly equipped with a fiber optic connection (Fiber to the Home, abbreviated as FTTH). In order for the available bandwidth to reach the classrooms, the administrative rooms, and the entire infrastructure of the building, continuous structured network cabling is required. This then provides bandwidth assurance directly at the local loop, e.g. in classrooms. METZ CONNECT provides a comprehensive forward-looking, future-oriented network solution for your school that optimally meets these requirements.

They offer the ability to integrate internal and external processes so that they can be efficiently controlled and monitored. METZ CONNECT supplies end-to-end, intelligent copper and fiber optic network components for future-proof networking, maximum protection, optimal process control, and efficient energy controlling.

# Multimedia in Schools

Classroom 3

Classroom 2

Classroom 1

Ceiling cabling

Floor cabling

Floor cabling

— Fiber optic cabling   — Copper cabling (shielded data cable)

Star-shaped cabling, one cable per connection

Exemplary representation

Solutions for Data Centers

Within the product range P|Cabling METZ CONNECT offers with the product series DCCS a compact, pre-assembled product solution in the Cat.6$_A$ performance class, especially for the requirements in data centers. With the 25G system, fiber optic technology with OM5 or OS2 fibers and multi-fiber technology (MPO), you can build the future into your network infrastructure today.

DISTRIBUTION TECHNOLOGY (19 INCH)
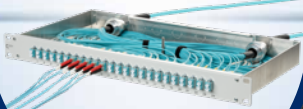
OpDAT TRUNK CABLE WITH BREAKOUT CABLE FOR DCCS SYSTEM

DCCS SUBASSEMBLY

OpDAT MPO/MTP® PATCH CORD

MTP® is a registered trademark of US Conec Ltd., USA

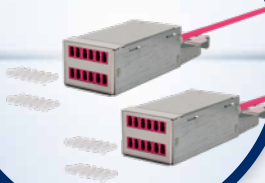OpDAT TRUNK CABLE WITH UNIVERSAL CABLE

RJ45
PATCH CORD

DCCS
SUBASSEMBLY C6$_A$

25G MODULE
COPPER

OpDAT
PATCH CORD

DCCS LINK

Solutions for Data Centers

MPO/MTP® Plug Connections

MPO/MTP® connectors are mainly used in data centers at transmission rates of e.g. 40 or 400 GBit/s. They are used to connect distribution technology, e.g. 19" panels, and active components such as servers or switches. METZ CONNECT exclusively uses plugs and couplings from USCONEC, whose modified MPO® variants are known under the trade name MTP®. From the MTP® product range, only plugs with Elite® ferrules are used. These have excellent values with regard to insertion loss and return loss.

MTP®/MPO Cable Assemblies

MTP®/MPO cable assemblies for fast and reliable fiber optic links offer an effective way for high and future-proof transmission rates and ensure a powerful and fast network. METZ CONNECT has significantly expanded its portfolio with MPO/MTP® connectors. In addition to patch cords and core fanouts, trunk cables and cable fanouts with up to 96 fibers are now also manufactured. Various cable types such as universal or breakout cables are available, and different assembly variants, e.g. with pull-in aids or fixing sets.

Benefits

> Manufacturing in fiber optic factory in Blumberg, Germany
> High and very stable quality level
> Customized solutions, short-term deliveries
> Each product is 100 % measured and documented over two wavelengths

> All materials used have been tested for quality in an elaborate internal approval process
> All cable types contain fibers that are insensitive to bending
> Traceability thanks to serial number and barcodes

MTP® is a registered trademark of US Conec Ltd., USA

DCCS Compact Solutions Pre-assembled

The DCCS (Data Center Compact Solution) product range was developed specifically for data centers and their needs and extensively adapted to customer requirements in this area. The DCCS system is based on a 19 inch subrack with one height unit, in which pre-terminated copper and fiber optic links (subassemblies connected with cables) can be simply installed modularly. Various other subassemblies are available. Up to 48 copper or 48 fiber optic duplex/fiber optic MPO/MTP® connections and combinations of both transmission technologies can be accommodated on just one height unit.

25G Module Copper

The modules feature an extremely high system capability: They enable versatile use in a wide range of applications. The 25G system is universal and fully compatible – a prerequisite for transparent, efficient, and individual use of future-oriented network and cabling systems. Build the network infrastructure for tomorrow today. The minimal additional monetary expenditure offers you 2.5 times the transmission speed of a 10GBit system.

Single Pair Ethernet – SPE

For some time now, companies like METZ CONNECT have been working with transmission and cabling technologies such as the IoT and IIoT networks of today and tomorrow. As fiber glass, 5G and WLAN transmission media become increasingly widespread, the justified question arises about what is going to happen with twisted-pair network cabling. The good news here is that new applications are being created with Ethernet interfaces as a result of the further devel-opment of Ethernet transmission technology and PoE power supply of up to 90 W at present. In addition, an increased need for standardized, lean transmission technology is de-veloping, both in respect of the transmission protocol as in respect of hardware, connectors and cabling – ideally right to the field level directly to the sensors and actuators. Sin-gle Pair Ethernet (SPE), a suitable solution for this, is in the starting blocks.

ERP

MES

SCADA

SPS

FIELD LEVEL

STANDARD ETHERNET

SINGLE PAIR ETHERNET
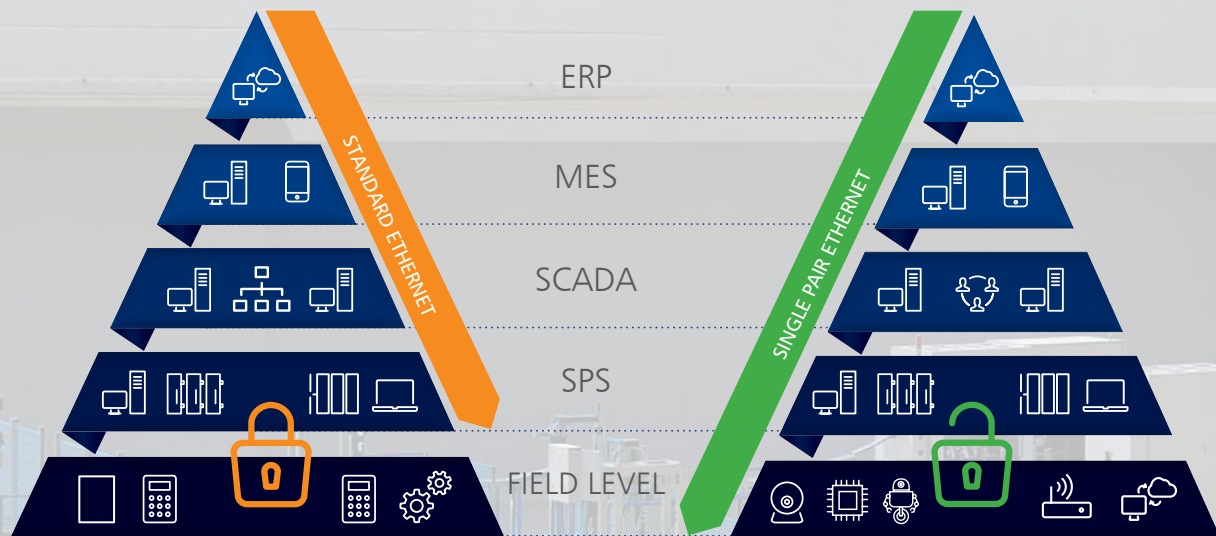
Benefits of SPE

> Universal Ethernet communication to the field level
> Sensors and actuators become part of the IT infrastructure
> Simpler implementation and operation
> Reduced weight and space, up to 50 %
> 10-times longer range, up to 1,000 m

> With TSN, a perfect infrastructure for IoT and IIoT
> Data and power via one medium
> Data transfer currently up to 1 GBit/s
> PoDL – Power over Data Line with up to 50 W*

*Switching states are to be changed for load-free systems
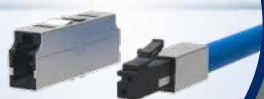
SPE | INDUSTRIAL PARTNER NETWORK

PREMIUM
MEMBER

Solutions from METZ CONNECT

SPE
terminal blocks

SPE connectors
according to IEC 63171-1
for building automation

SPE connectors
according to IEC 63171-6
for industry and process automation

Building Automation

So that infrastructure systems can be operated in large and small buildings as well, it is essential that the most important technical operating functions, such as system monitoring, air-conditioning, ventilation and lighting, run automatically. However, this also increases the demands on the functions of the building installation. With conventional technology, this can usually only be implemented with great effort. Therefore, building automation relies more and more on networked serial and IP based bus systems (BACnet, Modbus, LON, ...), which perform the information transfer between sensors and actuators, switches, and higher-level control systems.

Bus systems offer various benefits for this:
> Simpler planning and installation of building functions
> High flexibility in the use of the building, as the functions can be freely configured and set up and readjusted at any time and as required.

METZ CONNECT already has ready-made software applications for these functions, which saves the system integrator time and money.

ACCESS CONTROL

VENTILATION

LEAK AND LEVEL MONITORING

FIRE
PROTECTION

LIGHTING

HEATING

EMERGENCY
LIGHTING

SHADE

ENERGY
CONTROLLING

Building Automation
I/O Components
Automation in Buildings, Systems, and Machinery

Fire Protection/Fire Detection Technology

The fire protection and fire alarm or smoke extraction technology is one of the most important sets of controls in building automation. One component of sets of controls is, for example, fire dampers. Digital inputs, for example, are needed for the acquisition of the dampers. At the same time, however, the dampers should be controlled by the actuators via digital outputs. METZ CONNECT offers the combined digital mixing module XX-DIO4/2-IP for this, which has both functionalities.

XX-DIO4/2-IP

Air-Conditioning

In order to carry out switching jobs in this type of automated system, e.g. to switch an air-conditioning system, METZ CONNECT offers the digital relay output module XX-(F)-DO4 with 4 changeover contacts. Using the 4 switches on the front of the device, manual intervention is possible for the corresponding switch task.

XX-F-DO4

Lighting

As there is a high switch-on load in most lighting switch circuits, a digital mixer module XX-(F)-DIO4/2 has been developed so that these lighting switch circuits are controlled directly with powerful relays. At the same time, the XX-(F)-DIO4/2 has digital inputs for direct connection of light switches for manual activation. This guarantees system availability if the controller is not available.

XX-F-DIO4/2

Sun Protection

Shutters and blinds can be controlled automatically as required. Because of the corresponding safety equipment for controlling the motors for the blinds, the XX-(F)-TP three-point module is the right device for controlling these drives.

XX-F-TP

XX = BACnet, Modbus or LON
F = with spring clamp technology

Energy Controlling

Recording consumption by electricity, gas, heat, and water, for example, forms the basis of energy transparency. A so-called meter impulse module XX-(F)-SI4 has been specially developed for recording this consumption data. The module has 4 channels with a standard S0 pulse interface to which it is possible to connect 4 meters for various media.

XX-F-SI4

Break-in and Access Control

The following functions are important in the context of break-in/access control: Display of open windows and doors, warning in the event of malfunction, break-in or emergency call. Digital inputs are needed in sets of automated controls so information about the status of windows or doors, for example, can be received. METZ CONNECT offers the 10 digital input module XX-(F)-DI10 for this so the status of doors and windows can be recorded by potential-free window and door contacts.

XX-F-DI10

Heating/Ventilation/Air-conditioning

Various I/Os are required for efficient temperature controls and ideal heat distribution. In order to record temperatures, among other things, analog inputs are needed for connecting the temperature sensors available on the market. METZ CONNECT has developed the universally programmable analog input module XX-(F)-AI8 for this with 8 available inputs. Different temperature sensors can be connected to these 8 inputs simultaneously.

XX-F-AI8

Building Automation
Energy-Controlling

The EWIO$_2$-M (Ethernet Web I/O 2nd Generation Bus) is a high- M-performance data logger for recording energy and consumption, as well as data monitoring in buildings, industrial plants, and systems. The many connections and interfaces enable the multi-protocol capability of the Smart Metering Gateway. It supports you in your activities in energy management systems according to DIN EN ISO 50001 to increase energy efficiency by integrating the MSR and HVAC technology to the building management system. With the EWIO$_2$-M, you unify functions of energy monitoring, building and industrial automation in one device.

The system's parameterization, configuration, and commissioning are performed using an intuitive web interface with a platform-independent web browser. Different meters, such as electricity, water, gas, heat, or other media, can be connected and read out at the M-Bus and Modbus RTU interface. The integrated digital and analog inputs and outputs of the EWIO$_2$-M are designed to connect sensors and actuators for different tasks in building or industrial automation.

> Simple, fast cabling with jumper plug
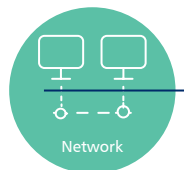> Connection of expansion/function modules

> Push buttons and LEDs for manual operation and display

> Multi-I/O with 24 digital and analog inputs and outputs

> Compact design for installation in an electrical installation distributor with 45 mm cap dimension
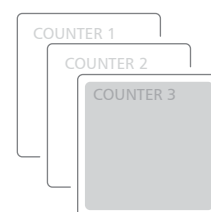> Minimum space requirement in the control cabinet 125 mm width (7HP)

> Easy to install and maintain with hardware management, electronics detachable from connection unit

> WLAN interface for configuration and connection to a WLAN network (operating modes: Infrastructure and Ad-hoc)

> M-BUS interface with integrated level converter for 80 M-Bus loads
> Readout of M-Bus meters (parameterizable readout interval)

Modbus RTU
> 1 x Modbus RTU interfaces for 32 subscribers

> Controller with ARM Cortex-A7 Dual Core Processor 1GHz, 512 MB RAM and 4 GB Flash

> 2-port Ethernet switch with daisy chain function

Network

COUNTER 1
COUNTER 2
COUNTER 3

CSV

Database

T/M converter

PT1000,...
PT100,...
PT1000,...
Ni100,...

Heat quantities

Temperature
Temperature
Temperature
Temperature

User/
Operator

Analysis
computer

Ethernet

Modbus
TCP

FTPS

BACnet/IP

E-mail
(SSL)

TCP/IP

Router

WWW

Web

Analysis
computer

User/
Operator

Web interface

M-BUS   Modbus RTU

Ethernet (daisy chain)

max. 6 extension
modules

SO/M converter

MR-SM3

Water   Oil   Power   Gas

Phase monitoring

> Current
> Voltage
> Frequency
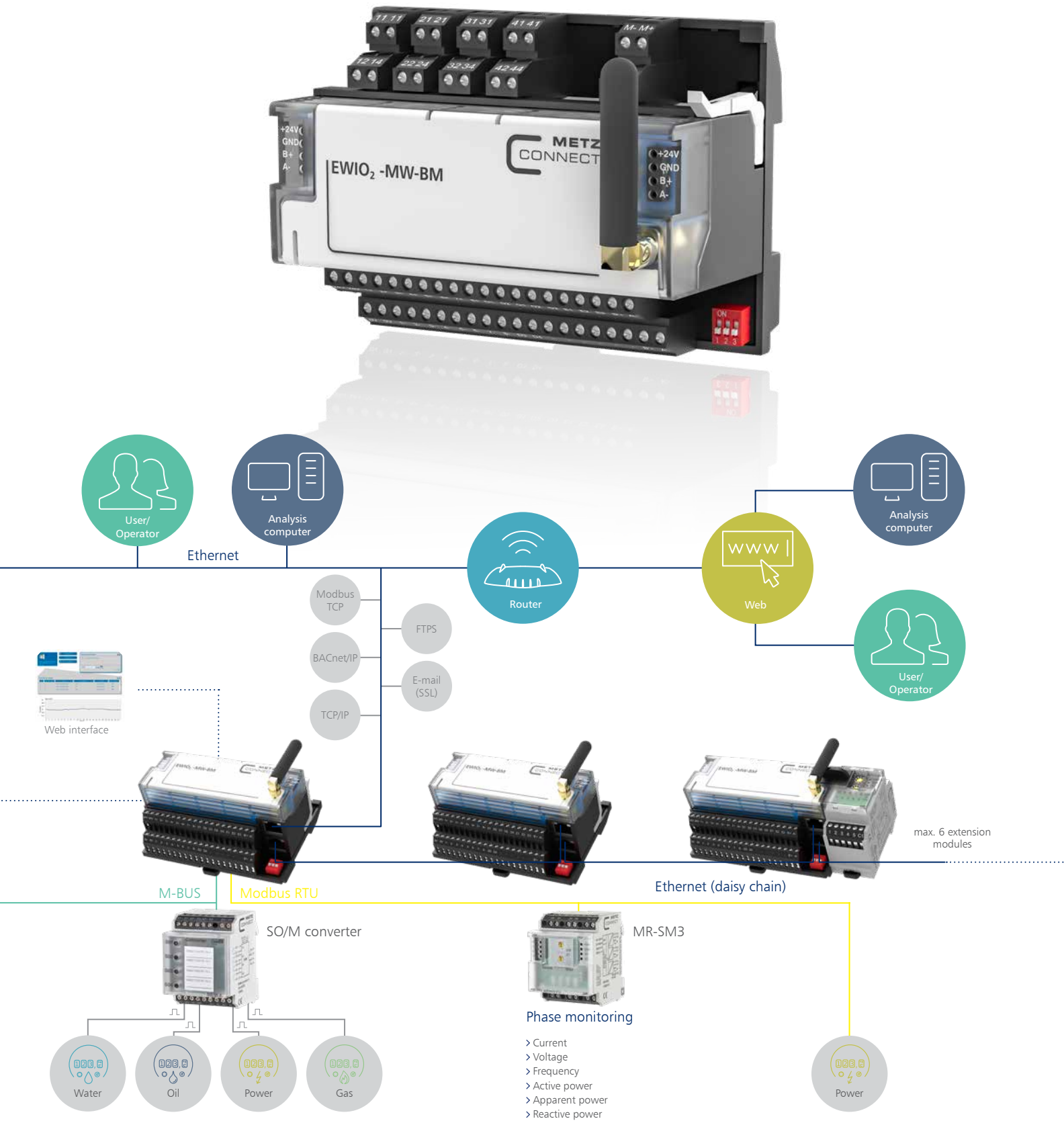> Active power
> Apparent power
> Reactive power

Power

Building Automation
System Components for
Switch Cabinet Applications

Measurement and Monitoring Relay

The METZ CONNECT monitoring relays protect people and machines and control electrical processes, depending on the electrical or physical size.

> Current monitor for universal use

> Phase monitor for protecting against destruction/damage to system parts

> Phase sequence relays for monitoring the rotating field

> Asymmetry relay for safe detection of a phase failure

> Multifunctional three-phase monitor

> Level relay for fill level monitoring

Interface Modules

In control and automation technology, the METZ CONNECT interface modules form the separation between the logic level and the load level.

> Universally usable coupling components

> Sensor and actuator interface modules as optocouplers, power distributors, diode modules, signal modules, threshold switches, analogue data encoders, analog-digital converters and as potential separators

> Powerful and compact, pluggable 14-pole industry relays

Time Relay

A time relay is a special type of relay, with which switch-on or switch-off delays can be achieved, for example, in control and automation technology. The product spectrum offers time relays with multiple functions and adjustable time ranges, as well as relays with specific functions such as switch-on delay, switch-off delay, impulse-on delay, flashing, timing and star-and-delta relays.

Energy-Controlling

For energy and consumption monitoring as well as data monitoring in buildings, industrial plants, and systems, Linux-based, high-performance data loggers are used. The multi-protocol capability of the data logger is made possible by the many connections and interfaces (TCP/IP, BACnet/IP, Modbus TCP, Modbus RTU, M-Bus, S0-Impulse, digital and analog inputs/ and outputs) and supports you e.g. in your tasks in energy management systems according to DIN EN ISO 50001 to increase energy efficiency by integrating the MSR and HVAC technology to the building management system.

Building Automation
Router/Gateways
for Network Connection of Fieldbus Components

In many building automation projects, customers require a consistent connection of all automation components within the building to a structured network cabling.

Benefits of our Solution

> Recording and analysis of data
> Galvanic 3-way isolation
  (RS485 Ethernet supply)
> Integrated web server
> Simple configuration via web interface
> Easy device search
> Fast connection via jumper plug technology
> Connection of 32 slaves per line max.
> Ethernet available everywhere in the building
> Virtually no restrictions on line lengths
> Technology and manufacturer-independent use

Modbus Gateway MR-GW

Modbus Gateway MR-GW

Fieldbus components, such as temperature sensors or measuring, usually have a Modbus RTU interface, which are integrated into the automation level by means of a Modbus TCP controller. The use of a controller is over-dimensioned in many application cases and complex programming, and expensive hardware. The optimal solution is the use of a Modbus gateway. With its function as a protocol converter, the Modbus gateway enables easy inte-gration of Modbus RTU replica into a Modbus TCP network. The METZ CONNECT Modbus Gateway MR-GW helps to integrate Modbus RTU devices into a Modbus TCP network and provides a very easy and cost effective way to communicate Modbus TCP clients with one or more Modbus RTU replica.

BACnet IP-Router

The BMT-RTR is a compact multi-network router that provides routing between BACnet/IP, BACnet Ethernet and BACnet MS/TP networks. 32 BACnet MS/TP devices can be operated on the router, allowing BACnet objects to be transferred between the BACnet/IP and BACnet MS/TP networks at will. The BMT-RTR router can be operated as BACnet/IP to BACnet MS/TP or BACnet Ethernet (ISO 8802-3) to BACnet MS/TP router. The BACnet router can be accessed in an IP network via the integrated web server. Device configuration and parameterization of the two interfaces (Ethernet /RS485) is done via the user-friendly web interface or the software tool "MC-Search Utility". In addition, the router has a recording tool for troubleshooting and analysis of the transmitted data.

BACnet IP-Router

We look forward to meeting you!

Enter the virtual world of
METZ CONNECT. Take a tour with
our 360-degree product experience.

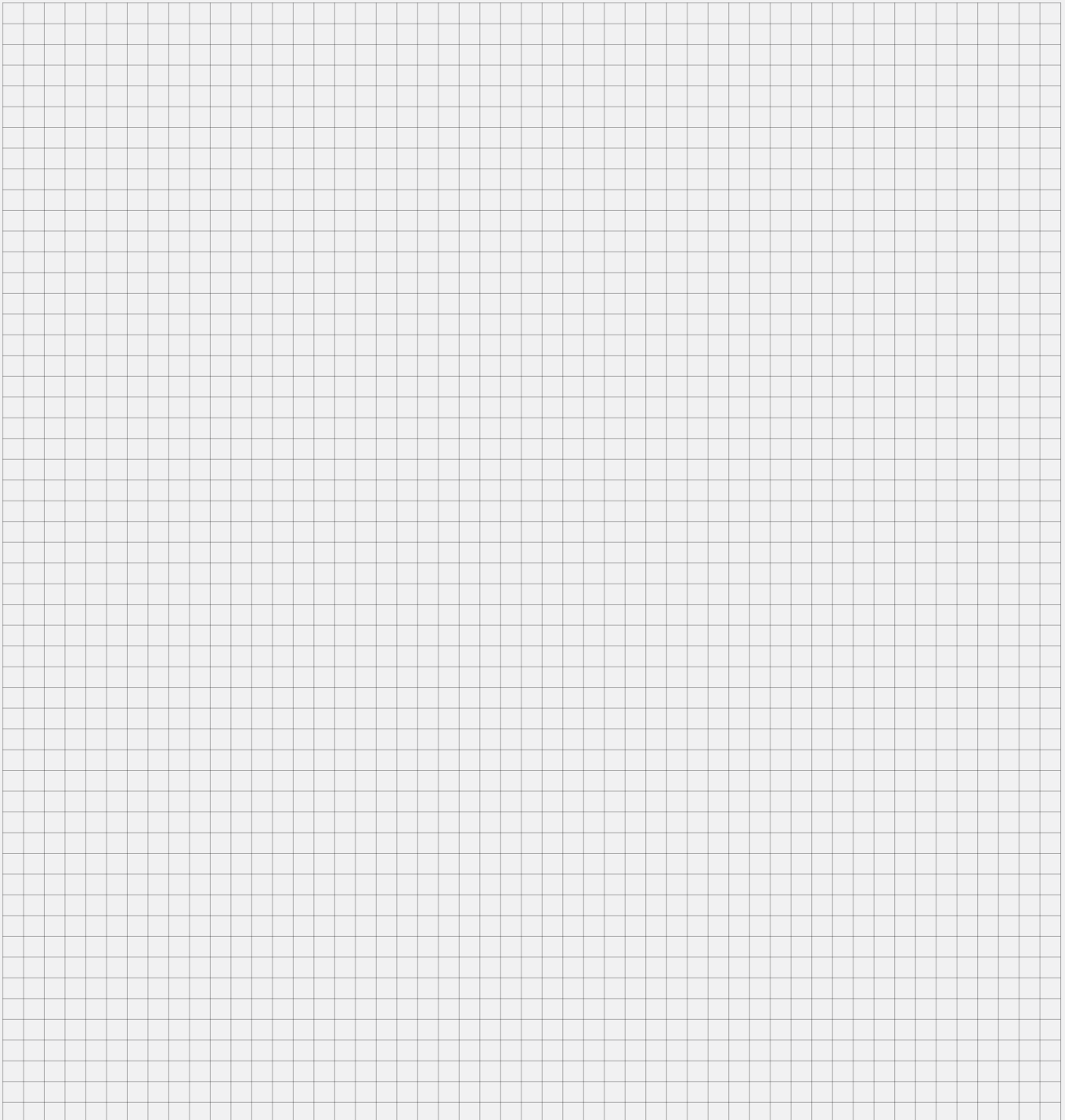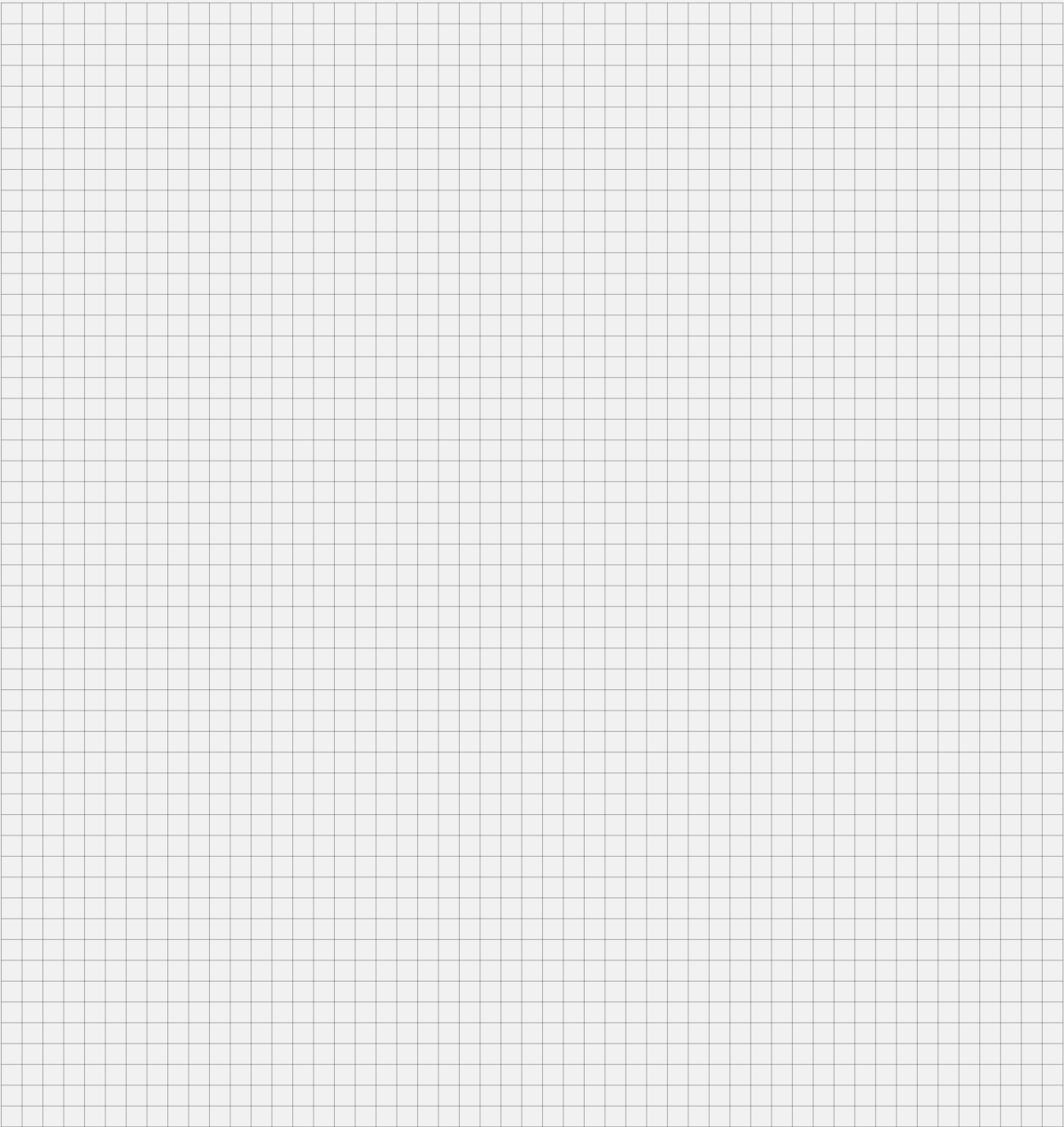You will quickly and easily find
your personal contact here.

We look forward to hearing from you.

Notes

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