

Fiber optics for energy

Edition 2021/02



Benefits

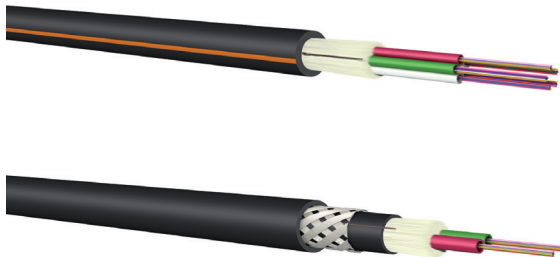
- Customer-specific solutions
- Mutually compatible components guarantee continuous data transmission in harsh environments
- Quick and reliable installation with pre-assembled cable systems
- Technical consultancy and support for product selection
- Integrated system solutions from a single source
- Global production facilities and a global sales network
- Multiple project references

Advantages of fiber optics

- Low loss
 - for long transmission paths
- Extremely high data volumes
 - limitations stem primarily from active devices not fiber optics
- Lightweight
 - beneficial for mobile systems
- Small dimensions
 - cable with 144 fibers has a diameter of just 15 mm
- Electromagnetic compatibility
 - transmission is not disrupted by electromagnetic fields
- No electrical connectivity
 - intrinsic galvanic isolation

Cables

HUBER+SUHNER manufactures a wide variety of cables for countless applications. Our cables are tested for the highest mechanical, thermal and chemical resistance in accordance with requirements.



- Patch, riser and breakout cables
- Multi-fiber loose tube cables for indoor and outdoor applications
- LSFH™ types with the highest degree of fire protection
- Flexible cables for mobile use with high duty cycles
- Self-supporting aerial cables with support anchors
- Glass and steel reinforced cables for effective anti-rodent protection
- Specific cables for use in high voltage environments
- RADOX® fiber optic cables to meet the highest demands

Connectors

HUBER+SUHNER offers a broad selection of fiber optic connectors ranging from standard indoor to ruggedized outdoor connectors.



- Easy installation either by push-pull or screw mechanism
- Waterproof, dustproof and corrosion resistant
- Extension connector for cable chaining
- Up to 24 fibers, single-mode or multi-mode
- Compact design based on 1.25 mm, 2.5 mm, and MTP ferrules
- Broad temperature ranges and high number of mating cycles



Cable assemblies

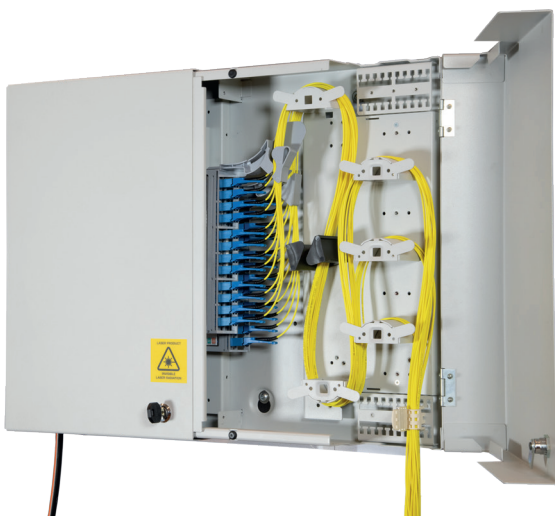
HUBER+SUHNER can configure robust assemblies from a wide range of connectors and cables to meet customer requirements.



- Vast number of combinations of cable and connector types possible: SM, MM, PCF and POF
- Standard connectors, including SFF and MTO; types with an automatic protective cap
- Multi-pole, industrial ODC connectors with protected end faces; specially designed for harsh environmental conditions and safe installation
- Broadly customizable designs
- Application-specific testing in our versatile in-house facilities

Fiber management systems

Practical and compact modules support professional distribution of fibers to connecting and fan out points.



- Wall housing for indoors and outdoors
- Patch and splice modules for 19" cabinets
- Compact connection box as connecting point in wind turbines
- DIN rail module for control cabinets



Cable systems

A variety of cable systems can be configured to meet customer requirements; pre-assembled cable systems offer the following advantages

- Can be installed quickly and directly – immediately operational
- No splicing or field termination necessary at the construction site
- Cost savings thanks to simple, time-saving installation
- Little expertise required



MASTERLINE

- Strong cable fixing at the divider
- Wide operating temperature range
- Dust and waterproof pulling tube
- With standard and ODC industrial connectors



SMARTLINE

- Multi-fiber patch cable with compact dimensions
- Protected transition to breakouts; without divider
- Halogen free, low smoke and self-extinguishing cables LSFH™



Customised cable systems

- Selection of different types of fibers and connectors
- Hybrid systems with fiber optics and conductors
- Integrated with additional installation solutions such as protective hoses, fasteners, cable entries etc.
- Customer-specific packaging

Other technologies by HUBER+SUHNER

In addition to fiber optics, HUBER+SUHNER is a leading provider of radio frequency components and copper conductors.

Radio frequency

- Omnidirectional and directional antennas designed for use under extreme environmental conditions: Sensor data transmission (GSM/GPRS/UMTS, etc.)
WiFi (2.4 and 5.6 GHz) Point-to-Point / Point-to-Multipoint transmission
- Cable assemblies
- Lightning protection components



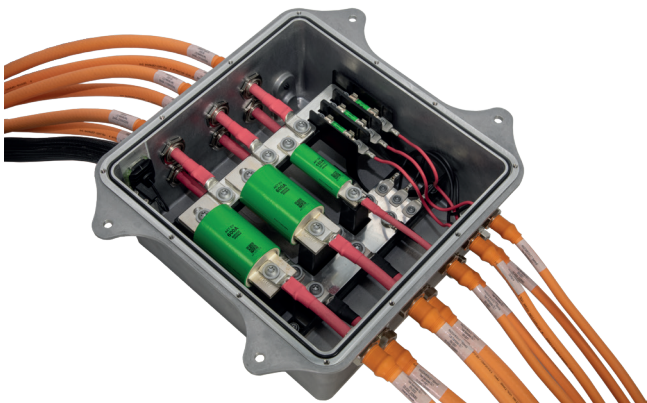
Broadband lightning protection connector



SENCITY® OMNI-S – Small omnidirectional outdoor antenna for WiFi applications

Low frequency

- RADOX® conductors and cables
- Single and multi-conductor cables
- Communication and hybrid cables
- Safety cables and cable systems
- RADOX® solar cables, connectors and junction boxes

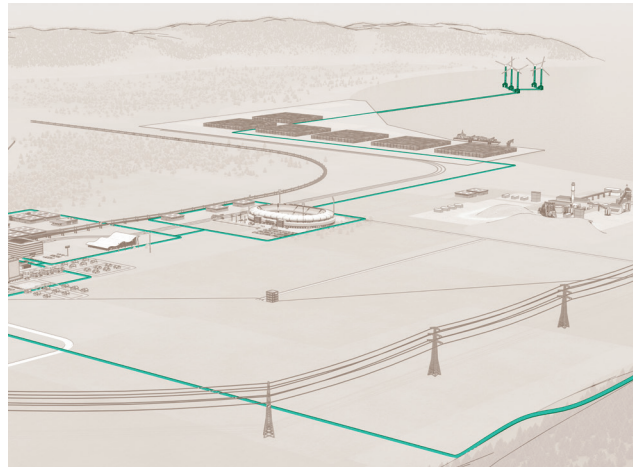


Standard Modular High-Voltage Distribution Unit (mHVDU) is designed to provide variable configurations

Fiber optics applications

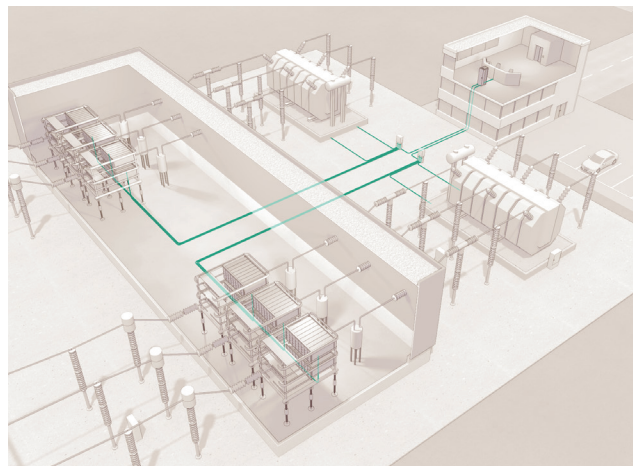
Generation

- Wind
 - Monitoring and control in nacelles
 - Protection of generators
 - Data transmission in towers
 - Data connections in wind parks
- Water/Thermal
- Solar



Transmission/Distribution

- Communication network
- Control of HVDC valves
- Protection of switchgear
- Telecommunication



Enduser

- Smart metering



HUBER+SUHNER
Degersheimerstrasse 14
9100 Herisau
Switzerland
Phone +41 71 353 41 11
hubersuhner.com

HUBER+SUHNER is certified according to ISO 9001, ISO 14001, OHSAS 18001, EN(AS) 9100, IATF 16949 and ISO/TS 22163 – IRIS.

Waiver

Fact and figures herein are for information only and do not represent any warranty of any kind.