

System Solutions

Wind power

Edition 2008/2009



Excellence in Connectivity Solutions





Your Partner for System Solutions

HUBER+SUHNER is a leading international producer and supplier of electrical and optical interconnectivity components and systems. Core capabilities in radio frequency, fiber optic and low frequency technology are united under a single roof. The success of the company's high-grade standard products and customised applications based on its cutting edge-know how in radio frequency and microwave technology, supported by advanced simulation processes.

Especially in weather-exposed applications, HUBER+SUHNER offers a wide range of high-grade products and services for such adverse conditions. Many of the components and systems satisfy the high requirements of wind power applications.

Solutions for today and the future



HUBER + SUHNER offers a wide range of products suitable for harsh environment applications.

Many years of experience in development and production of cables, connectors and assembled cable systems, guarantee optimized solutions for your benefit.

Fiberoptic

- Different cable constructions with high performance
- Single and multi pole connectors for harsh environment
- Pre-assembled cabling system for safe, quick and easy installation
- Customized installation solution and fiber management system
- Field termination tool, inspection set and maintenance

High frequency

- Omnidirectional and directional antennas for harsh environment:
Sensor data transfer (GSM / GPRS / UMTS...)
WLAN (2.4 + 5.6GHz) Point to point / point to multipoint connection
- Cable assemblies
- Lightning protectors

Low frequency

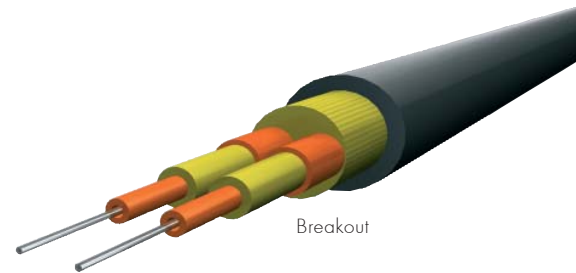
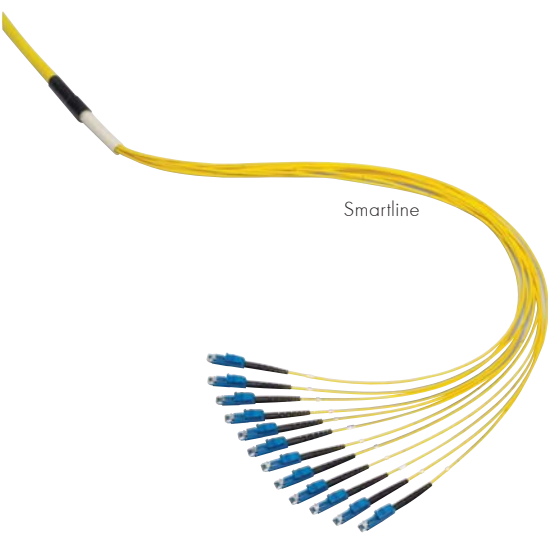
- RADOX® wires and cables
- Single and multicore cables
- Communication and hybrid cables
- Safety cables and cable systems

Solutions for the nacelle



Fiber optic

- Cables:
- Metal free construction, halogen free and non-corrosive fire gases, high chemical resistance against oil, acids and alkalis
 - Improved crush resistance and high tensile load for direct connector assembly with strain relief
- Connectors:
- ODC (Outdoor connector) multi pole 2- and 4 channels
 - Water/dust proof and corrosion resistance, EMI safety
 - Screwed or push-pull locking mechanism
 - Extremely high mechanical resistance
- Assemblies:
- For safe, fast and simple installation
 - Customized assembly solution to the interface
 - All cable assemblies factory tested



Solutions for the nacelle



High frequency

- Omnidirectional antennas for sensor data transfer and control systems
- Various cable assemblies for antenna connection
- Lightning protectors



Low frequency

RADOX® single core and multicore cables, hybrid cables with sheath

- High temperature range
- Chemical resistance
- High power handling capacity
- Ruggedness and compact design
- Long life
- Customer specific designs



Solutions between nacelle and control system



Fiber optic

Cabling system MASTERLINE/SMARTLINE:

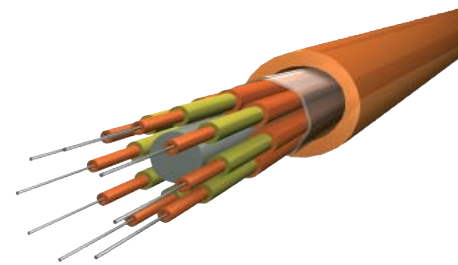
- Pre-terminated cable system for safe, quick and easy installation in the field
- Ready-to-use, plug and play system with 2 up to 144 fibers
- Use for direct pluggable with no splicing and no need for special tools or equipment
- Big cost-saving by saving-time installation on the field
- High mechanical tensile strength based on professional fixing

Cables:

- Low fire load for high safety requirements, halogen free and self-extinguishing
- High mechanical performance in crush resistance, tensile load and torsion
- Broad temperature range from -40°C up to 70°C
- Approved cable construction by German Lloyd (GL) and Lloyds Register (LR)

Wall boxes distribution modules:

- Different sizes and types for splicing and / or with patch panel
- Continuous bend radius limitation, optimized cable and fiber management
- Design according to customer requirements include active devices



Solutions for energy transmission



Low frequency RADOX® wires and cables

RADOX® power cables (0.6/1 kV)

- High temperature range
- Chemical resistance
- High power handling capacity
- Ruggedness and compact desing
- Long life
- Customer specific designs



Solutions for windparks



Fiber optic

Cabling system - MASTERLINE:

- Pre-terminated cable system for safe, quick over long distance in the field (> 2000m)
- Choice between different cabling systems; for each application the right cable system
- Dust, waterproof and reusable pulling tube (IP67)
- Broad temperature range and high mechanical resistance

Cables:

- Glass and steel armoured cable types with rodent protection
- Watertight and high chemical resistance for use in ducts or unprotected environments
- As LSFH variant idea for high safety requirements in case of fire, halogen free and nontoxic
- High temperature range -40 up to +70°C

Distribution modules and splice closures :

- Weather-proofed outdoor cabinet for installation of optical modules
- Complete front mounting of all components; integration of active devices
- Splice closures for permanent fiber connections and fiber branching
- Protection class IP67, installed in duct, closure or buried in soil

Field termination - Quick Assembly:

- Quick termination process in 90 seconds, no set-up time
- Reliability and durability equal to factory termination
- All-in-one multifunctional tool battery powered; easy-to-carry tool box
- Enhanced connector design (ST, SC) for easy termination for multimode and singlemode PC or APC



High frequency

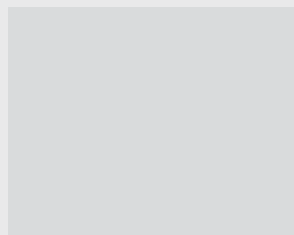
- Omnidirectional and directional antennas for point-to-point / point-to-multipoint connection, designed for harsh environment
- Cable assemblies
- Lightning protectors



HUBER+SUHNER is certified according
to ISO 9001 and ISO 14001.

WAIVER

It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.



HUBER+SUHNER AG
8330 Pfäffikon /Switzerland
Tel. +41 44 952 2211
9100 Herisau/Switzerland
Tel. +41 71 353 4111
info@hubersuhner.com

