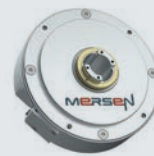
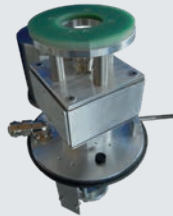
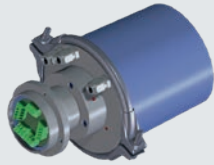




PROCESS INDUSTRY 4.0

SIGNAL & POWER SLIP RINGS





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+ WHY CAN YOU TRUST MERSEN ?

As an integrated supplier, Mersen has the ability to design and manufacture complete rotary joints, as well as offer maintenance, technical support and training, both on-site and at our plants. We maintain a network of experts who supply their technical expertise in signal and power transfer to reach connectivity for Industry 4.0 or 5.0 level.

Mersen has over 120 years experience in solutions for electrical rotating machinery acquired in the Industry, Energy, and Transportation fields. As a market leader, we master the science of tribology and have an excellent knowledge of power and signal transfer, enabling us to use adapted transfer technologies. Alongside standard products, we can develop customized solutions for each specific requirement, working in cooperation with our customers' engineering departments to reach the highest levels of customer satisfaction.

With manufacturing facilities located all over the world, we can offer our customers proximity of service, especially through our dedicated production plant in Austria.

Mersen's electrical slip rings are developed, tested and field-proven for optimum performance in a variety of load and environmental conditions.



MERSEN IS YOUR SOLUTION PROVIDER TO GET ELECTRICAL POWER, SIGNALS AND DATA INTO ROTATION ACCORDING TO YOUR NEEDS

DATA TRANSMISSION:

- Up to 10 Gbit/s, contactless
- Industrial communication protocols e.g. CAN, Ethernet, EtherCAT, ProfiBUS, PROFINET, VARAN, Bluecom, Drive-CLiQ, PowerLink

SIGNAL TRANSMISSION:

- 0 / 4... 20 mA
- 0... 10 V
- 0... 24 V
- Others on request

POWER TRANSMISSION:

- From mA to 200 A
- Others on request

Medium transfer:

Air, water, oil, chemicals, cooling fluid

Encoder:

According to customer demand

IP protection:

Up to IP54

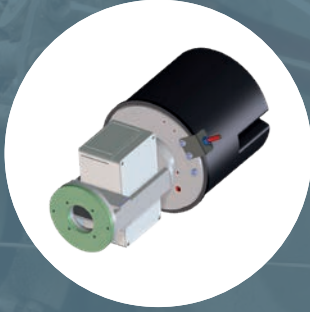
Electrical interface:

Flying leads, cable clamps, connectors e.g. Harting

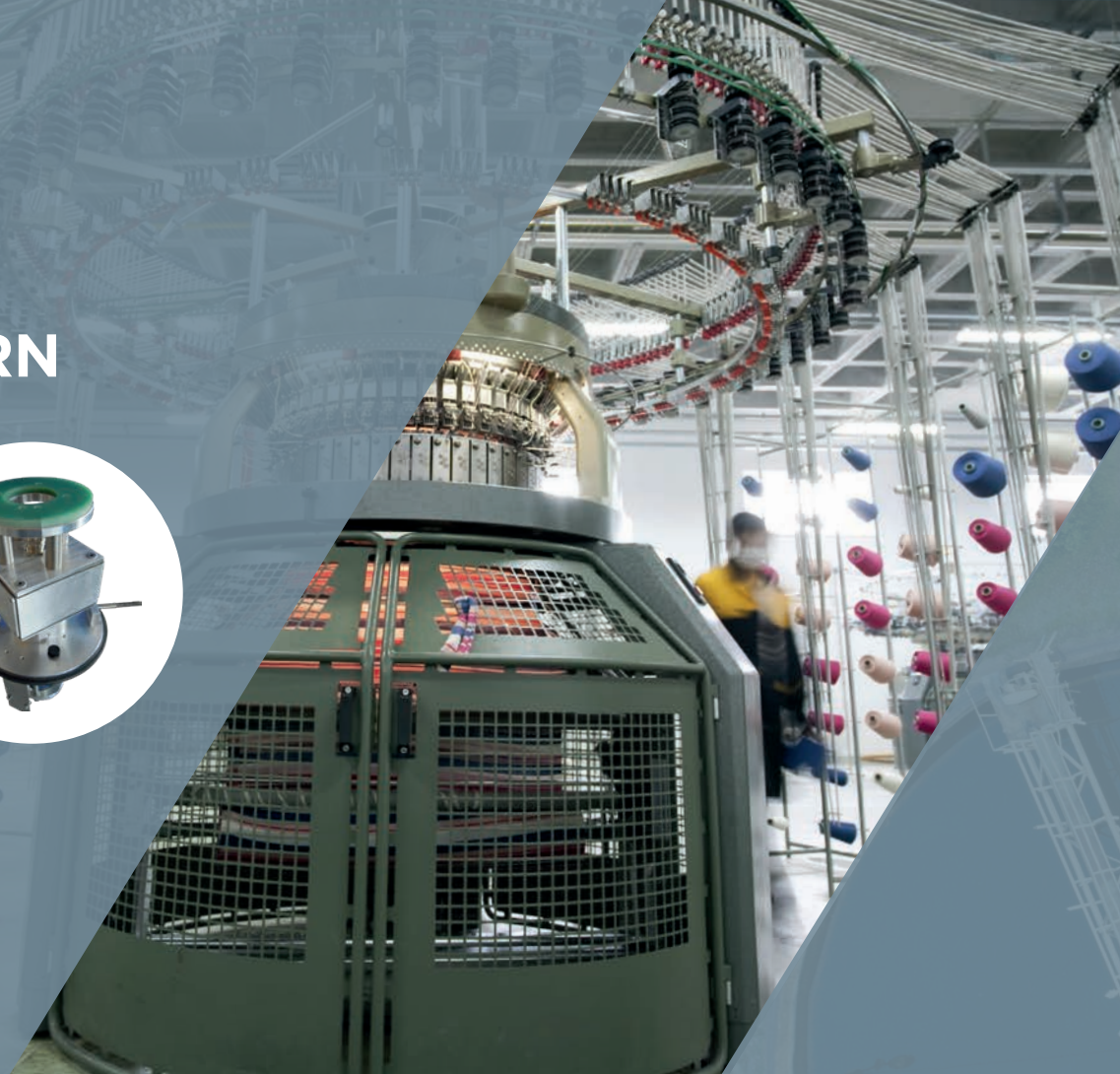
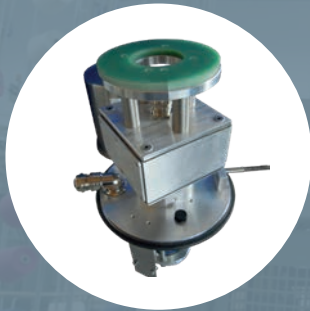
**+ YARN WIRE
CABLE**



**+ WIRE WEAVING
MACHINES**



+ YARN



+ BOTTLING & LABELLING



+ WATER TREATMENT

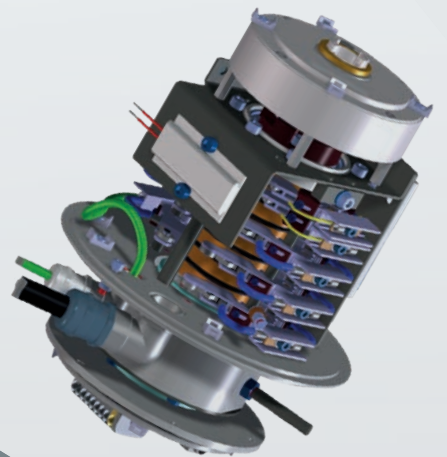




**LEISURE
PARKS**



HYBRID SYSTEMS



CAPACITIVE SIGNAL TRANSMISSION SYSTEMS

01

YOUR BENEFITS

- Maintenance-free
- Reduced TCO (Total Cost of Ownership)
- Non-contact: no wear (dust-free operation)
- Long life time (>200 million revolutions)
- Near-field transmission (low electromagnetic impact)
- Very low bit error rate ($BER \leq 1 \times 10^{-12}$)
- Plug & Play system, no need of auxiliary interface electronics to adapt to standard industrial bus systems
- Possibility to have a hollow shaft configuration
- Self diagnostic
- Speeds of up to 3,000 rpm, or higher



SIGNAL TRANSMISSION

- High reliability of data transmission up to 1 Gbit
- Able to transfer all standard protocols (CAN Bus, Ethernet, EtherCAT, PROFINET, PowerLink, Sercos III)
- Multichannel, possibility to combine different types of protocols (for example Ethernet with CAN)

MAIN APPLICATIONS

Wind turbines, food industry, machine tools, robotics, scientific equipment, medical, aerospace, military, energy, etc...

Hybrid systems are flexible solutions offering reliability in the transfer of both high frequency signals and high power.

- Fine-tuned modular systems
- Combination of well established carbon brush systems for power transmission and maintenance-free contactless systems for data transfer
- Low maintenance transfer
- Reduced TCO (Total Cost of Ownership)
- Long life time (>200 million revolutions)
- Near-field transmission (less electromagnetic impact)
- Very low bit error rate ($BER \leq 1 \times 10^{-12}$)
- Plug & Play system, no need for auxiliary interface electronics to adapt to standard industrial bus systems
- Possibility to have a hollow shaft configuration

FIBER OPTICS SYSTEM

YOUR BENEFITS

- Maintenance-free
- High-speed data transfer
- Data transfer in Electro Magnetic Interference (EMI) sensitive environments
- Operate without an external power supply
- Speeds from 0 rpm to 3,500 rpm
- Compact designs
- Proven lifetime of 200 million revolutions for one channel and 100 million revolutions for multichannel

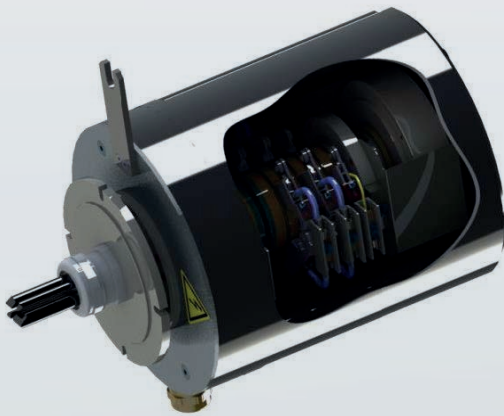


SIGNAL TRANSMISSION

- High reliability of data transmission up to 10 Gbit/s
- Able to transfer all standard protocols (CAN, Ethernet, EtherCAT, Profibus, PROFINET, VARAN, Bluecom, Drive-CLiQ, PowerLink)
- Multichannel, possibility to combine different types of protocols (for example Ethernet with CAN)
- Very low insertion loss over lifetime

MAIN APPLICATIONS

Wind turbines, food industry, machine tools, robotics, scientific equipment, medical, aerospace, military, energy, etc...



SIGNAL TRANSMISSION

- Analog and digital signals (RS232 / RS422 / RS485 protocols)
- CAN, Ethernet, Profibus

POWER TRANSMISSION

1 A to 200 A at voltages up to 690 V

MAIN APPLICATIONS

Industry, wind turbines, material handling systems, cranes, etc...

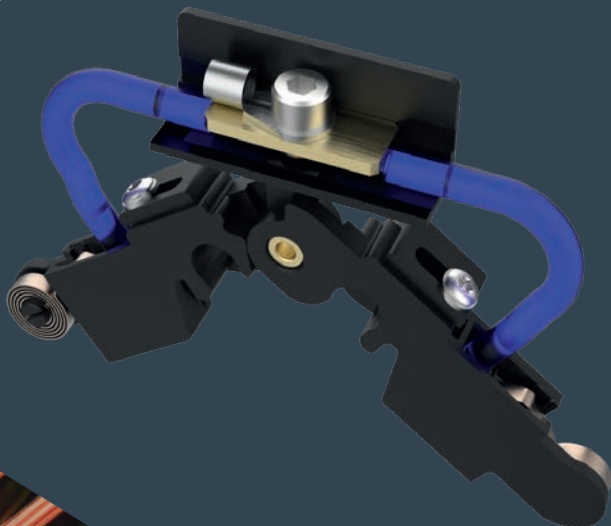


CARBON BRUSH SYSTEMS



YOUR BENEFITS

- Cost-efficient
- Mersen manufactured and field-proven premium carbon brushes and material combinations
- Resistance to harsh environmental conditions
- Long lifetime
- Easy adaptation to different slip ring diameters ("hollow shaft")
- Low and easy maintenance
- Speed from standstill up to 3,000 rpm (depending on slip ring diameter)



SIGNAL TRANSMISSION

Contact-driven analog and digital signals

POWER TRANSMISSION

Special grades, from standstill to high rotational speeds

MAIN APPLICATIONS

Industry, wind turbines, material handling systems, cranes, etc...



THE TECHNOLOGY BEHIND OUR SIGNAL & POWER SLIP RINGS

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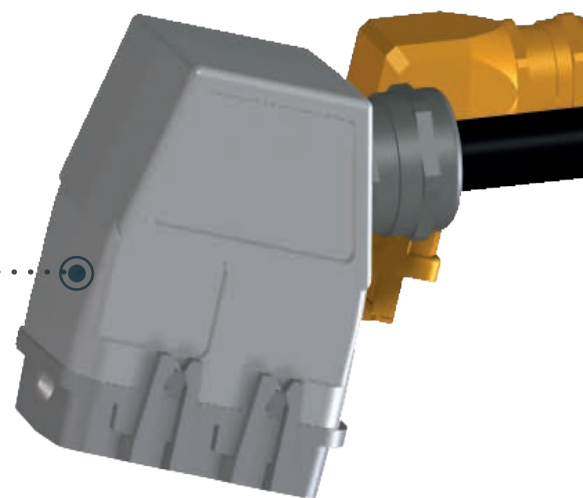
Data transmission,
contactless &
maintenance-free
and / or Fiber Optical
Rotary Joint

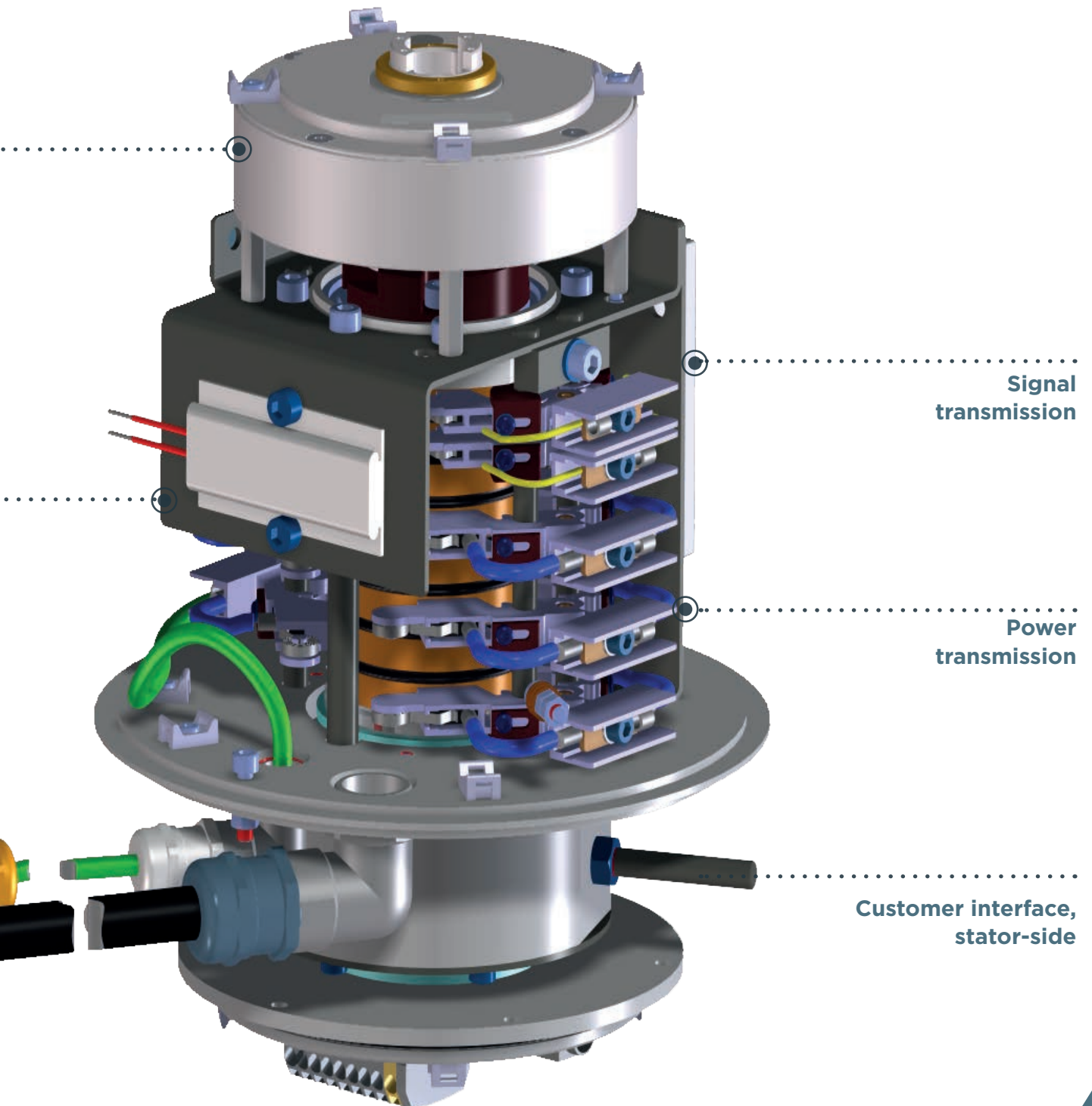
.....

Heating element

.....

Customer interface,
rotor-side





.....
**Signal
transmission**

.....
**Power
transmission**

.....
**Customer interface,
stator-side**



GLOBAL EXPERT IN ELECTRICAL
POWER AND ADVANCED MATERIALS

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