

CT & Industrial

Slip ring solutions



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About SCHLEIFRING

More than 3,000 customers rely on SCHLEIFRING solutions.
Our customers are specialists in complex technical products in the medical sector, the energy and automation industries as well as the defense sector.



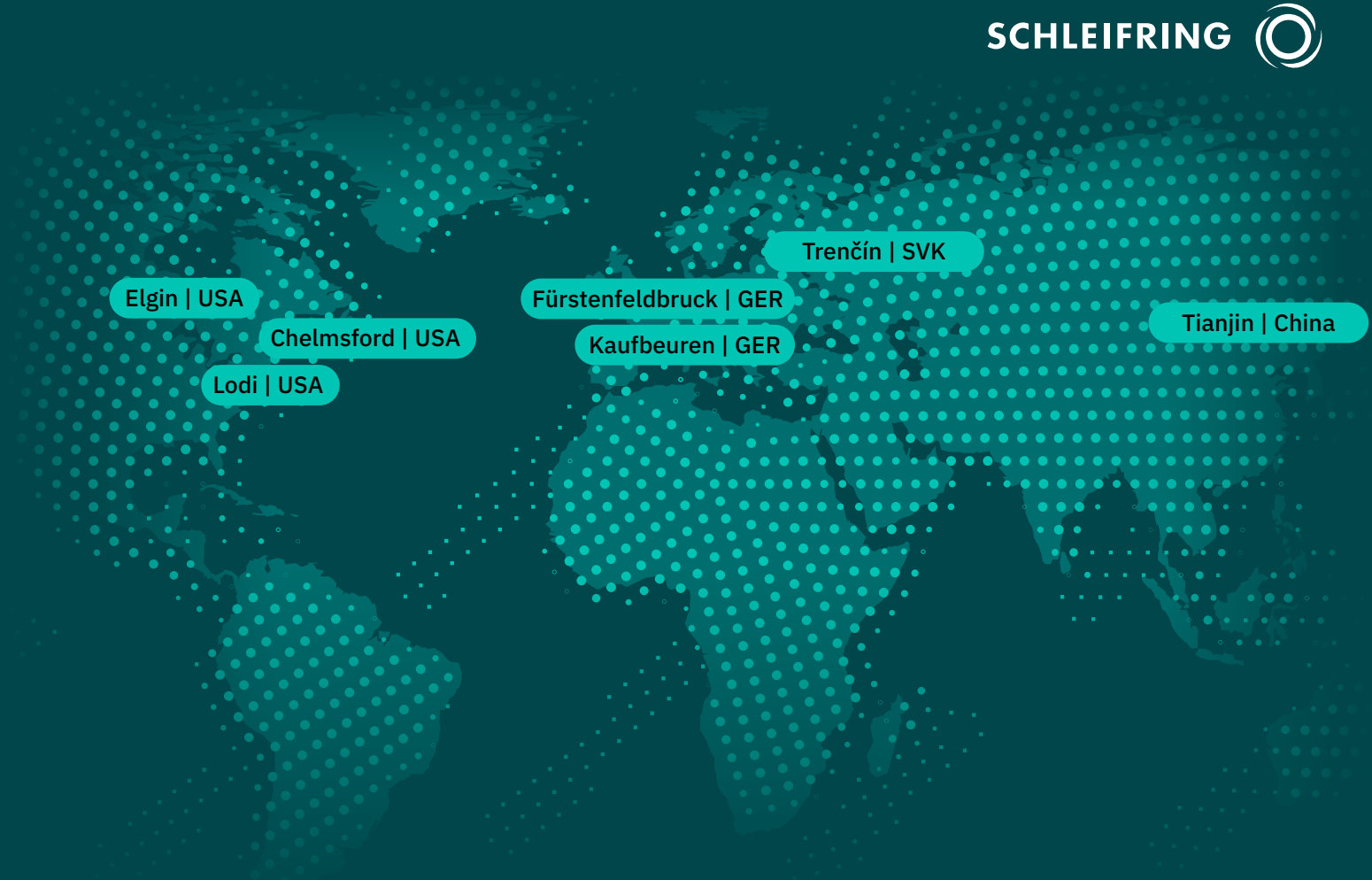
With over 50 years of experience and a global network in over 50 countries, SCHLEIFRING is a trusted long-term partner and key supplier to the world's leading medical and industrial OEMs.

For decades, our high-performance solutions have ensured precise and reliable transmission of power, data and signals in demanding medical or security systems.

In medical, security, wind turbines or industrial applications our customized slip rings enable seamless integration and top performance in the most critical environments.



Trust in strong and lasting partnerships
Over decades, it has become clear that the best results are achieved through long-term cooperation, where trust, continuity and shared innovation lead to first-class solutions and lasting competitive advantages for both sides.



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Flexibility and resilience with our global footprint
Our global production network ensures robust, resilient supply chains and reliable delivery capabilities. By localizing production and reducing dependencies, we minimize risks related to logistics disruptions, tariffs and customs, providing our customers with maximum supply security and operational stability.

SCHLEIFRING components are vital for many demanding applications in numerous industries. Our slip rings are used in medical CT machines, CTs for baggage screening, wind turbines and in the food and beverage industry. Our rotary joints provide the dynamic electrical connection between static and rotating electromechanical elements.

They operate as a rotary interface that continually transfers electrical power, data or signals in any direction. SCHLEIFRING products are manufactured fully customized to customer needs.

Providing solutions to real challenges

Our experts provide continuous technical consultancy, fully understand your application and define the optimal solution. These customized systems enhance efficiency, reduce operational risks and create sustainable added value for your business.



Medical equipment

Thanks to our exceptionally high data transmission rates, we are the leading provider of slip rings for CT, treatment and photon-counting systems. Our slip rings enable loss-free transmission of large quantities of data during continuous rotation – ideal for state-of-the-art imaging processes that meet the highest requirements on quality and speed.



Baggage scanners

Our safety-critical baggage scanner systems at airports guarantee the reliable transmission of sensitive data in rotating scanners for carry-on and checked luggage. Our customer-specific, completely contactless gantries set the industry standard. That is why our solutions are now used at practically every airport worldwide and contribute to security both on the ground and in the air.



Wind power

As Schleifring GmbH, we deliver specialized slip rings for the pitch systems in wind turbines. Our solutions enable reliable transmission of power and signals for the pitch adjustment of the rotor blades. This guarantees precise control of the blade angle – for optimum energy yield, effective load protection and safe operation of the plant even under demanding conditions.



Industry

In industrial applications our slip rings stand for robustness, flexibility and durability under the most adverse conditions. Schleifring GmbH enables power, signals, data and media to be transferred reliably in automated systems and rotating machines. Our solutions increase efficiency and productivity and can be customized individually to meet industry-specific requirements.



Material testing

Schleifring GmbH delivers precise transmission solutions for sophisticated systems used in non-destructive testing. Our slip rings provide for exact and stable transmission. We thus support reliable material analysis as well as quality assurance processes in research, development and industrial applications. Our maintenance-free products in particular offer a maximum service life and reliability and thus optimum system availability.

Holistic design from a single source – the mechanical and electrical systems as well as the system design are developed as a single integrated system. With decades of experience, a high degree of vertical integration and a strong focus on research, quality and safety, we deliver sophisticated, reliable solutions that work – from the concept phase to series production readiness, we are a reliable partner from day one.

Technology leader in the medical engineering sector – thanks to our exceptionally high data rates and system expertise, we are the market leader for slip rings used in modern medical applications, especially photon-counting systems and high-resolution imaging processes.

State-of-the-art data transmission – Our market-leading 10 Gbit/s system has set the benchmark for reliable high-speed data transfer in all kinds of rotating applications.

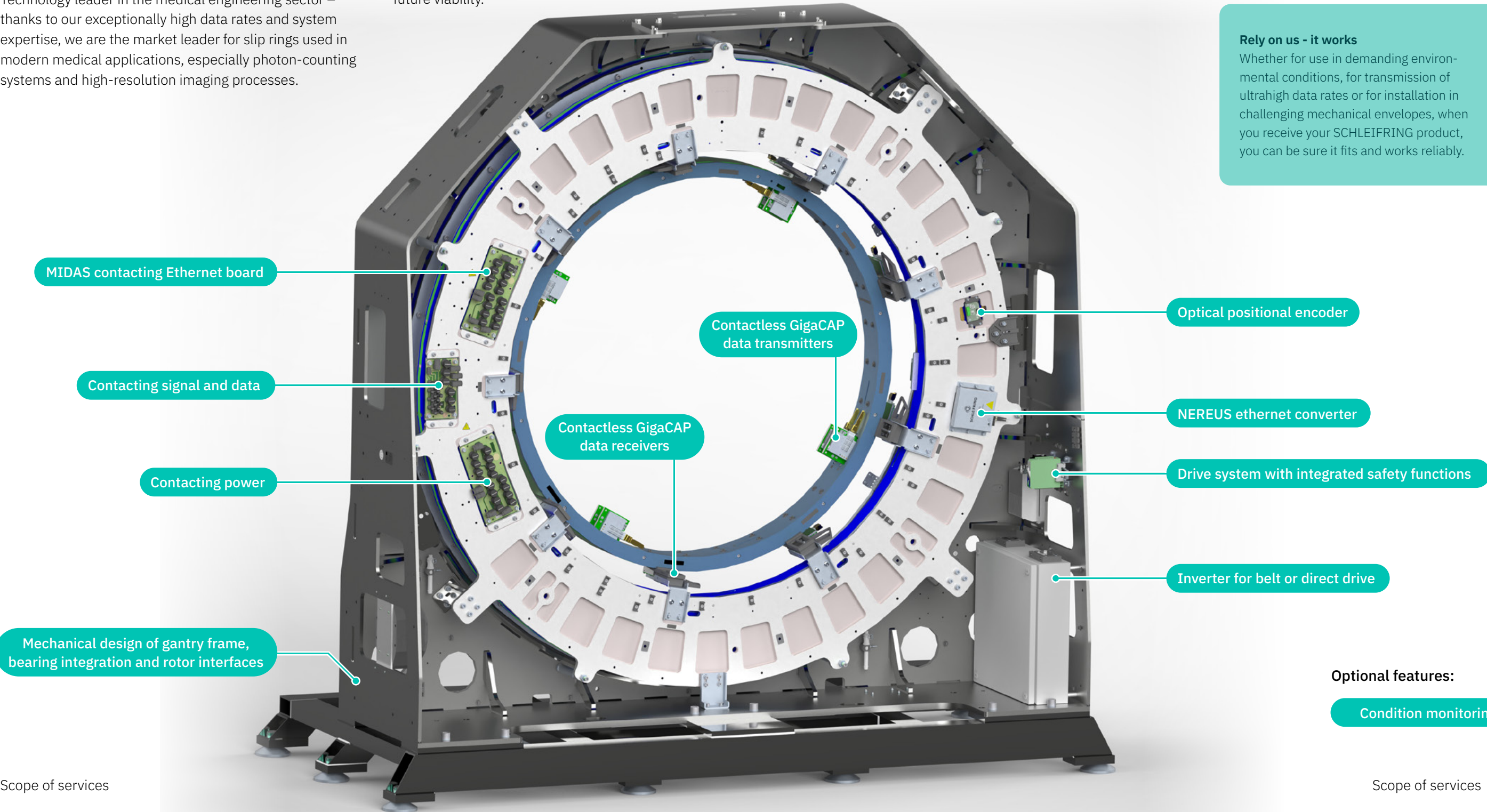
Based on this tried-and-true technology, today we enable flexible scaling up to 600 Gbit/s. Several implemented 100+ Gbit/s systems provide clear testimony for our innovative power and future viability.

Global production capabilities – With production sites in Europe, the USA and China, we offer maximum flexibility and proximity to the customer.

Our global production network guarantees short delivery times, scalable capacities and, without exception, the highest quality standards – irrespective of the place of deployment or project requirements.

Rely on us - it works

Whether for use in demanding environmental conditions, for transmission of ultrahigh data rates or for installation in challenging mechanical envelopes, when you receive your SCHLEIFRING product, you can be sure it fits and works reliably.

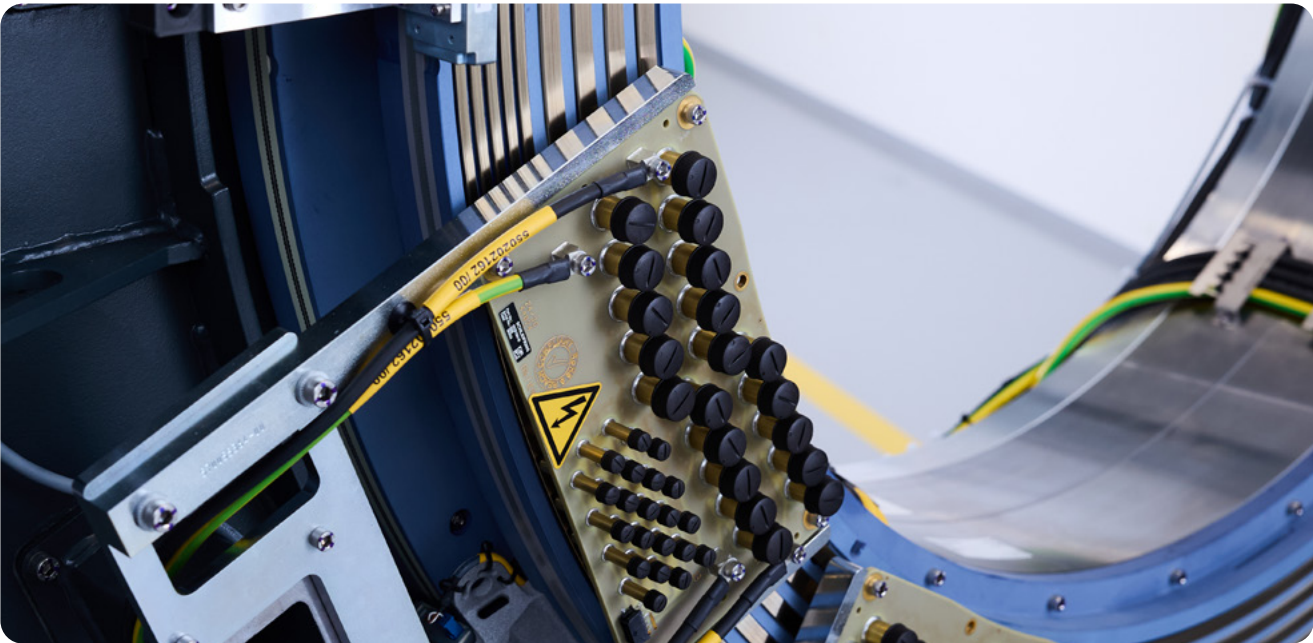


Slip ring technologies

Contacting transmission

SCHLEIFRING uses various reliable contact-based technologies. Silver brushes, multi-fiber brushes and carbon brushes have proven their worth for signal, data and power transmission in numerous applications. Their benefits are:

- High power transmission up to 1000 V / 300 A continuously
- Low electrical noise and contact resistance
- High contact reliability
- Reliable operation even when subjected to shock, vibration and extreme temperatures
- Bit error rate < 10⁻⁹
- Fully customizable
- Long, low-maintenance service life



	Max. current	Speed	Typical lifetime
Power Tracks	up to 1000 A	up to 330 rpm	up to 20 million rev.
Signal Tracks	up to 6 A	up to 330 rpm	up to 15 million rev.

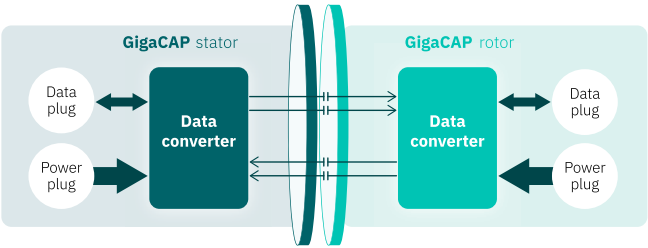
Contactless transmission

For the most demanding applications, SCHLEIFRING uses contactless technologies for data and power transmission.

Highest reliability, maximum rotational speeds and lowest possible wear are the main characteristics of these technologies.

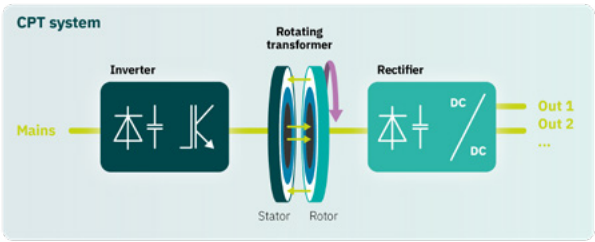
Contactless data

- Up to 10 Gbit/s per channel
- Bit error rate < 10⁻¹²
- Real-time data (latencies < 1 µs)
- Uni-/bidirectional
- Free inner bore 20 mm to 1800 mm
- Fiber or copper interface



Contactless power

- 10 KW high power
- 2000 W / 24 V low power
- Up to 20,000 rpm
- Less than 5% power loss
- Free inner bore
- Shock and vibration resistant
- Combination with contactless data transmission available



Ultrahigh data rates

New photon-counting applications demand highest data rates. With the flexibility of GigaCAP core technology, SCHLEIFRING can offer the perfect solution for your photon-counting application.

- Parallel and sequential operation of multiple 10G channels
- Configurations of up to 600 Gbit/s are achievable
- Software for scrambling and advanced diagnosis developed and provided by SCHLEIFRING
- Several 100+ Gbit/s projects realized

Innovating at the heart of customers needs

Our high-tech capabilities, including ultrahigh data rates and fully contactless CT gantry systems are the technological foundation. These innovations translate directly into superior performance, reduced wear, lower maintenance requirements and long-term cost efficiency for your application.

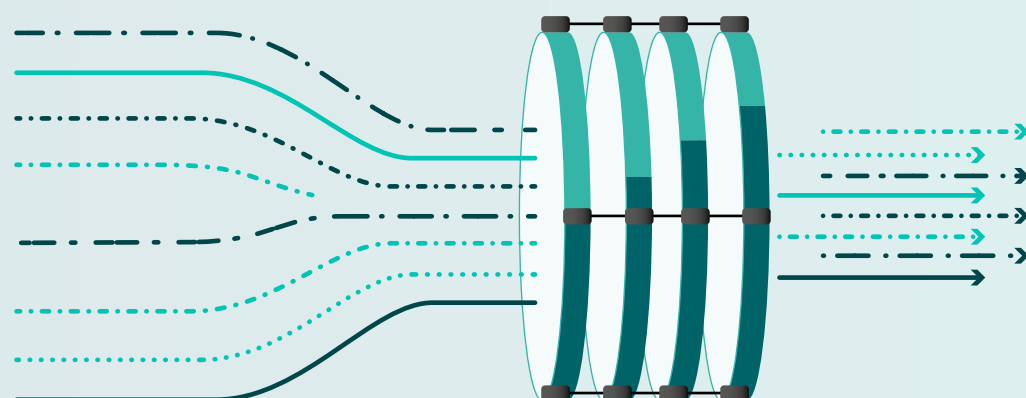
Data transmission add-ons: NEREUS & MIDAS

NEREUS is the perfect plug-and-play solution to transmit Gigabit Ethernet via our GigaCAP core technology.

- Enables bidirectional Ethernet communication with SFP+ interfaces
- Line rates configurable between 1.25 Gbit/s and 12.5 Gbit/s
- Integrated PRBS scrambling
- Off-the-shelf, plug-and-play solution that works with any SCHLEIFRING GigaCAP system



Ultrahigh data rates



Schematic view: multi-channel image data is transferred from the rotor to the stator via segmented GigaCAP and streamlined on the stator via SCHLEIFRING's proprietary IP core.



MIDAS provides added value by saving contacting rings and providing a stable and reliable 10 Mbit/s Ethernet communication via only two contacting rings.

- Efficient and low latency 10 Mbit/s transmission
- Flexible Ethernet interfaces 10BASE-T, 10BASE-TX, 100BASE-T
- EtherCAT compatible
- Integrated e-stop loop

Modular pitch slip ring for wind turbines

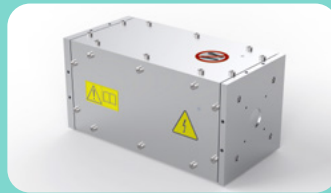
The options



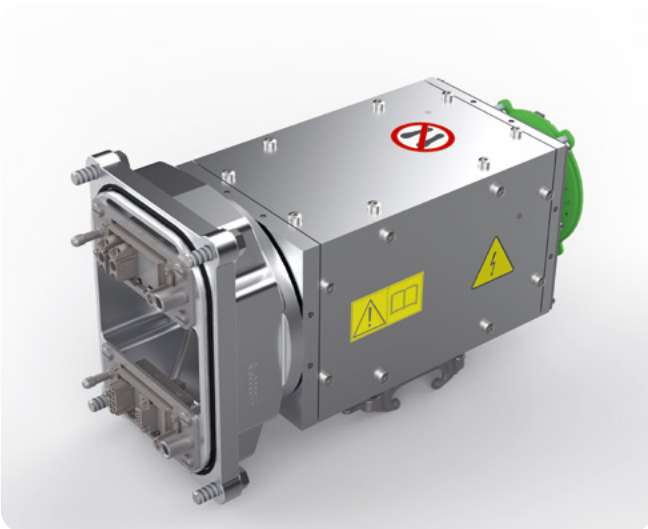
Customizable flange

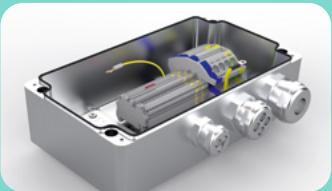


Customizable fixation



Three housing sizes S, M, L





Customizable terminal box or standard connectors



Encoder or GigaCAP

Technical data

Specially designed modular system for your wind turbine pitch control in onshore and offshore projects.

General	
Ambient Temperatures	from -40 °C to +55 °C
Protection Class	IP65
Shock and Vibration	DIN EN 60068-2-64
Rotational Speed	<30 rpm
Service Life	50 million revolutions (maintenance-free)
Contact Pairing	Silver multi-fiber on silver- or gold-plated rings
Interfaces	Connectors and rotor
	Flange fully customizable
Country of Origin	Germany and/or China
Power transmission	
Voltage	<480 V
Current	<115 A
Signal and data transmission	
Protocols	CAN bus
	PROFIBUS
	Ethernet
Available add-ons	
Incremental encoder	
SCHLEIFRING GigaCAP	For capacitive data transmission of Ethernet signal

6. Global, fast, superior support

Any problems?
Our global on-site service supports you
wherever you are located.

5. All-in-one logistics solutions

From direct worldwide shipping to complex
consignment stock concepts. We make sure you
receive the correct volume at the right time.

4. State-of-the-art production

With our high level of vertical integration and in-
vestment in state-of-the-art machinery, we provide
resilient supply for your serial production.

Innovative production to empower your product

We achieve a high level of vertical integration, for example through
injection molding of slip ring modules and in-house assembly
of electronic modules. This enables optimized cost structures,
reduced complexity and improved time to market – giving you a
decisive competitive advantage in terms of price and scalability.

1. Engineering ingenuity

> 15% of our staff work in development and
worldwide leading experts in data and power
transmission make sure you are ahead of the
competition.

2. Slip rings and gantries

Individual solutions that exactly meet your
requirements and design are our specialty.
Reach out to our expert team to get your product
designed.

3. Cutting edge prototyping

Rapid prototyping, climate chambers, EMC
chambers and over 2500 m² of laboratory space
provide the perfect environment for your fast and
efficient prototype supply.

Conserve resources

Taking responsibility means helping to shape the future. As an international technology company, SCHLEIFRING focuses on durable products, resource-conserving processes and conscious cooperation.

Our goal: innovation in harmony with the environment and society.

Respect for the environment plays a central role in our product development and all our work processes. We want to leave a clean ecological footprint and are proud of our positive environmental balance.

Our decision to install geothermal systems, green roofs as well as photovoltaic systems is the fundamental basis of our sustainability concept.

Quality and durability – The product life cycle in focus.

We set great store by the use of high-quality materials and the latest manufacturing processes in order to achieve and maintain our goal of ensuring the durability of our products. Technical progress enables us to offer low-maintenance, certified slip rings and thus reduces the customer's workload and energy consumption.

We continually check the entire value-added chain. This includes the analysis and evaluation of every phase of the product life cycle. We qualify our suppliers, ensure that our packaging is environmentally friendly and make sure our production sites in foreign countries are also bound by this concept.



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