Quality in Detail

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SCHLEIFRING Headquarters in Fürstenfeldbruck, Germany
More than 3,000 customers rely on SCHLEIFRING solutions. Our customers are specialists in complex technical products for the aerospace, energy industry and automation as well as the medical sector. In virtually all high-tech industries, our solutions successfully provide the rotating interface behind the process. The outstanding quality of our precision products in medical technology is proven and our products lead the field in space surveillance. We maintain a global network of sales and service establishments so that we can be close to our customers in over fifty countries throughout the world.

As market leader SCHLEIFRING meets the complex and demanding requirements for sophisticated electrical rotary joints and slip ring systems for CT scanners throughout the world. These rotary joints with free inside diameters of up to 2,000 mm ensure the supply of power for the X-ray tube, the transmission of all bus signals as well as the contactless transmission of digital image data.
Our specialist engineers’ know-how provides for the highest degree of flexibility and a strong awareness of innovative production processes. We produce the complete product in-house subject to a continuous improvement process (CIP), thus generating a large value-added.

To keep the costs down and guarantee supply, we develop innovative supply chain processes together with our customers. The correct number of parts delivered at the right time to the right place – we are the right partner.

We offer our customers a wide range of power and signal transmission options from bearings to drive trains each as an individual product or as a fully integrated package. If there is no suitable solution in our existing portfolio, we will develop it for you.

Our customers can always rely on us for service support, expert advice and any other product-related issues at any time. One of our main objectives is to provide each customer with a contact person at all times.

Our slip ring units are all individually customized according to customer specifications by our highly skilled engineering team. We place a high priority on retaining our most precious asset, our knowledge, by developing and producing all components in-house to produce the best results to your full satisfaction.

Our customers can always rely on us for service support, expert advice and any other product-related issues at any time. One of our main objectives is to provide each customer with a contact person at all times.

We are your competent partner for all questions relating to guidelines and normative requirements. When working together with the customer to solve technical problems, whether onsite or not, we always endeavour to cater to all concerns, requests and requirements.

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Do you want to transfer... ...data?
If you are looking for an easy, maintenance-free method of transmitting high data rates with the highest degree of reliability – our answer is GigaCAP®.

Main Features:
• No service and maintenance costs
• Most cost-effective solution: Various assembly kits ranging from 50 Mbit/s to 10 Gbit/s
• Guaranteed reliability: Robust capacitive technology proven in thousands of applications at airports, hospitals, laboratories, manufacturing plants and even in outdoor applications
• Data transmission is possible in both directions: From rotating to stationary parts and vice versa
• Compatible with other sensitive technical components due to high noise immunity and low emission levels
• No data rate limit due to stackable channels, e.g. 40 Gbit/s with 4 stacked channels
• Upgradeability: Plug & Play

Contactless | Capacitive Data Link GigaCAP®

Contactless | Data Compression by Xring Technologies GmbH

The demand for high data rates at the lowest possible cost is increasing constantly. That is why SCHLEIFRING has put a lot of time and effort into research and can now provide an innovative method to compress your data and give you wide access to a more cost-effective GigaCAP® family with the highest data rates.

Features:
• Upgrade to higher data rates whilst retaining the existing system architecture
• Lossless compression: Typical ratios of 1.9:1–2.2:1
• Maximum compression mode with ratios of 3:1–8:1 (Lossy compression)
• Easy to implement (hardware module, IP core or software implementation)
• Cost reduction due to fewer hardware requirements
• Advantages due to storage savings for CT data

Provided by Xring Technologies GmbH

Xring Technologies GmbH focuses on data compression in the field of computer tomography. This company is a joint venture between Schleifring und Apparatebau GmbH and a team of seasoned high-technology entrepreneurs with expertise in compression, data communications, storage and medical hardware and software design.

Used wherever data needs to be transferred from a rotating to a stationary part:
• Transmission via silver-graphite brushes on brass rings
• Most cost-effective solution
• Long service life and low maintenance requirements
• Data rates up to 50 Mbit/s per track at a BER of 10^-9
• Free inner bore up to 2 m
• Proven technology resulting from over 30 years of experience (computer tomography scanners, nuclear medicine equipment, explosives detection systems, various customized applications with multifaceted requirements)

Contacting | Data Link

Do you have limited space or are you looking for a way to save costs? – Multiplexer technology may be the right answer.

Possible upgrade for contacting data transmission technology.
• Lower number of tracks due to bi-directional and simultaneous use of tracks
• Cost benefits and the most compact design due to the lower number of tracks
• Higher data rate with the existing design due to the multiple use of tracks
• Reliable and proven standard technology with several thousand different applications

Contacting | Multiplexer Technology
Do you want to transfer... ...power?
Slip rings provide dynamic electrical connections between static and rotating mechanical elements. They operate as rotary interfaces, continually transferring electrical power. The slip rings are produced in various types and sizes depending on:

- Electrical requirements
- Mechanical property requirements
- Operating environment

Customized to your needs.

The transmission of power across a large free inner bore is one of the key factors in rotating systems. SCHLEIFRING offers a reliable solution to cover all factors: contactless power transmission. The transmission principle developed by SCHLEIFRING is based on a transformer configuration with a high efficiency factor. The scalable design of this contactless power transmission (CPT) system guarantees a long, maintenance-free service life.

Your advantages:
- No wear
- Maintenance-free
- Highest rotational speed: > 300 rpm
- Transmission of up to 150 kW
- Voltage stability within the full-load range
- Integrated safety function for X-rays
- Certified according to ISO 13489
- Lowest noise level

Reliable. Long life.

Innovation in the premium class:
- Benchmark in power transmission
- Successfully tried and tested for more than 30 years in tens of thousands of systems
- Highest rotational speed: > 300 rpm
- Voltage range up to 1,000 V DC
- Currents up to 300 A
- Contact materials are selected according to your service life and environmental requirements
- Easily maintained
The Complete Gantry Sub-System | SCHLEIFRING Gantry

Intelligent mechanical design combined with power, signal and data transmission is the result of the combination of our proven manufacturing process and state-of-the-art technologies. Our individually customized slip rings and gantry sub-systems are an economic, efficient solution from an expert manufacturer, retaining the quality provided by German high-end engineering.

Technical features:
- Customized interface
- Customized performance regarding power and data transmission, rotational speed as well as acceleration
- Encoder
- Tilt

Our service for you:
- In-house gantry design and manufacture
- Assembly and testing of the complete gantry sub-system
- Assistance during commissioning and de-bugging (data accuracy, EMC etc.)
- Worldwide on-site service support
- High volume production

Components | Technology

1. Contactless data transmission – GigaCAP®:
- High-speed image data transmission

2. Contacting transmission of power and signals:
- Power rings rated to 1,000 V with currents to 300 amps
- Low-power rings for 12–24 V
- Contacting signal rings rated up to 50 Mbit/s and Ethernet Network
- Multiple brush tip options with minimal wear

3. Drive system:
- Motor
- Tensioning system
- Belt
- Complete drive system layout

4. Efficient bearing and vertical frame:
- Dimensions
- FEM analysis
- Manufacturing

5. Encoder:
Highly accurate, high-resolution, wear-free encoders control the speed or the triggering positions. The electrical signal is created by an optical or inductive sensor combined with a tick fence.