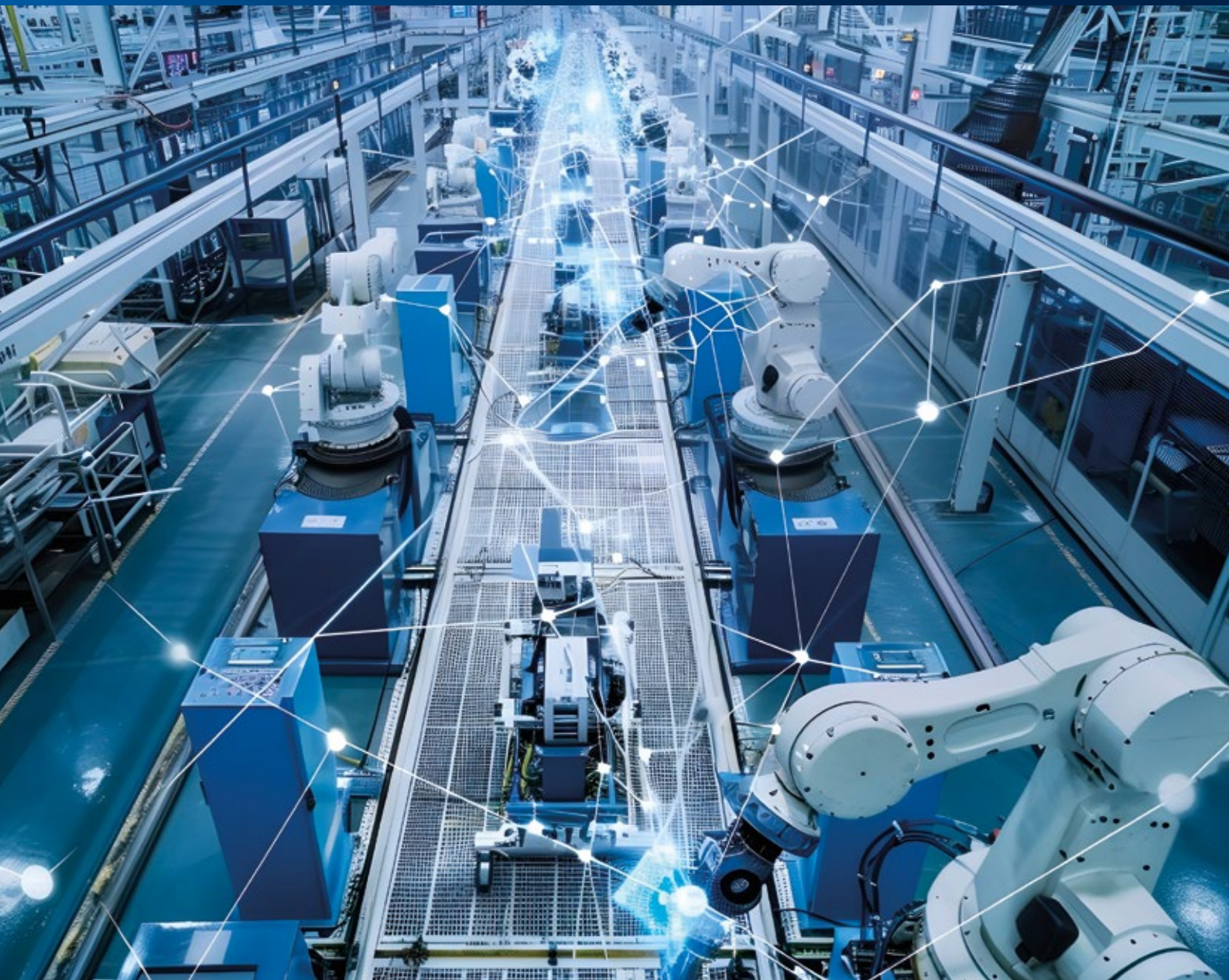


Rosenberger

Contactless High-Speed Data and Power Transmission

RoProxCon®

ROBOTIC APPLICATIONS AND AUTOMATED TESTING SYSTEMS



State-of-the-Art Robotics Technology for Unrestricted Mobility – Anywhere



In modern robotics, performance depends on speed, precision, and flexibility. Highly dynamic motion, real-time control, and reliable interaction with the environment require powerful data and power connections that are compact, lightweight, and robust.

For mobile and collaborative robots in particular, space-saving and flexible connection systems are critical. Rigid cabling limits freedom of movement, increases wear, and limits application options.

With the RoProxCon® system, Rosenberger delivers connectivity solutions tailored for robotics – offering high abrasion resistance, a compact form factor, and exceptional flexibility. Whether standardized or customized, our portfolio ensures reliable operation and extends the service life of your robotic application.

Benefits



Wear-Free Operation: Reliable, contactless connectivity – even under constant vibration



Unlimited Rotation: Stable, full-duplex data during continuous 360° rotation



Flexible Integration: Versatile mounting options for maximum design freedom



Reliable in Motion: No cable fatigue or breakage – perfect for highly dynamic environments



High Performance in a Compact Size: Delivers high data throughput and efficient power transfer in a minimal footprint



Robust and Durable: Maintains reliable performance even in harsh conditions with dust, dirt, or moisture

Automated Tool Changing with RoProxCon® Data

In robotic environments that demand frequent tool changes, conventional connectors quickly reach their limits. Repeated mating and unmating lead to wear, deformation, and contamination – ultimately reducing reliability and service life.

RoProxCon® Data Redefines the Standard

This contactless connection system enables the seamless and wear-free transmission of data and power – delivering consistent performance across unlimited mating cycles.





Benefits

- Unlimited mating cycles
- Contactless transmission
- Maintenance-free operation
- High system availability
- Compact & flexible integration
- Contamination-resistant



Features

- Full duplex transmission during 360° continuous rotation
- Gigabit-Ethernet transmission for Industrial Ethernet integrated (for example EtherCat and ProfiNet)
- Individual localization and integration
- Transmission from device to device or to „other“ RoProxCon® through closed housings
- Hermetically sealed

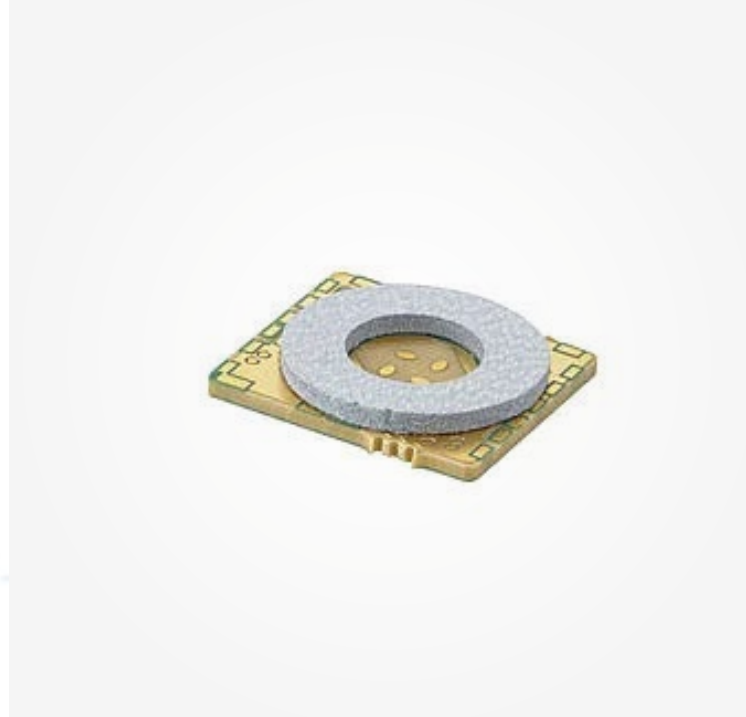
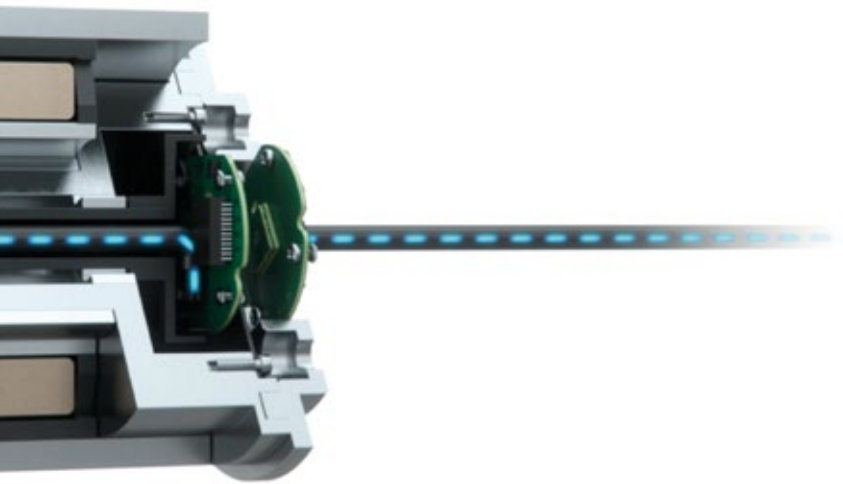
Robotic Joint Applications with RoProxCon® SoM

The demand for fast and stable data connections continues to grow – especially in applications with rotating joints. Traditional slip ring systems quickly reach their limits due to mechanical wear, limited bandwidth, and unstable transmission.

RoProxCon® SoM (System-on-Module) sets a New Standard

This contactless technology enables wear-free, high-performance data and power transmission – ideal for continuous rotation and demanding robotic joints.





Benefits

- No mechanical wear
- Stable transmission during rotation
- High bandwidth capability
- Maintenance-free
- Compact integration
- Enhanced system uptime

Features

- Full duplex data transmission up to 3.125 Gbps based on ST60
- High tolerance against radial and axial misalignment
- Stable transmission with 360° rotation
- Small form factor: 14.2 x 12.5 mm
- Low latency down to 7 ns
- Transmission through a wide variety of materials

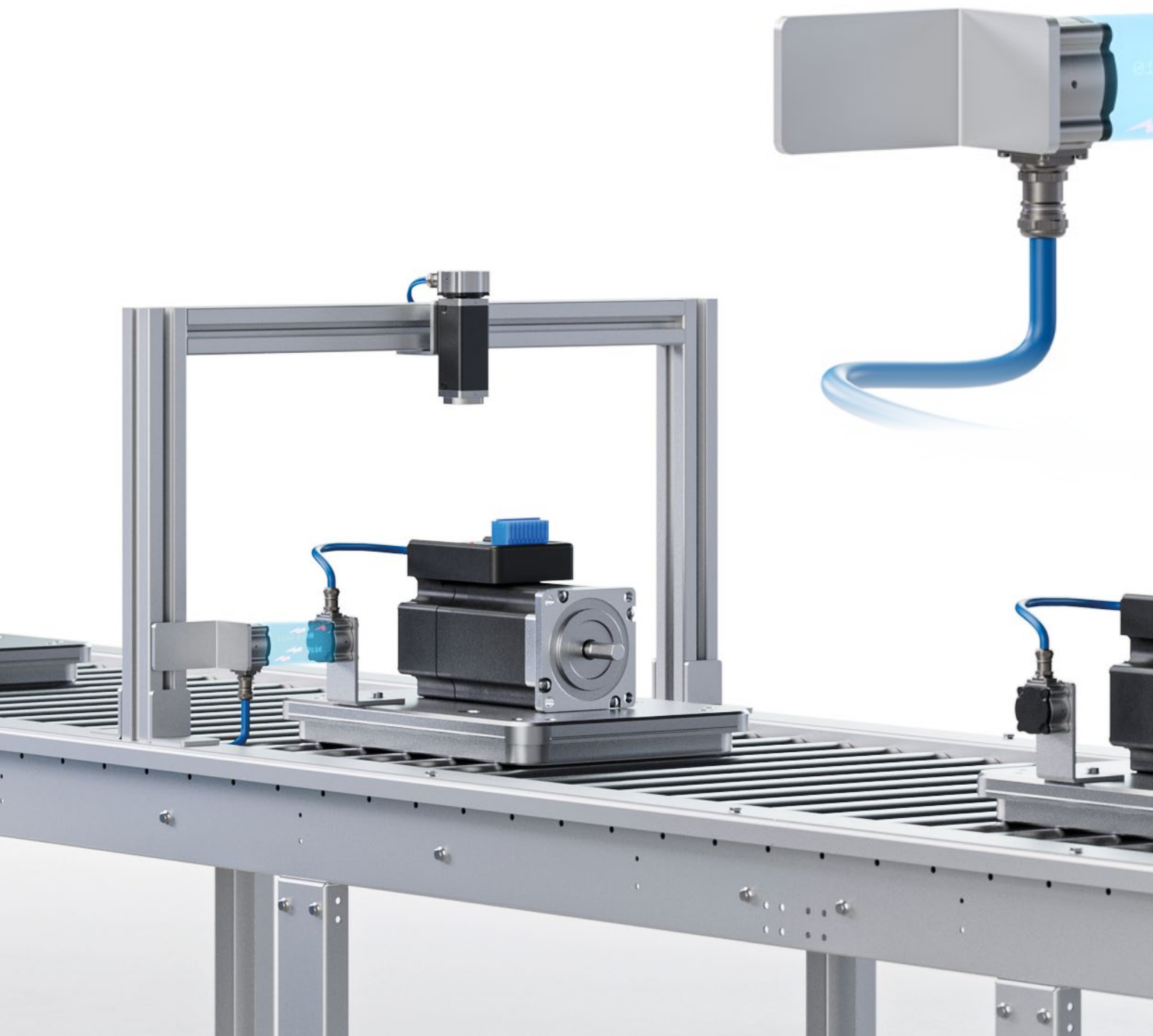
Automated Testing Systems with RoProxCon® Hybrid

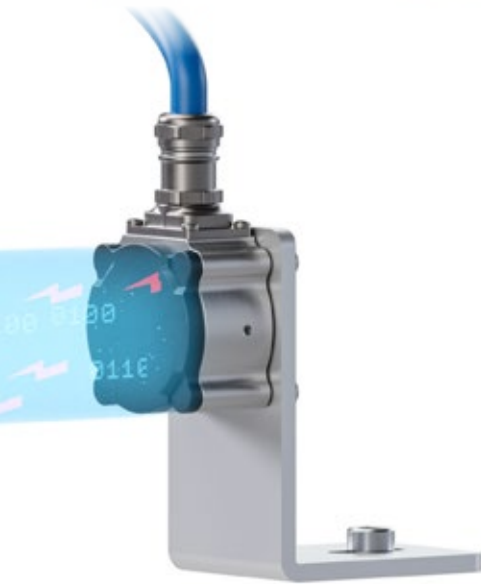
Automated testing environments demand precise, uninterrupted data transmission -even when perfect alignment of components cannot be guaranteed. Traditional wired or plug-in connectors often fail due to mechanical tolerances or positioning deviations.

RoProxCon® Hybrid Ensures Reliability

Where Precision Falters

Its automatic, contactless connection maintains accurate data and power transmission – even in cases of misalignment or movement – making it ideal for demanding test setups.





Benefits

- Misalignment-tolerant
- Contactless & precise
- Reduced test downtime
- Maintenance-free operation
- Flexible system integration
- Improved test reliability

Features

- Power transmission up to 30 W
- Full duplex transmission during 360° rotation to each other
- Gigabit-Ethernet transmission for Industrial Ethernet integrated (for example EtherCat and ProfiNet)
- Transmission from device to device or to „other“ RoProxCon® through closed housings
- Hermetically sealed
- Foreign object detection (FOD)

Why Contactless?

Seamless connectivity and intelligent processes are key to meeting today's rising quality standards – and to achieving zero-defect performance. Stable, high-performance transmission of data and power is essential across industries, yet conventional systems like plugs and slip rings often reach their physical and technical limits.

This is Where Contactless Connectivity Takes the Lead:

Robust, low-maintenance, and engineered for the future – it's the ideal choice for industrial automation, dynamic conveyor systems, wind turbines, and beyond.

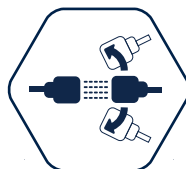
Stay one step ahead – with contactless, future-ready solutions.



Versatile:

Made for every application

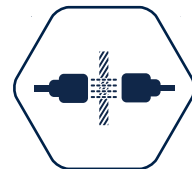
Engineered for seamless integration into both existing infrastructures and future system architectures



Reliable:

Built to perform


Delivers stable, high-performance connectivity even in the toughest environments



Borderless:

No physical limits

Contactless connectivity eliminates mechanical constraints and unlocks new levels of design freedom

	Data	SoM (System-on-Module)	Hybrid
Product			
Data rate	up to 1 Gbps (Gigabit Ethernet)	up to 3.125 Gbps	up to 1 Gbps (Gigabit Ethernet)
Distance	up to 10 mm	up to 20 mm	up to 5 mm
Transmission	Data	Data	Data and power
Output	–	–	30 W
Misalignment	± 2 mm	± 2 mm	± 2 mm
Rotation	0 – 360°	0 – 360°	0 – 360°
Benefit	Easy to implement	Customer solutions easy to implement	Transmits data and power

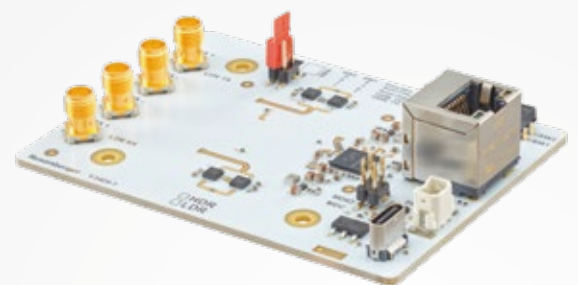
Evaluation Board

With the RoProxCon® Evaluation Board, Rosenberger offers a powerful platform for the development and integration of contactless transmission solutions. At its core is the compact RoProxCon® System-on-Module (SoM) – a high-frequency module designed for stable data transmission over short distances.

The board enables developers, OEMs, and system integrators to realistically test the technology and integrate it into customized applications.

Benefits

- **Simple Setup:** Fast and intuitive commissioning for immediate test readiness
- **High Flexibility:** Easily adaptable to meet specific testing and system requirements
- **Accelerated Development:** Delivers precise, repeatable results – speeding up your development cycles





Website

For more information refer to our website:
www.rosenberger.com/contactless

Rosenberger

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