

Discover our solutions:

A comprehensive product guide

DIS sensors

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Who’s DIS Sensors

- Our History
- What’s next
- Why choose for DIS Sensors
- How we help you

Products

QG series

- Inclinometers
- Acceleration sensors
- Tilt switches

QR series

- Rotary encoders

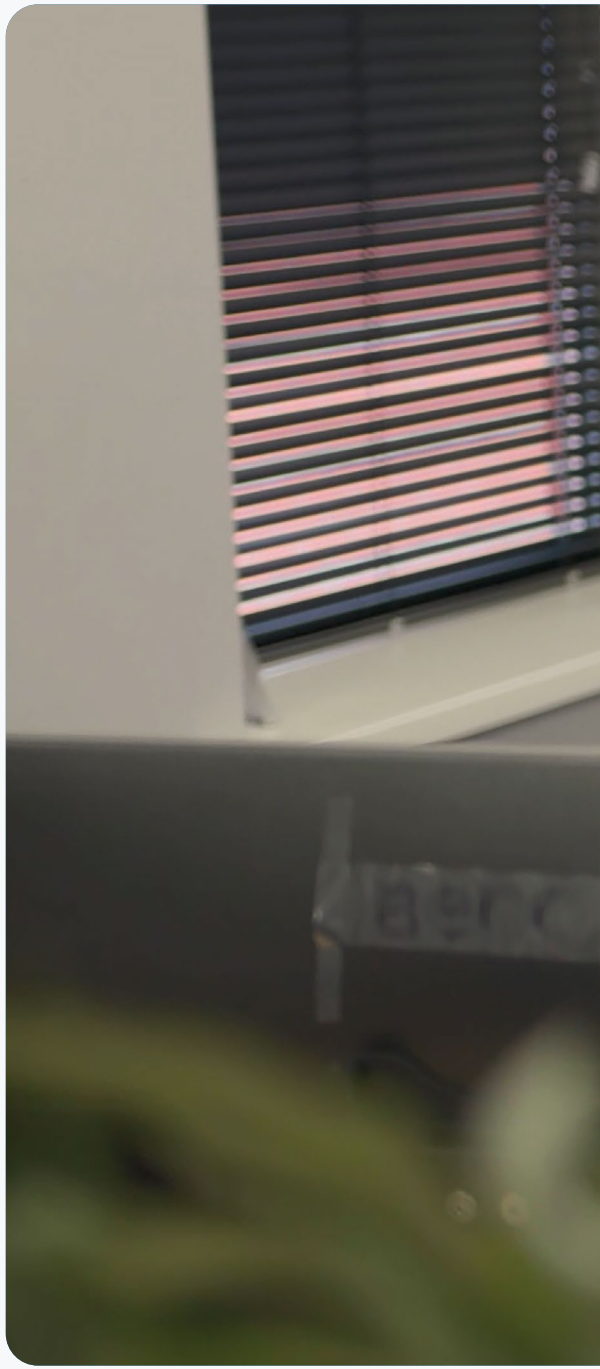
Cables & accessories

- Cables
- Connectors
- CAN open accessories
- External magnets & magnet holders Configurators

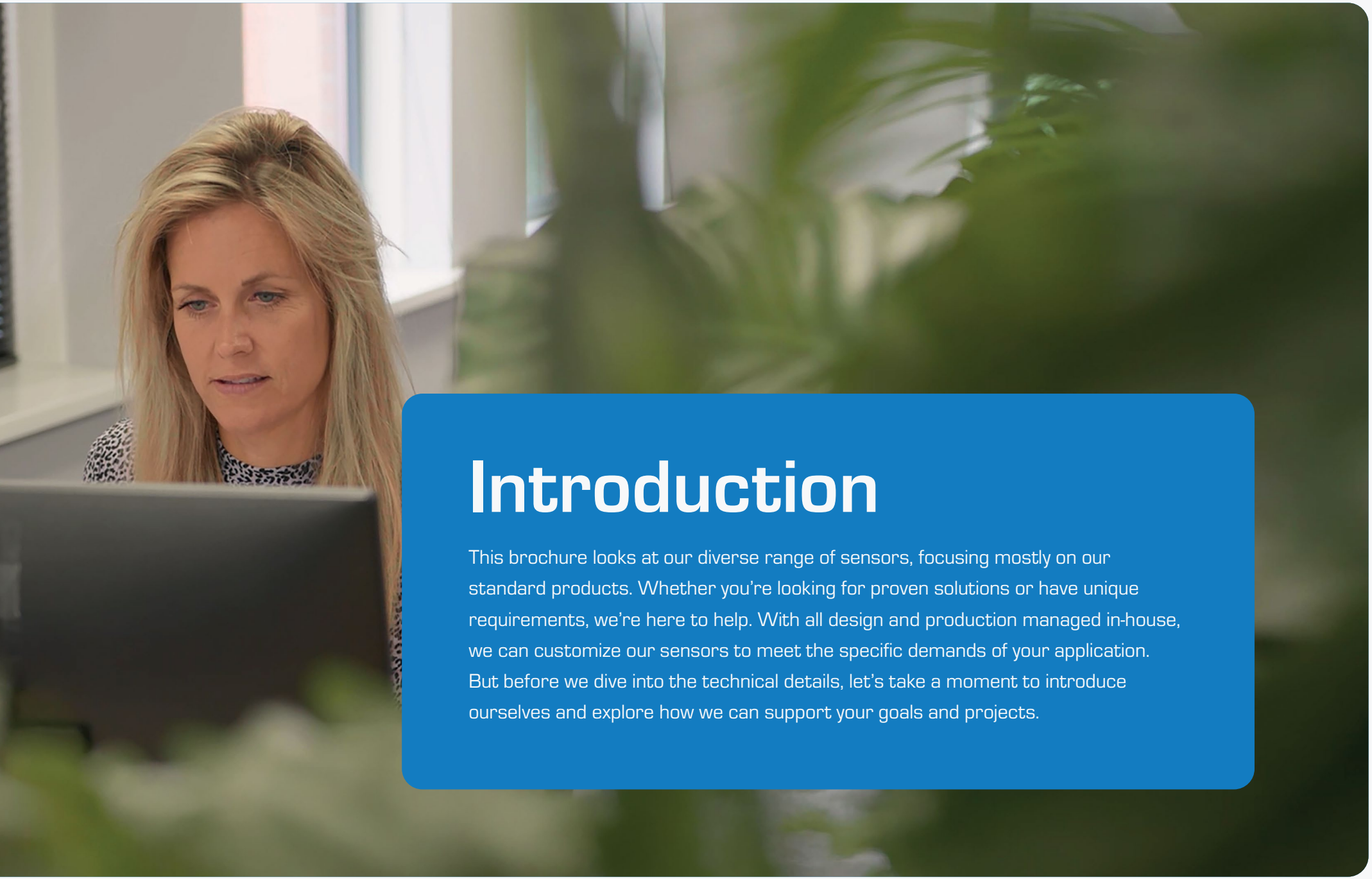
Customized solutions

Our distributors

Contact



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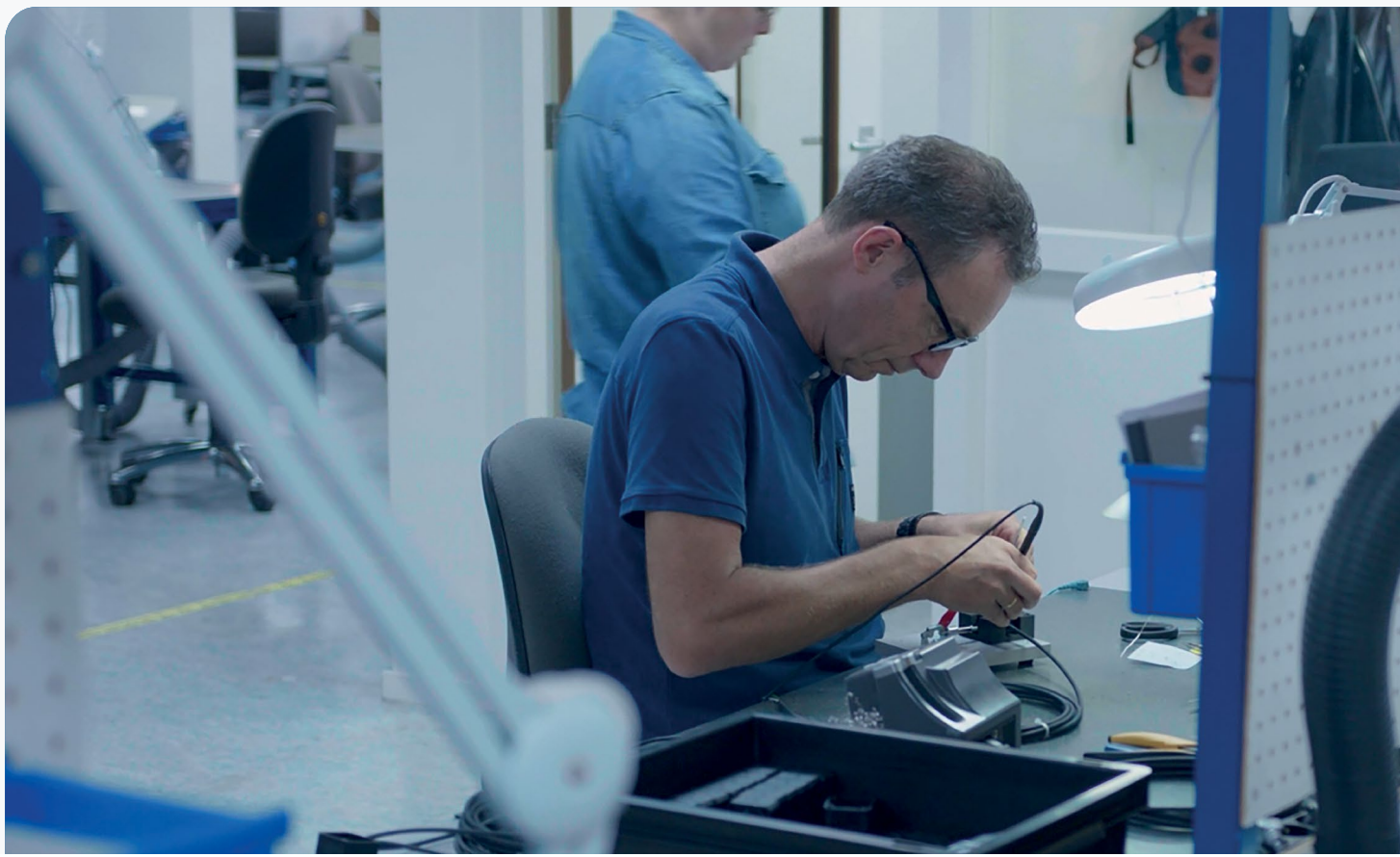
Introduction

This brochure looks at our diverse range of sensors, focusing mostly on our standard products. Whether you're looking for proven solutions or have unique requirements, we're here to help. With all design and production managed in-house, we can customize our sensors to meet the specific demands of your application. But before we dive into the technical details, let's take a moment to introduce ourselves and explore how we can support your goals and projects.

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Who’s DIS Sensors

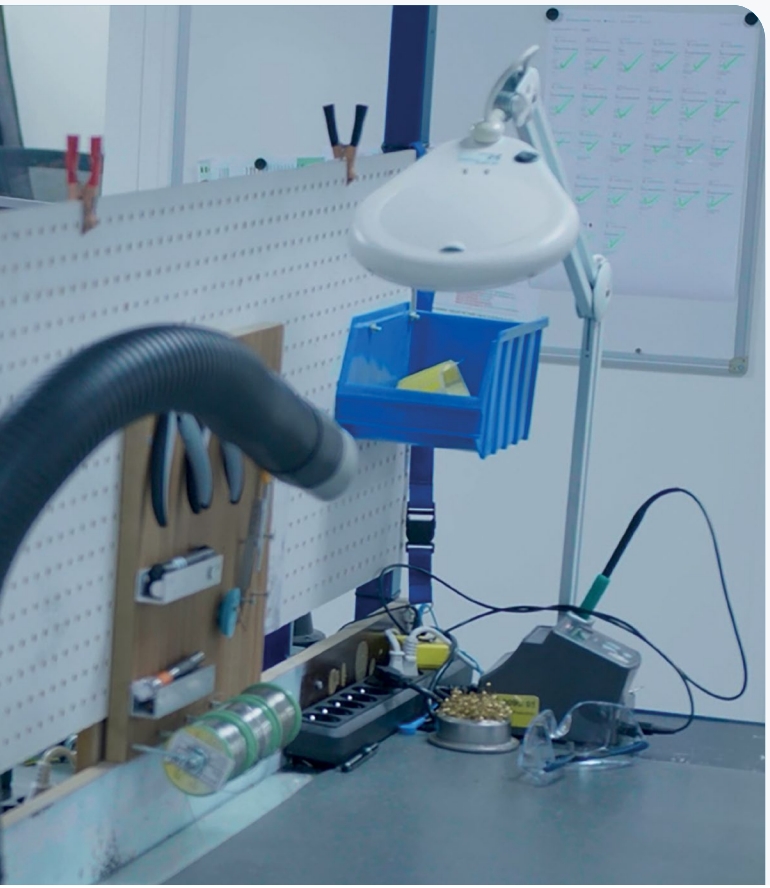
For over 35 years, we’ve dedicated ourselves to developing high-quality sensor solutions for you. We meet and exceed your standard of accuracy and stability. We develop, manufacture, and supply sensors in-house. Although our sensor range mainly focuses on measuring inclination, vibration, and acceleration, DIS Sensors is also a leading supplier of rotary encoders.



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Our history

DIS Sensors exemplifies how one innovative idea can spark a lasting impact. In 1987, our founder, G.J. de Wit envisioned a groundbreaking concept: a flat, compact inductive proximity switch called the Quadro-Prox. Together with Robert Wieske, he developed this pioneering sensor, setting the foundation for what would eventually become DIS Sensors. Now led by the next generation, the company continues to prioritize quality and precision, producing high-quality sensors that meet the demands of today's industries.



What's next

When we say innovation is in our DNA, we mean it. After three years of intensive development, we launched a new platform designed to support our next generation of inclinometers. The QG65D dynamic inclination sensor with CANopen compatibility leads this series, marking a significant leap in precision and connectivity. And this is just the beginning—more advanced sensors are on the way to meet the evolving needs of our industry.

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Why choose for DIS Sensors

We are committed to providing reliable, innovative sensor solutions that empower your applications.

Our core strengths include:

- In-house development and production
- Custom housing and firmware design
- Proven performance in tough environments
- In-house cable and connector assembly



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How we help you

We're here to help by delivering solutions that are tailored to meet the exact needs of your application. Whether you're facing unique technical challenges or specific operational requirements, we collaborate closely with you to develop sensors that enhance safety, precision, and reliability. With our in-house design, production, and software development, we offer sensor solutions that can withstand even the most demanding challenges. From standard products to custom adaptations, our goal is to empower your projects with the right sensor technology and the trusted support you need to succeed. With each solution, we combine decades of expertise with a commitment to quality, ensuring that you achieve lasting success.



Innovative technology

Customizable

Quality and Precision

Global reach, local support

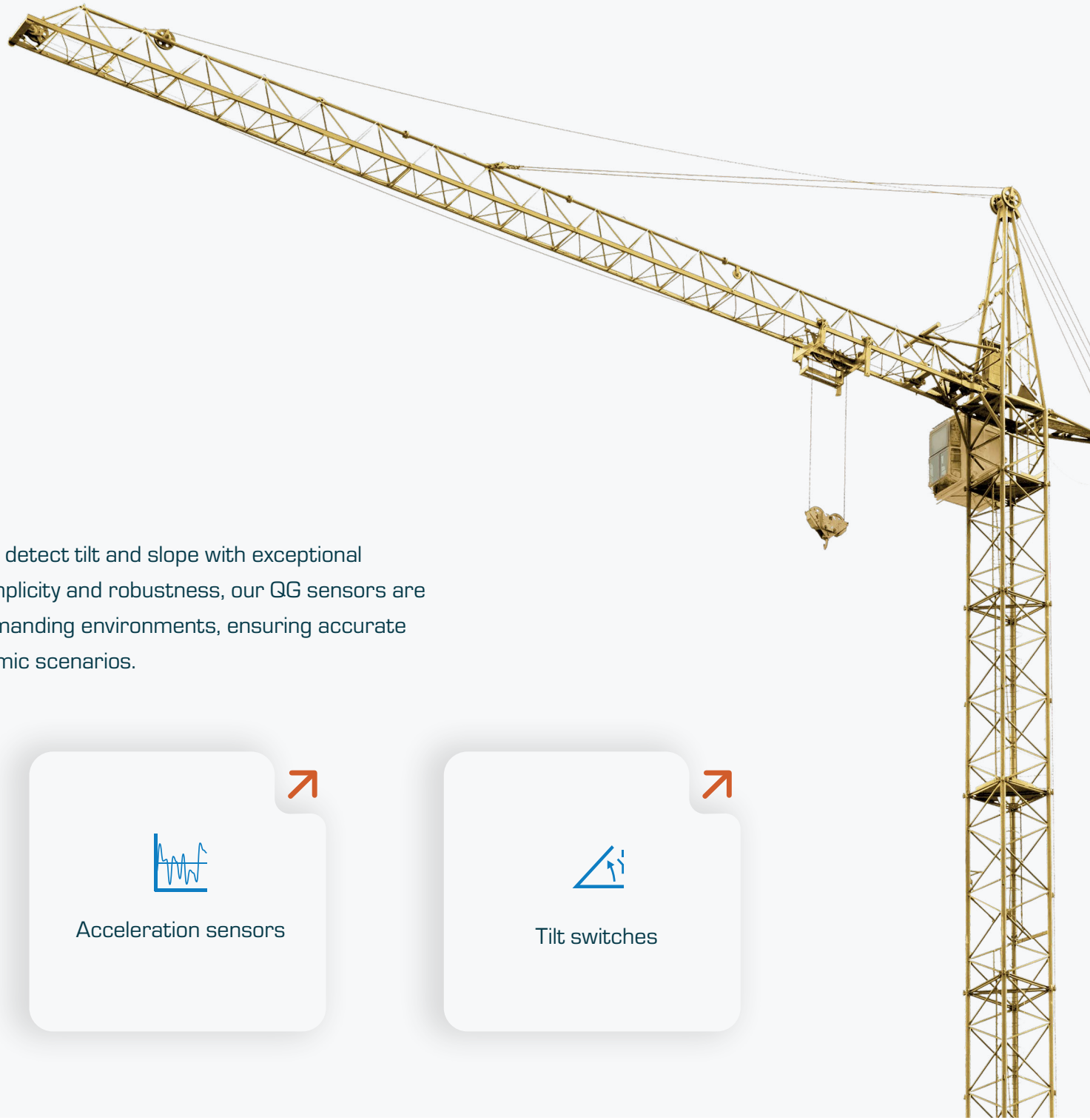


Products

We specialize in high-quality, innovative sensors designed for precision and reliability. Our product range includes inclinometers, tilt switches, accelerometers, rotary encoders, and custom-tailored solutions. All our sensors are developed and produced in-house in the Netherlands, ensuring top-notch quality and adaptability to meet specific application needs.

With our focus on both standard and customized products, we deliver solutions that empower your projects to achieve optimal performance and efficiency.

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QG series

The QG series sensors are designed to detect tilt and slope with exceptional reliability and precision. Focusing on simplicity and robustness, our QG sensors are designed to perform consistently in demanding environments, ensuring accurate angle detection in both static and dynamic scenarios.

Inclinometers

Acceleration sensors

Tilt switches

Inclinometers

Inclinometers measure the angle with respect to the direction of the force of gravity in one or two axes. Inclinometers from the DIS Sensors QG series are based on robust MEMS technology, and their modular design makes it easy to optimize each sensor for a specific application. What's more, for certain models, the handy configurator enables the end customer to easily adjust the sensor according to preference.



Application example

Boom lifts (or 'cherry pickers') come in all shapes and sizes, but they have one thing in common: every type must be equipped with an inclinometer. First, to verify that the machine is level before raising the boom; then to continuously check for potential instability during operations.

DIS Sensors offers a wide range of inclinometers for this application, including many with SIL2/PLd certificate.

Dynamic Inclinometer

Stable real-time measurement, even during rapid movement.
Features of new DIS Sensors dynamic inclinometer:

- Compact, robust sensor housing
- CANopen & J1939 outputs
  (analog and RS485 coming soon)
- M12 plug or fixed cable connection
- Future-proof hardware and software architecture
- Customization options

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Specifications

Single axis measurement range:	±10°; ±30°; ±90°; 0 - 360°
Double axis measurement range:	±10°; ±30°; ±90°
Energy supply:	5 V dc or 10 - 30 V dc
Analogue output:	0.5 - 4.5 V or 4 - 20 mA
Digital output	CANopen (Safety); J1939
Level of protection:	IP67, IP68 or IP69K
Precision:	Depending on model and range: as high as ±0.04g
Programmable:	Fltering, measuring range
Zeroing possibility:	Depends on model
Functional safety:	SIL2/PLd (specific models)
Housing:	(reinforced) plastic or stainless steel



Functions:

Levelling, tilt protection, roll and pitch measurement, angle measurement.

Applications:

Concrete pumps, cranes, elevated work platforms, solar panels, air suspension systems, agricultural machinery.

For projects with unique needs, our customized solutions offer exactly the flexibility you're looking for. With our in-house sensor design and production, we create tailored sensors that align with your specific requirements. Let us know your vision, and we'll help make it a reality with sensor solutions crafted to fit your goals precisely.

Contact →

Acceleration sensors

The acceleration sensors of DIS Sensors measure acceleration in one, two or three axes. These sensors are based on robust MEMS technology and thanks to the modular design easy to adapt to specific requirements. Because these acceleration sensors have a higher bandwidth than inclinometers, they can accurately measure the g-forces of fast movements.



Application example

Modern wind turbines are required by law to use accelerometers to monitor swaying of the mast due to wind and (offshore) wave action. When these sensors measure values that exceed a certain threshold, a signal is given to ‘feather’ the blades, putting the wind turbine into a safe state.

DIS Sensors provides added value to turbine producers in the area of customer-specific filtering and safety circuit interfacing.

CANopen safety sensor for safety applications

DIS Sensors offers various inclinometers and accelerometers that are certified compliant with SIL2 (IEC 62061) and PLd (as per EN ISO 13849).

This certification makes these sensors suitable for use in safety applications. The sensors are available in both the standard QG65 reinforced plastic housing and the QG76 stainless steel housing.

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Specifications

Measurement range:	±0.5 to ±18 g (1 g = 9.81 m/s²)
Bandwidth:	0 - 1,600 Hz
Energy supply:	5 V dc or 10 - 30 V dc
Analogue output:	0.5 - 4.5 V or 4 - 20 mA
Digital output	CANopen (Safety)
Level of protection:	IP67, IP68 or IP69K
Precision:	Depending on model and range: as high as ±0.04 g
Zeroing possibility:	Depends on model
Model functional safety:	SIL2/PLd (specific models)
Housing:	(reinforced) plastic or stainless steel



Functions:

Measurement of acceleration and vibration, active vibration damping, transport monitoring.

Applications:

Agricultural machinery, wind mills, containers.

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Tilt switches

A tilt switch is an inclinometer with a switching output, using gravity as a reference. DIS Sensors' tilt switches, based on MEMS technology and smart algorithms, offer single or twin-axis options with customizable switching angles. Standard models use a QG40 housing, while the QG65 variant provides higher precision and temperature stability.



Application example

The tilt of mobile machinery is usually monitored using inclinometers. An inclinometer designed as a tilt switch can trigger warning and/or alarm signals when one or more preprogrammed angles is exceeded for a certain period of time. This is also a simple but effective way to prevent abuse of the machines in a rental fleet.

SIL1 tilt switch

The QG40N Safety Tilt switch is a non-contact MEMS technology tilt switch for standard & safety applications (the device is SIL1/ PLc). It has up to three PNP outputs and is available in both 1-axis ±170° and 2-axis ±80°. This sensor can be customized for a specific application by using the optional configurator tool to modify its factory settings, e.g. switching points, filter/bandwidth and on/off delay timers.

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Specifications

Single axis measurement range:	Up to 360°
Double axis measurement range:	±1° to ±80°
Energy supply:	5 V dc or 10 - 30 V dc
Output:	Single or dual NPN/PNP
Level of protection:	IP67, IP68 or IP69K
Precision:	Depending on model and range: as high as ±0.2°
Programmable:	Switching angle, on/off delays, filtering
Housing:	(reinforced) plastic



Functions:

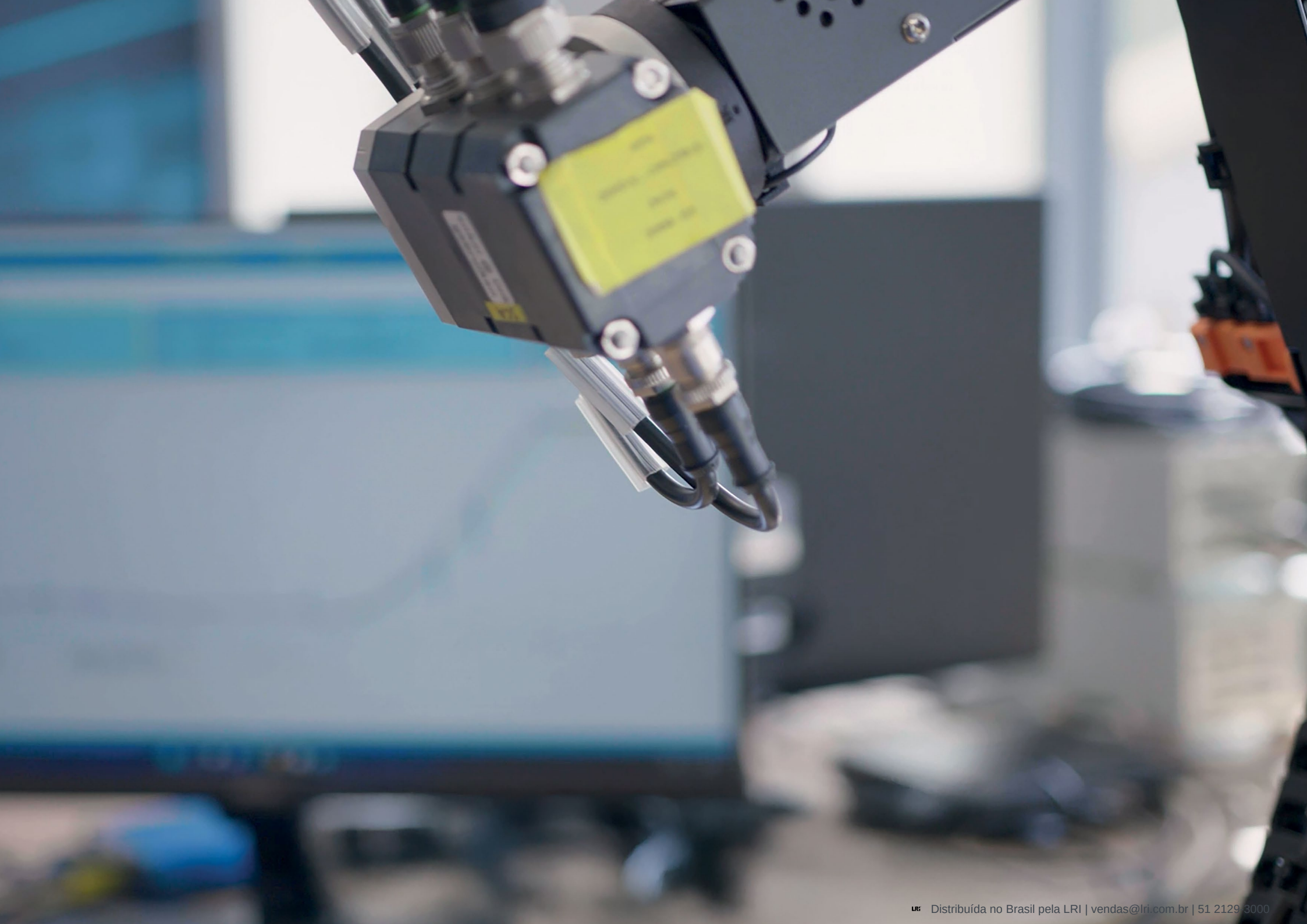
Replacement for mercury switches, tilt wand tip over protection.

Applications:

Elevated work platforms, agricultural machinery, forklift trucks, stackers.

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QR series

The QR series of sensors are designed for precise rotational measurement, providing accurate data on rotational positions from 0° to 360°. Unlike traditional encoders, the QR series uses magnetic sensing technology, ensuring contactless measurement for enhanced durability and reduced wear and tear.

Rotary encoders



Rotary encoders

Our rotary encoders (absolute & incremental) measure angular displacement from 0° to 360° without mechanical stops. Models include QR30(N), QR40, and QR40EMN. In QR30(N) and QR40EMN, the sensor mounts to a fixed assembly, with the magnet on a rotating shaft, allowing up to 10 mm clearance for mechanical tolerances.

The QR40 series features an output shaft with fiberglass bearings, zero-calibration, and easy installation. The QR40EMN, available as a full-redundant model, is ideal for safety-critical designs. Outputs offer 12-bit resolution and high repeatability for diverse applications.



Application example

The contactless incremental encoder measures the direction and speed of a rotating shaft, commonly used in machines where linear motion is driven by a rotary motor. It serves as a cost-effective alternative to two inductive limit switches or expensive optical encoders.

The contactless absolute encoder measures the precise angle of a rotating shaft within a range of less than 360°. Typical applications include steering systems, throttle levers, and automatic doors, offering continuous feedback of the shaft position to the controller.

The QR46 model is also available as a compatible replacement for rotary encoders from other brands, featuring a matching shaft and mounting bracket.

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Specifications

	Absolute	Incremental
Measurement range:	0 - 360° (subranges possible)	0 - 360°
Energy supply:	5 V dc or 10 - 30 V dc	5 V dc or 10 - 30 V dc
Output	0 - 5 V or 4 - 20 mA (both single & redundant)	A/B pulse (32 - 1,024 ppr) push/pull
Level of protection:	IP67 (QR40: IP66)	IP67
Resolution:	0.09°	0.09°
Housing:	plastic	plastic



Functions:

Replacing potentiometers, measurement of angle, speed and direction.

Applications:

Agricultural machinery, excavators, mobile and fixed waste compacters, valve control, robotics.

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Cables & Accessories

Reliable sensor performance starts with quality cables and accessories. Our range includes cables, connectors, CANopen and rotary encoder accessories, and configurators.

Cables

PVC Cable - 5-pole

M12 with open ended wires - female

Available sizes:	Part number
1,5 m	11700
5 m	11701
10 m	11702
15 m	11703

PUR Cable - 5-pole

M12 with open ended wires - female

Available sizes:	Part number
1,5 m	10654
5 m	10657
10 m	11704
15 m	11705

PUR Cable - 8-pole

M12 with open ended wires - female

Available sizes:	Part number
1,5 m	11706
5 m	11707
10 m	11708
15 m	11709

PUR Cable (CAN) - 5-pole

M12 with open ended wires - female

Available sizes:	Part number
1,5 m	11711
5 m	11712
10 m	11146
15 m	11713

Breakout cable for QG40N configurator 12345

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Connectors

(without cable - with screw terminal)

M12 connector

Available in:	Part number
Male, 5-pole, metal	10218
Male, 5-pole, plastic	11848
Female, 5-pole, metal	10219
Female, 5-pole, plastic	11723
Male, 8-pole, plastic	11716
Female, 8-pole, plastic	11715

M12 T-connector

Available in:	Part number
5 pole - 1 x male & 2 x female	11822

CAN open accessories

(without cable - with screw terminal)

M12 bus terminator

Available in:	Part number
5 pole - male	10217
5 pole - female	10194

External magnets & magnet holders

Magnet holder with N-mark - IP67

Available in:	Part number
Stainless steel bolt (size M12 x 1.5 x 20 mm)	11594
Stainless steel bolt (size: M10 x 1 x 20 mm)	12170
Plastic disc (size: Ø30 x 8 mm)	11787
Plastic disc (size Ø43 x 10 mm)	12499

Magnet neodymium (rectangular) - with N-mark

Available in:	Part number
11.2 x 5.5 x 8 mm	11178
20 x 12 x 10 mm	11829

Magnet neodymium (circular) - 2-pole axial

Available in:	Part number
Ø 8 x 5 mm	11178
Ø 15 x 4 mm	11593

Configurators

Available in:	Part number
QG40N series configurator	12380
DIS configurator set CAN (for QG65D & QG65N2)	12750

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Customized solutions

We understand that your needs may require a custom approach. Whether it's a unique project that others might call ambitious or a specialized requirement. Your ideas deserve precision, creativity, and trust; we are here to turn them into reality.

With over 35 years of experience, we've tackled diverse and demanding projects, always with the same commitment to quality and innovation. We'll work with you to develop tailor-made solutions that enhance both the performance and reliability of your applications, so you can focus on what matters most to your business.

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Applications

Our customized solutions find different applications in a wide range of industries.
Here's a quick overview of the key sectors where our sensors play an important role:



Handling and lifting equipment



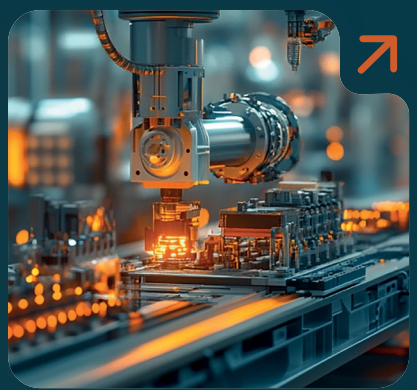
Sustainable energy



Medical appliances



Marine and water management



Production machines



Agricultural vehicles



Construction machines

If you're in need of a customized sensor solution, you're in the right place. Simply reach out to us, and together we'll develop a solution that fits your unique requirements perfectly.

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Our distributors

Our distributors are much more than partners—they're an extension of our team and play a crucial role in bringing our sensor technology to customers worldwide. Each distributor is carefully selected for their expertise, dedication, and deep understanding of local markets. By collaborating closely with distributors who share our commitment to quality and innovation, we ensure that customers receive exceptional products and the support and knowledge they need to succeed. We build lasting relationships based on trust, reliability, and a shared vision for advancing sensor solutions.

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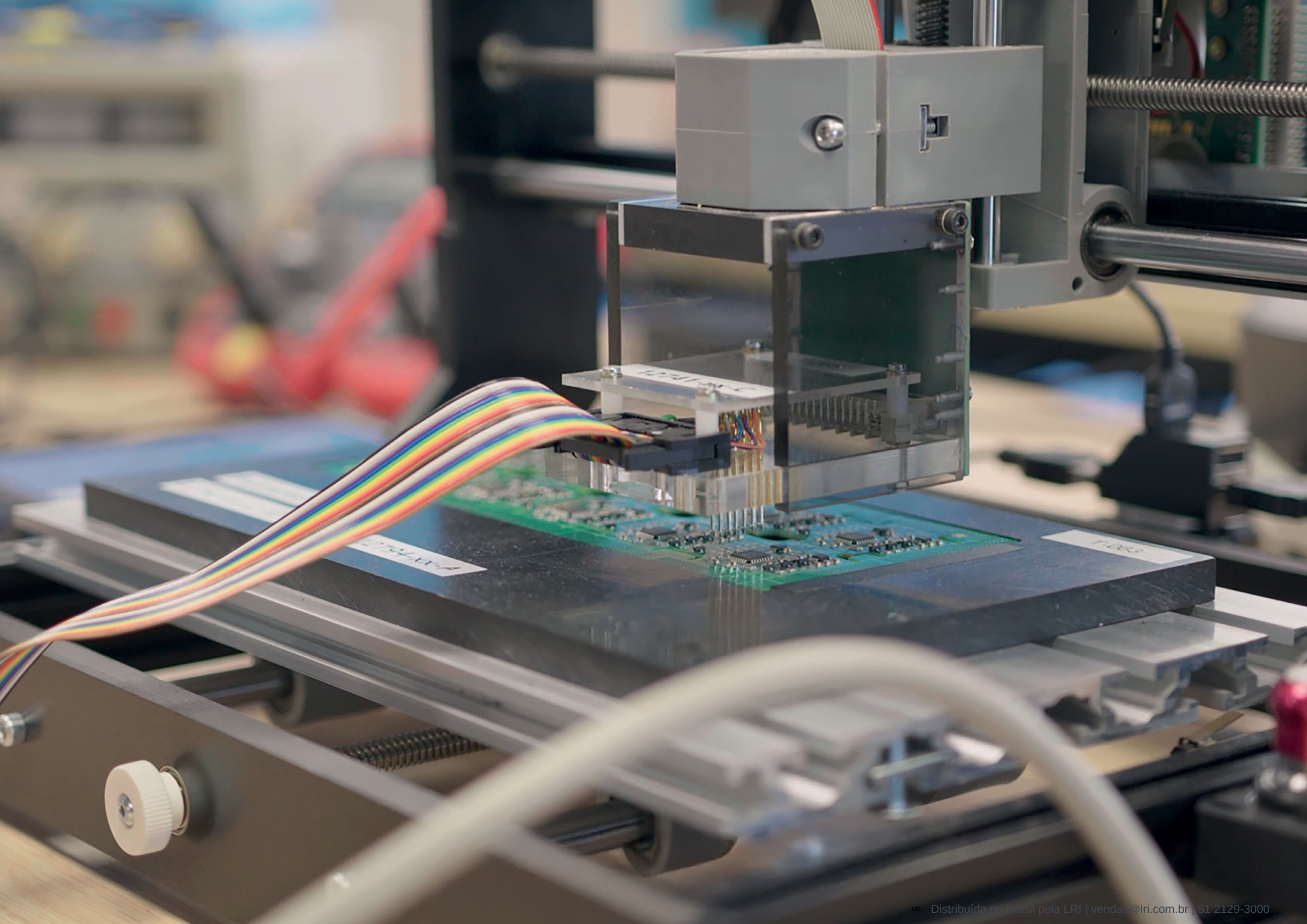
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If you'd like to connect with us at DIS Sensors, we're here to help you explore sensor solutions tailored to your needs. With over 30 years of in-house design and manufacturing expertise, we're dedicated to delivering reliable, precision-engineered sensors that stand out for their quality, durability, and adaptability.

Our team's unique ability to customize sensor technology means we can support a wide range of industries and specific project requirements. Reach out to discover how our commitment to innovation, flexibility, and customer service can make a difference for your business.

Contact ↗

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