



INDUCTIVE PROXIMITY SENSORS

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Non-contact and safe detection of metallic objects

Inductive proximity sensors play an important role in industrial automation and are used in the millions in many different industries and applications.

INE Industrial

High-quality sensors in all sizes up to M30 – in both normal and short designs, IO-Link variants



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INM Miniature

Efficient miniature sensors of Ø 3 mm to M5 with metal housing, especially for the smallest and narrowest of spaces



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INW Full Metal

Sensors with full metal, stainless steel sleeves for applications with an increased risk of mechanical contact with metallic parts to be detected



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INP High-pressure resistant

Sensors for position monitoring in hydraulic systems or valve positions under high pressure – up to 500 bar



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INH High-temperature resistant

Sensors for ambient temperatures from -25 °C to +230 °C



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Use our selector to find the ideal sensor for your application – right on our website!
www.di-soric.com



Application overview:
Page 16

Matching accessories:
Page 22

di-soric offers the right solutions in Ø 3 mm to M30 models as well as rectangular designs from 5x5 mm to 40 x 40 mm for many industry-specific and individual automation requirements – from standard to the most demanding high-end applications.

INS Standard

Sensors with an outstanding price-performance ratio for standard applications



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INQ Rectangular Design

For demanding applications, rectangular designs with switching distances of 0.8-40 mm, in sizes from 5x5 mm to 40x40 mm



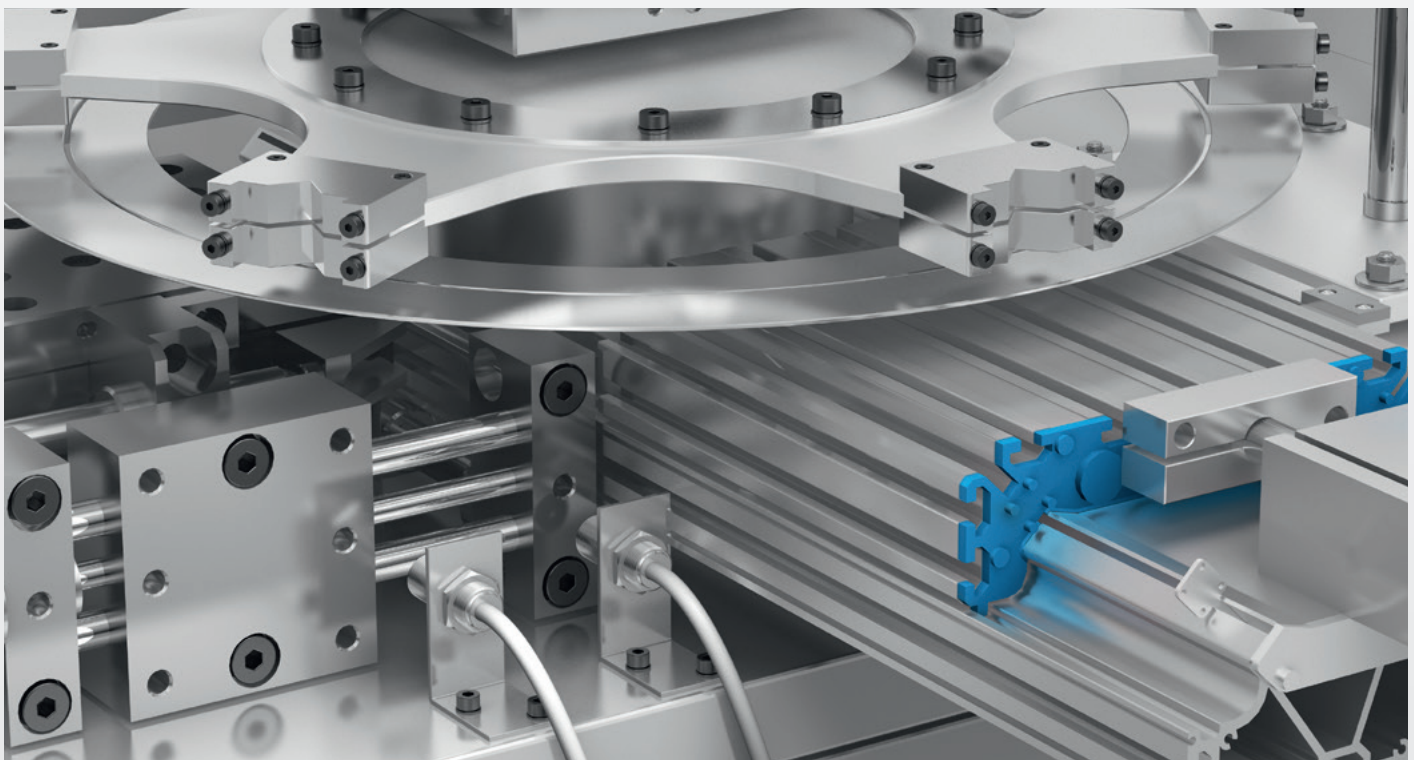
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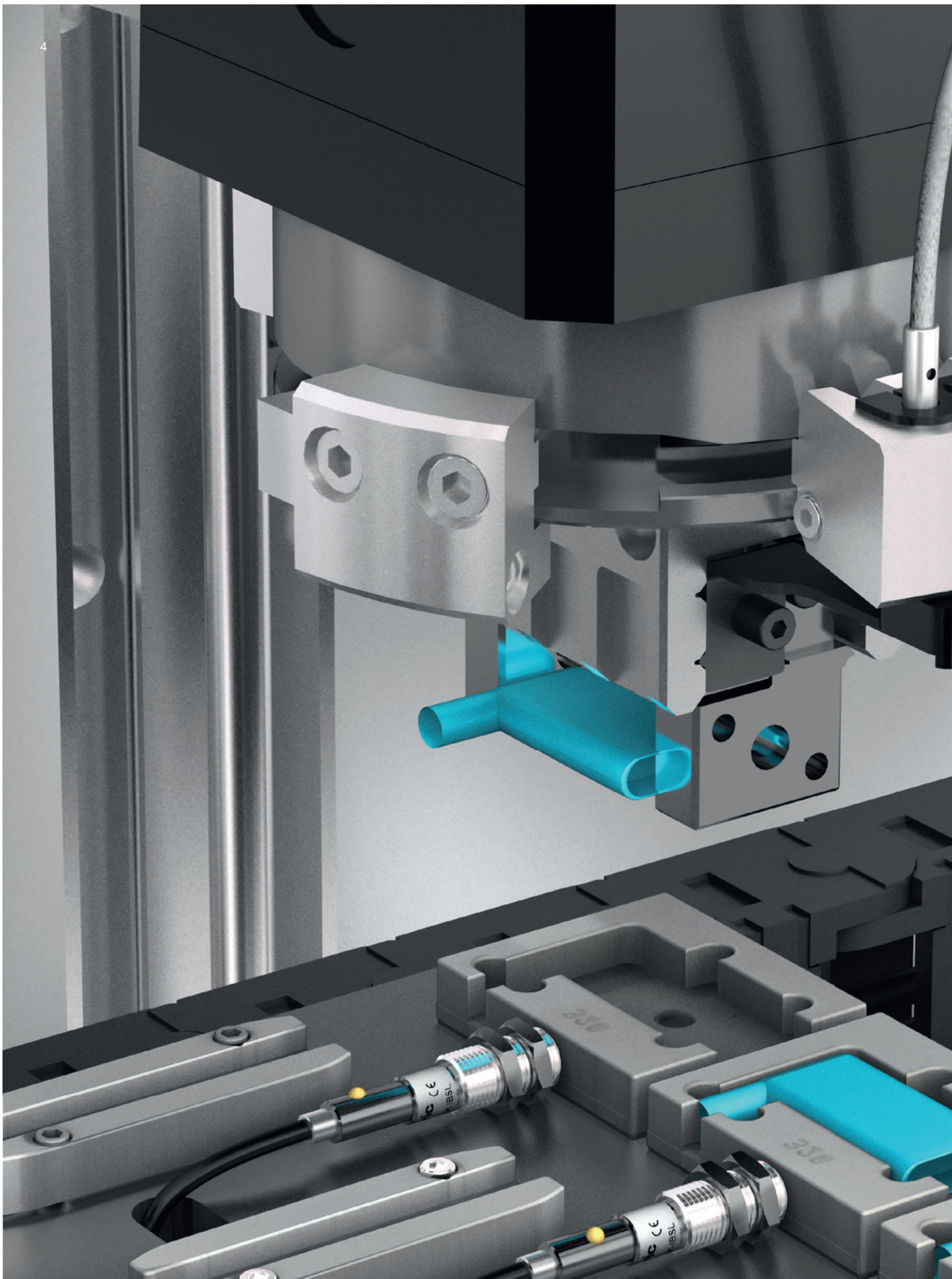
INA Analog

Sensors with analog current and voltage output for the extremely precise measurement of changes in distance



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Detection of components in the machining station

INE INDUSTRIAL

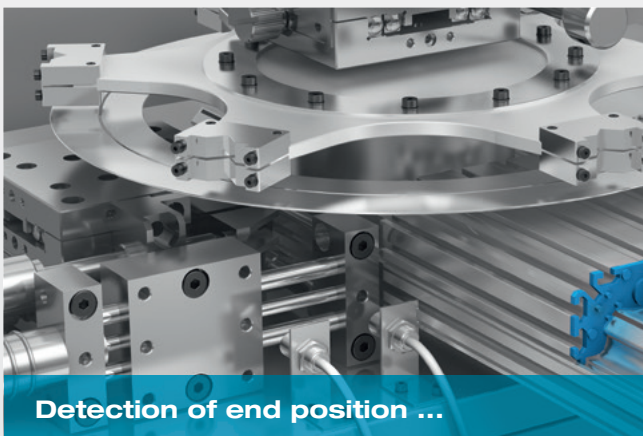
The INE Industrial series includes high-quality, inductive proximity sensors that are available in all sizes up to M30 – in both normal and short designs. They offer maximum flexibility thanks to 3- and 4-pin M8 and M12 plug connectors, PVC and PUR cable variants as well as pigtail variants. IO-Link sensors are also available for modern and efficient automation. Many of our inductive proximity sensors have UL and UKCA certifications.

Advantages of the INE Industrial sensors:

- Single, double and triple switching distance – safe solutions for demanding industrial applications
- The right sensors for almost any application – available in various sizes from 6.5 mm to M30
- Can be used even under the most confined conditions – normal and short designs
- The sensors in the INE Industrial series correspond to the high protection class IP67 – and in some cases IP68. They are dust-proof and protected against strong water jets. The resulting durability under industrial conditions reduces time and resources spent for maintenance and repair. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- Weld-proof variants available – optimally protected against welding sparks, heat and deposits, and resistant to magnetic fields of up to 50 mT



IO-Link



Detection of end position ...



... even during welding processes



Detection of the limit position of a pulley

INM MINIATURE

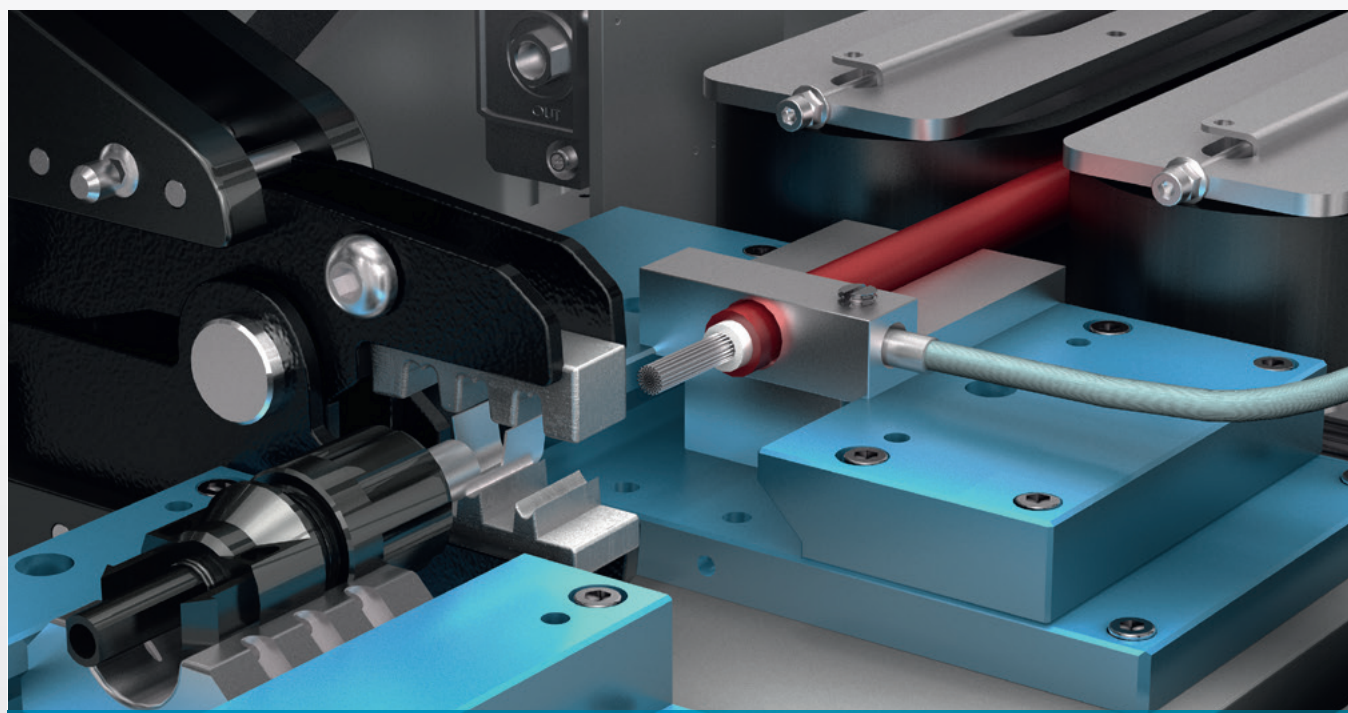
A large selection of efficient miniature sensors, specially designed for the smallest and narrowest of spaces, is offered by our INM Miniature series. The highly compact sensors are available in sizes from Ø 3.0mm to M5.



Ø3.0mm – M5

Advantages of the INM Miniature series:

- The optimal solutions for industrial applications with limited installation space
- Small diameters from D3 to M5 – this way you will always find the right sensors for compact installations
- The sensors with the high protection class IP67 are dust-proof and protected against strong water jets. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- The sensor can be integrated easily and quickly into the control system with the connection variants connector, pigtail, PUR cable or PVC cable. The flexible PVC cable, in particular, which is easy to adapt to the required length, has proven itself in the integration and replacement of the sensors.



Detection of a cable during the crimping process



Position sensing of processing parts

INW FULL METAL

The INW Full Metal series includes highly-resilient, inductive proximity sensors, which are highly resilient to mechanical stresses thanks to their complete full-metal housing. In addition to the inductive proximity switches with IP67, this series also includes products with IP68/IP69K, which are completely impermeable to various corrosive chemicals used in cleaning processes.

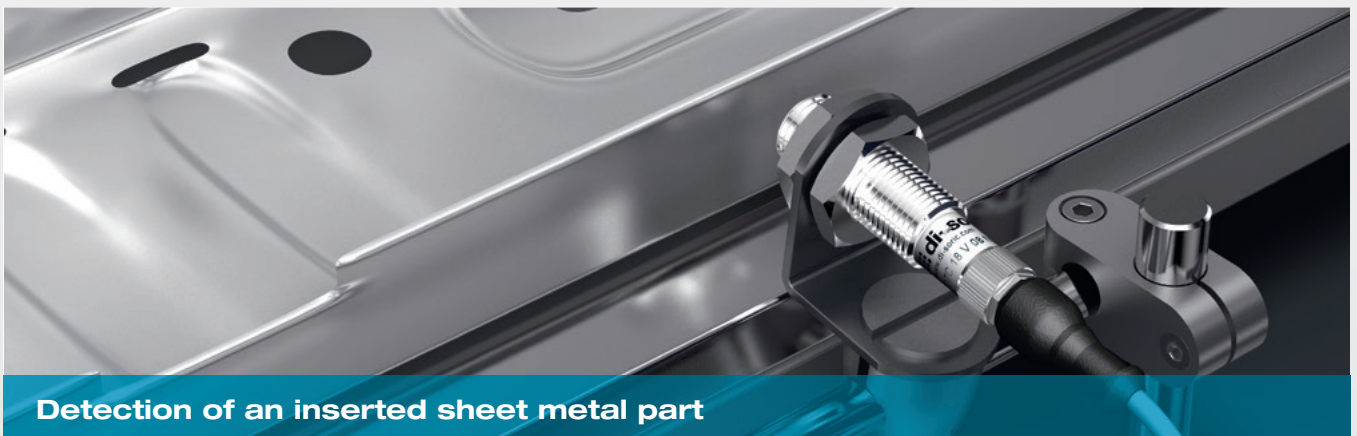


Advantages of the INW sensors:

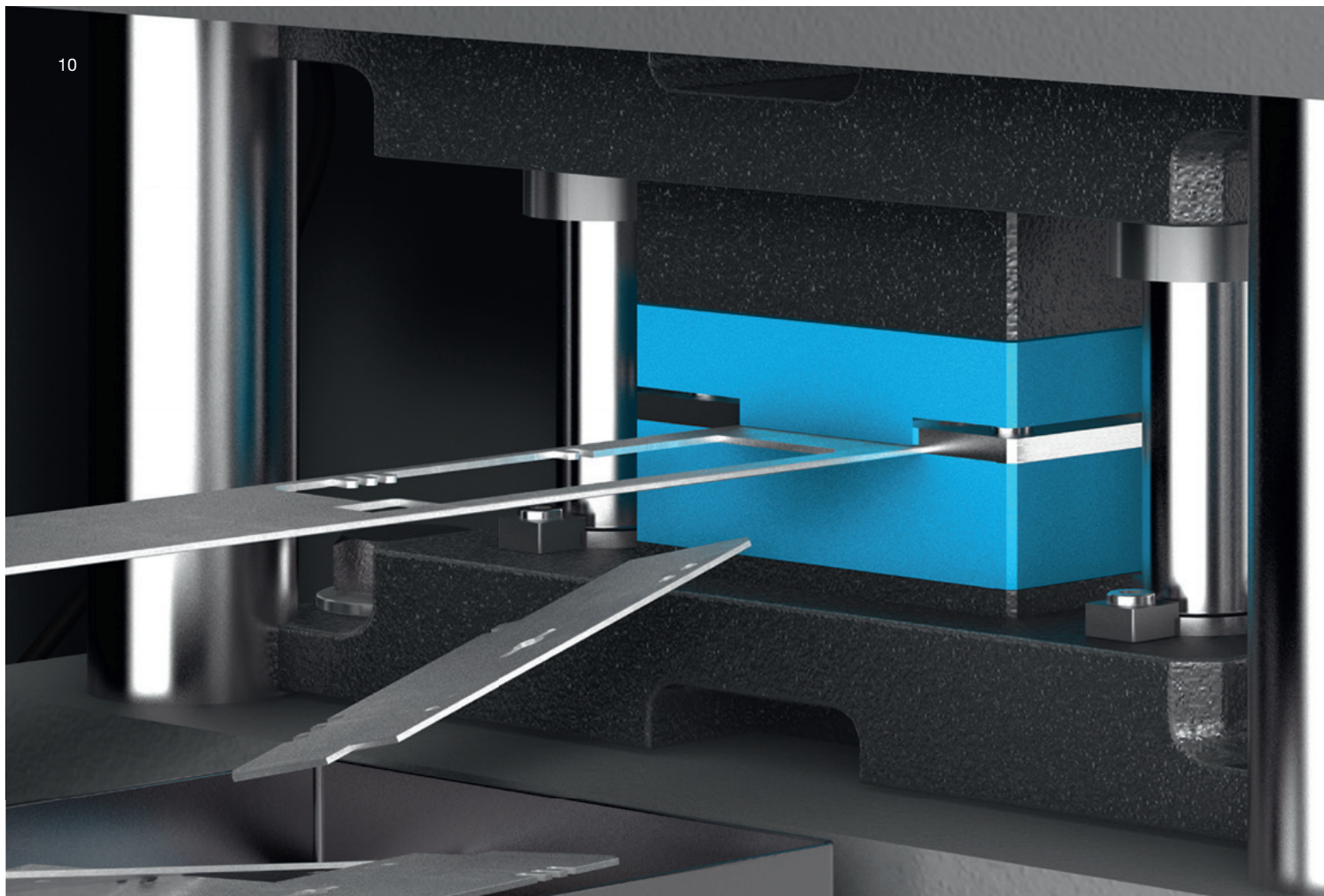
- The extremely robust full-metal models are designed for applications in which there is an increased risk of mechanical contact with the object to be detected or there may be contact in the machine tool with metal chips.
- All models allow, depending on the area of application, safe operation of the sensors in machine tools.
- Variants available with the highest degree of protection, IP69K, and ECOLAB approval. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- Factor 1 models with equivalent switching distances for iron and aluminum
- Resistant to magnetic fields
- Non-flush M12 variant has a 10 mm switching distance on aluminum



IP67 | IP68/IP69K



Detection of an inserted sheet metal part



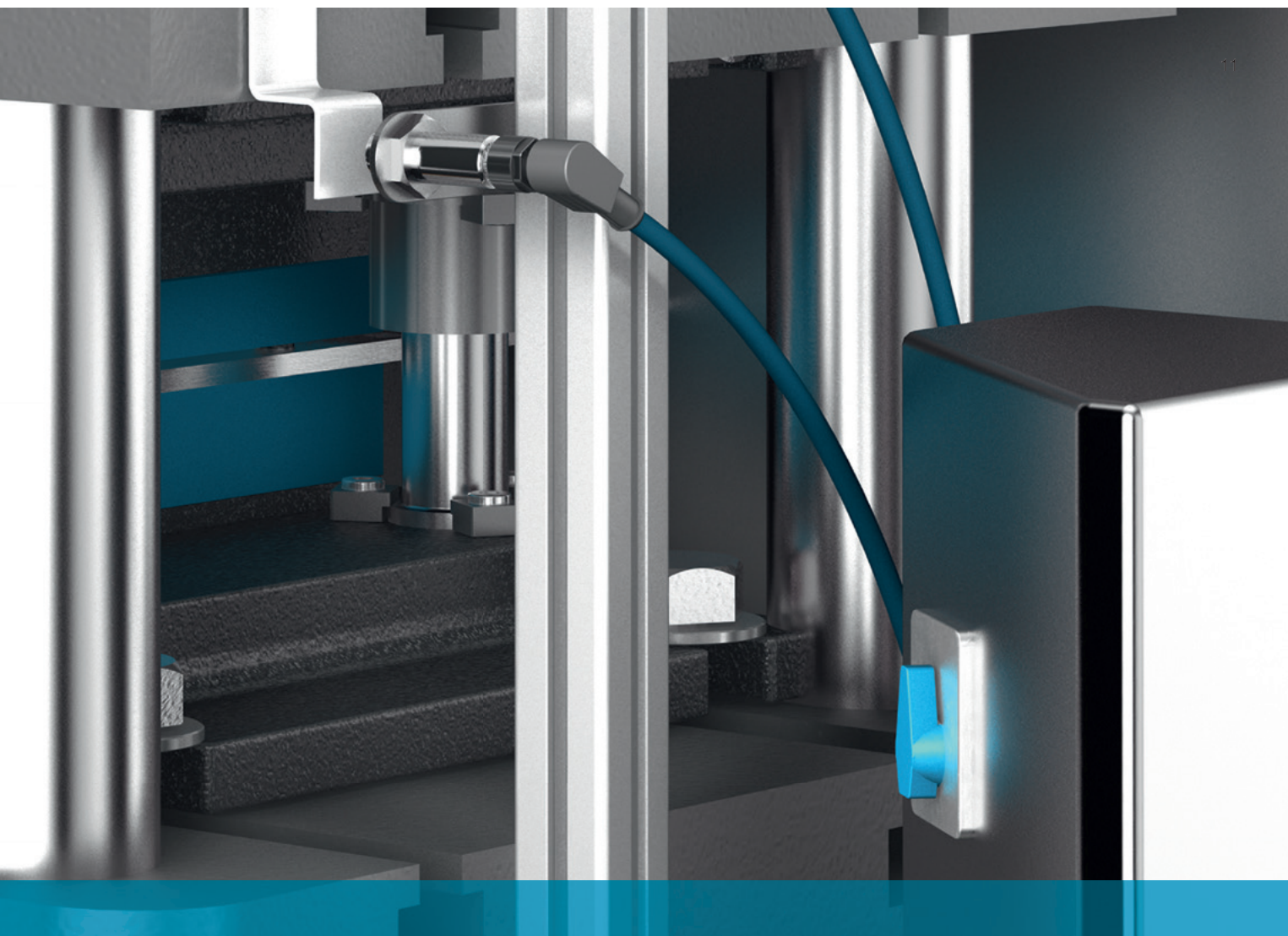
Sensing the position of a press

INS STANDARD

Our INS Standard series impresses with its outstanding price-performance ratio in many standard industrial applications.

These proximity sensors are available in the standard lengths of Ø 6.5 mm to M30.

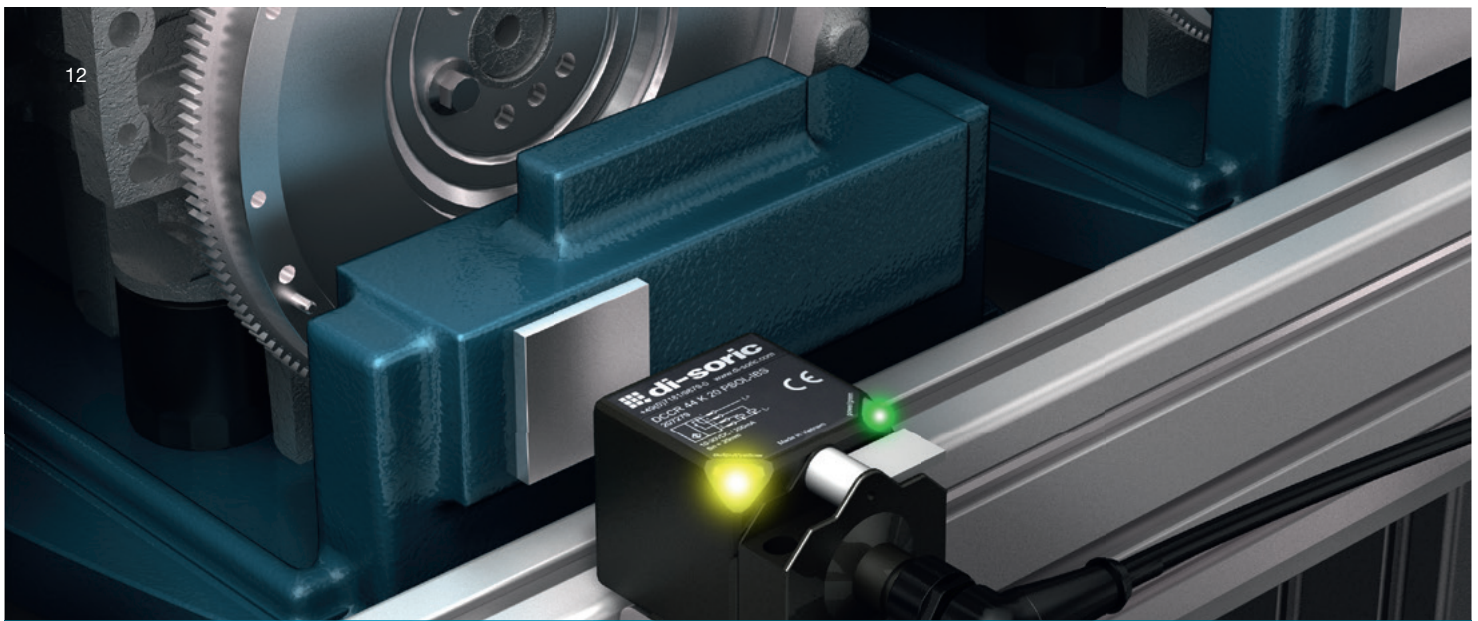




Advantages of the INS standard series:

- The optimal solutions for industrial applications with standard switching distances and application conditions in typical installation situations
- Sizes and models: Standard thread sizes Ø 6.5 mm to M30 – this way you will always find the right sensors for your standard applications
- The sensors with the high protection class IP67 are dust-proof and protected against strong water jets. The resulting durability under industrial conditions reduces time and resources spent for maintenance and repair.
- The sensors can be integrated easily and quickly into the control system with the connection variants connector or PVC cable. The wiring concept, with PVC cables that are flexible and easy to adapt to the required length, has proven itself in the integration and replacement of the sensors.





Detection of transport carriage

INQ RECTANGULAR DESIGN

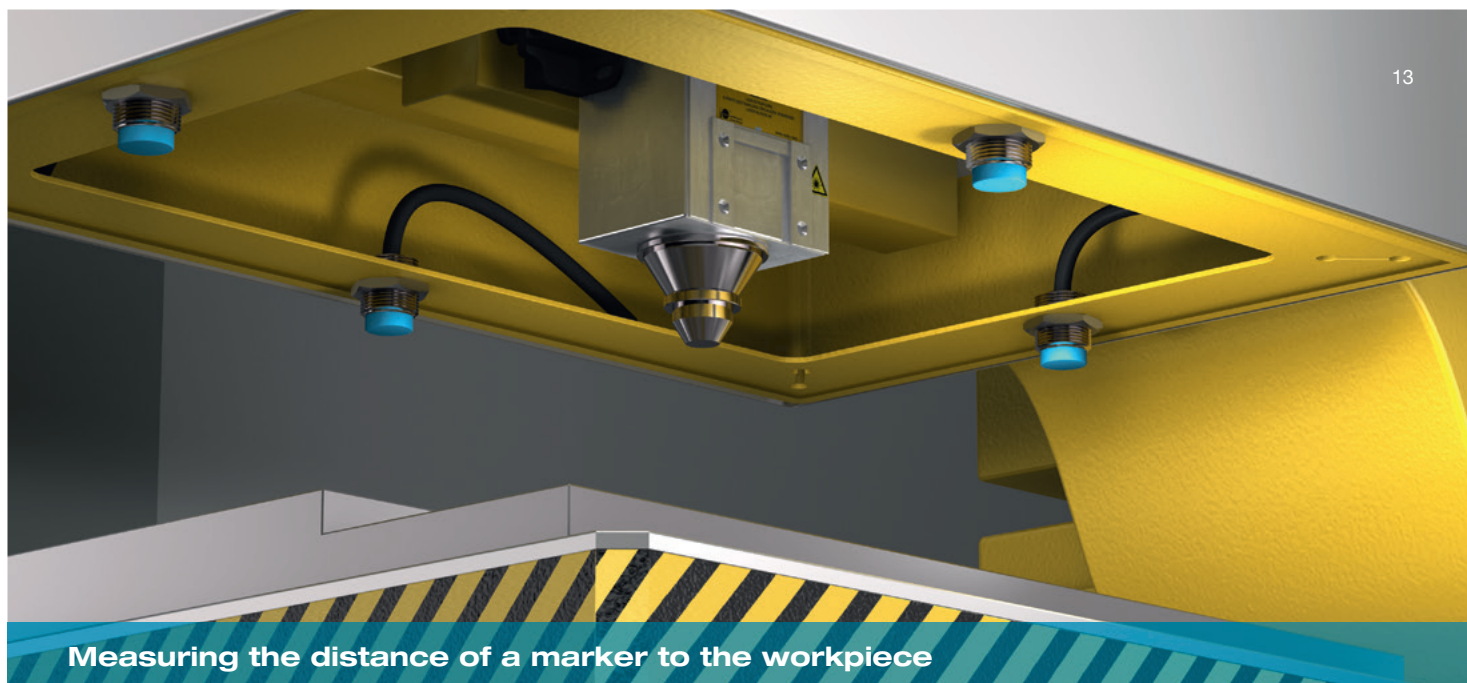
The INQ Rectangular Design includes high-performance inductive proximity sensors in sizes 5 x 5 mm, 8 x 8 mm, 40 x 40 mm and the rectangular design in 8 x 16 mm, 28 x 10 mm and 40 x 12 mm and enables optimal adaptation to a wide variety of industrial applications. Thanks to the robust plastic or metal housing with switching distances of 0.6 mm to 40 mm, they cover a wide range of applications.

Advantages of the INQ Rectangular Design series:

- For all areas of industry in which a safe solution for detection of distant objects is required or reliable detection of objects with very high reduction factors is to be guaranteed.
- The technical features of the sensors meet the high protection class IP67. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- The various connection options enable easy connection of the sensors to the control system.
- The sensor angle of 90° makes it easier to install in confined spaces, recesses or hard-to-reach areas.



Detection of tool holders



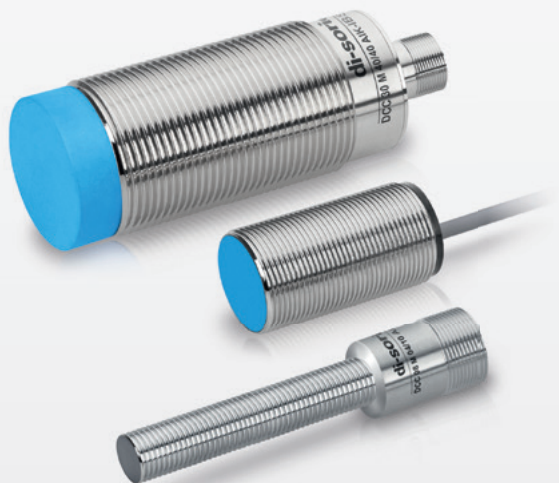
Measuring the distance of a marker to the workpiece

INA ANALOG

The INA Analog series offers high-precision, inductive proximity sensors with analog current and voltage outputs. They are specially developed for applications in which even the smallest changes in the distance between metal parts can influence the process quality. Thanks to their precise measuring capability, these inductive proximity switches are ideal for demanding industrial applications in which continuous distance control is crucial.

Advantages of the INA sensors:

- Special models with an analog output are the solution for applications in which distances to metal objects are measured.
- Applications with large distances can be implemented in a process-reliable manner due to the triple switching distance.
- The sensors in the INA series correspond to the high protection class IP67. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- Maximum reliability thanks to good linearity in the mid-range.
- Higher flexibility in applications thanks to a wider measuring range than that of comparable analog sensors.



Position sensing under high pressure

INP HIGH-PRESSURE RESISTANT

Our high pressure-resistant, inductive proximity sensors with robust stainless steel housing in sizes M12 and M14 are specially developed for demanding applications under high pressure. They can withstand a process pressure of up to 500 bar and offer reliable performance in extreme environments. These inductive proximity switches are ideal for position monitoring in hydraulic systems and detection of valve positions under high pressure.

Advantages of the INP High-pressure resistant series:

- The special, high-pressure resistant, full-metal models are a good solution for detecting objects under high pressure, e.g. in hydraulic systems.
- The INP series satisfies the requirements of the highest protection class IP69K. The models with PUR cable also have an increased resistance to cooling and cutting oils.
- The models with a special PTFE line are suitable for chemically aggressive environments.
- The INP units are extremely robust and durable thanks to their active faces made of ceramic or stainless steel.



Door detection for blast furnace

INH HIGH-TEMPERATURE RESISTANT

The INH high-temperature series includes inductive proximity sensors in the designs from M8 to M50 with a switching distance of 2 to 25 mm. They are ideal for use in extreme environments with temperatures of -25 °C to +230 °C thanks to an external evaluation unit. These inductive proximity switches are equipped with PTFE or silicone lines to guarantee maximum resistance to high temperatures and aggressive media.

Advantages of the INH High-temperature resistant series:

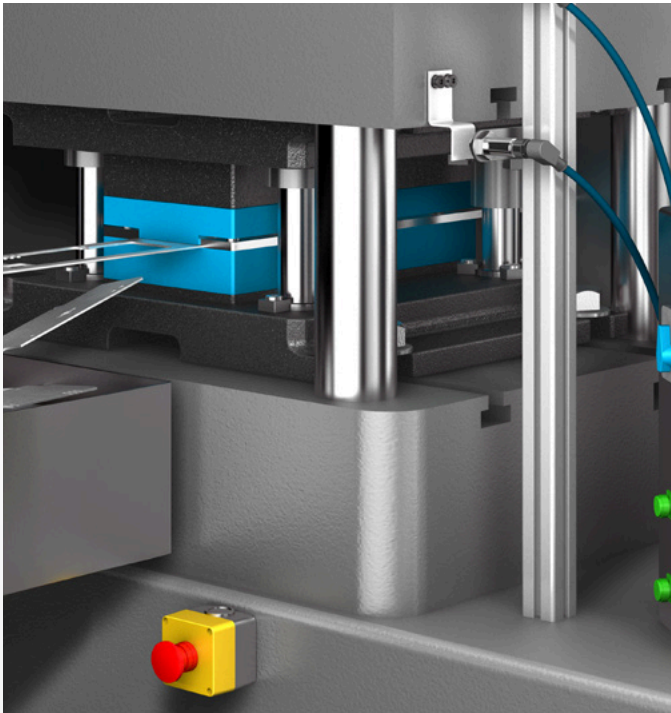
- Sensors from the INH series are distinguished by consistent performance under extreme conditions
- The right sensor for any application thanks to a large selection of designs, from M8 to M50.
- Temperature-resistant from -25 to 160 °C with internal evaluation unit – with external evaluation unit up to 230 °C.
- Safe use in high temperatures or with aggressive media thanks to silicone or PTFE lines with maximum resistance.



INDUCTIVE PROXIMITY SENSORS

APPLICATION EXAMPLES

We focus on continuous innovation and are constantly expanding our portfolio to offer you as a customer real added value in an increasingly digitalized industrial environment. You can rely on our high-quality inductive proximity sensors to make your production processes efficient and reliable.



Sensing the position of a press

INS M30

The precise position of a press platform needs to be detected during operating cycles. For this application, INS standard sensors in horizontal and vertical orientation are used in order to safely and precisely detect the end positions of the press platform.



Detection of the limit position of a pulley

INM M05

For high-quality sticker labels it is very important that the label holder strip is properly tensioned. An inductive sensor monitors the position of the pull roll in the packaging machine. The signal from this sensor is used to control the feed of the holder strip. This guarantees the proper tension of the sticker strip and thus the exact position of the label during adhesion.

On our website, the selector allows you to quickly find the sensor that is the best for your application from our range of inductive proximity sensors in no time.



Detection of the limit position in welding processes

INE-M18/79T-B05PS-B4

Automated welding processes demand maximum precision – particularly when detecting the limit position of components. The welding process can only be performed safely and without error once the part has been correctly positioned.

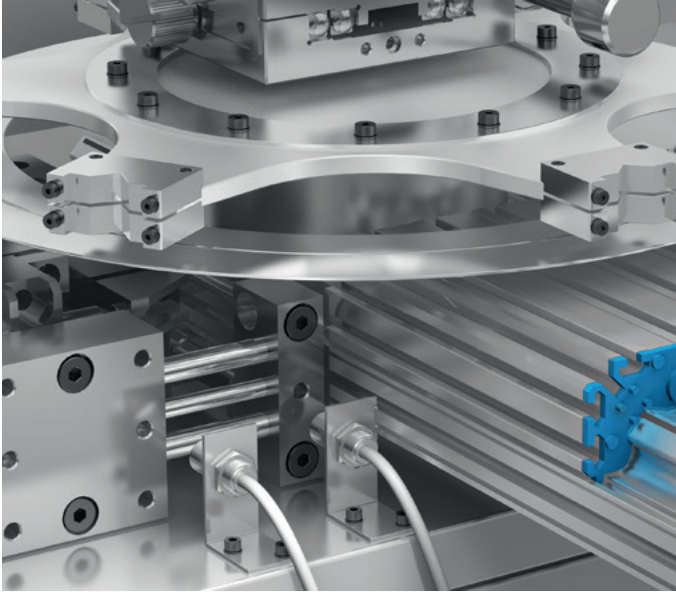
The weld-proof sensors from the INE series have been specially developed for use in these demanding environments. They reliably detect if a component is present and has been positioned correctly – even directly in the welding area.



Position detection for feeding carriages for various rod lengths

INE M12 short model

INE sensors are installed on a metallic plate and detect whether the tool turret block has reached the correct index position after a belt movement. They not only detect the tightening bar, but also the locking mechanism. Due to the limited installation space, this application requires sensors in short model lengths.

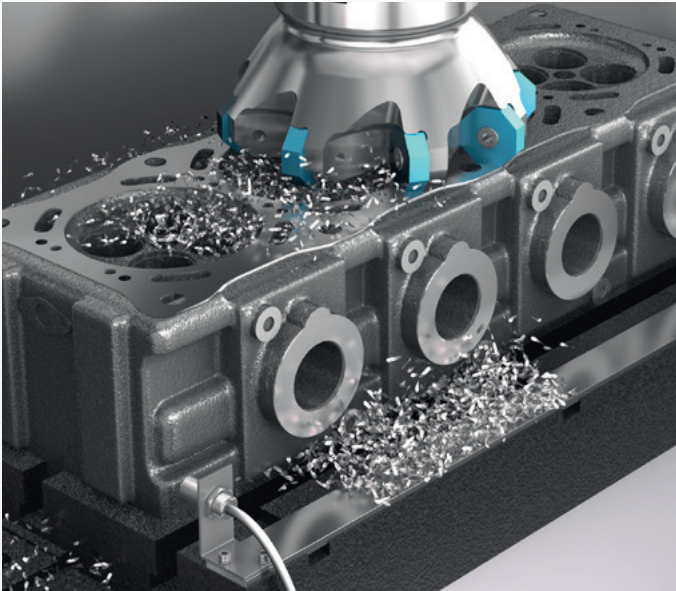


Detection of end position

INE M12

The INE sensor reliably detects the end position of the actuator in the assembly machine. Installation requires a greater distance from the actuator – however, precise position sensing must still be ensured.

Thanks to a scanning range that is four times longer, the INE sensor easily meets both requirements, making it a reliable solution for this application.

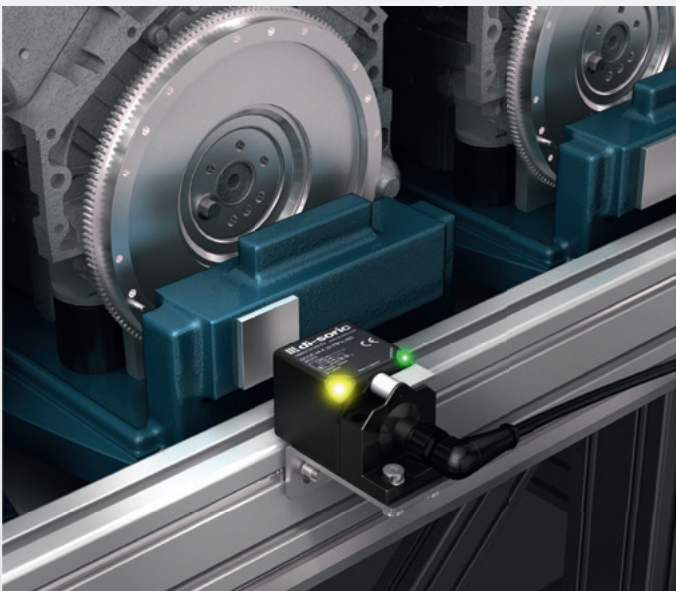


Position sensing of processing parts

INW M18

The INW sensors detect the precise position of the components to be processed in the processing space of lathes and milling machines.

Although the INW sensors are subjected to constant contact with cooling and cutting oils in this application, they are able to reliably detect the end position of the workpiece under the working tool.

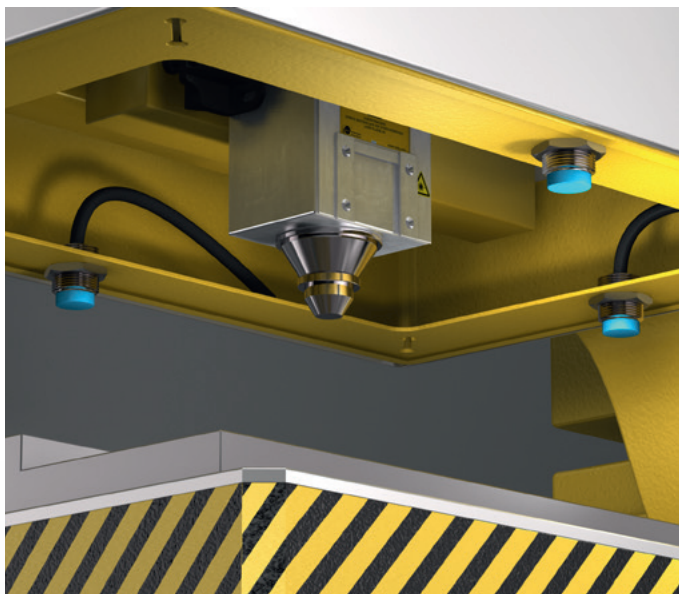


Detection of transport carriage

DCCR 44 K 20 PSOL-IBS

Mounted on the side of the belt, the sensor precisely detects the carriages – without interfering with the belt path in any way. Thanks to its large switching distance of 40 mm, it can be positioned outside the direct material flow. This protects not only the sensor but also ensures smooth operation.

The sensor features an adjustable angle, making it highly adaptable to a variety of installation scenarios.

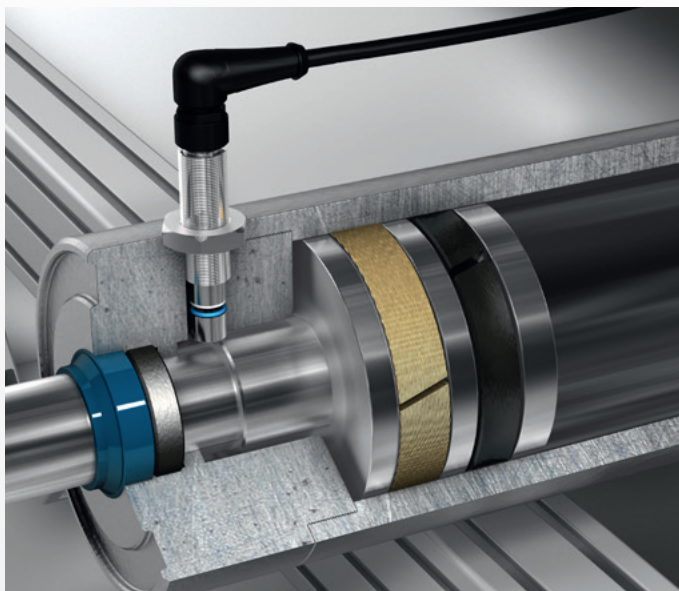


Measuring the distance of a marker to the workpiece

INA M30

INA sensors measure the distance to the workpiece and on the basis of this regulate the position of the marker in the machine tool.

Here the thickness of the workpiece is detected by the sensor and, for the correct positioning of the marker, is passed on to the external control system via the output signal.



Position sensing under high pressure

INP M12

In hydraulic systems, the speed of an actuator is adjusted by regulating the throughput rate. Here the throughput rate determines the position of the cylinder that is actuated within the system.

Inductive INP sensors can detect the end position of the drive within the hydraulic cylinder under high pressure.



Door detection for blast furnace

DCC 18 VH 05 NSK/230/V/IP67

You can use sensors from the INH series to reliably detect switching states up to a temperature of 230 °C. In this case, the sensors detect the limit position of a blast furnace door, where extreme heat is released.

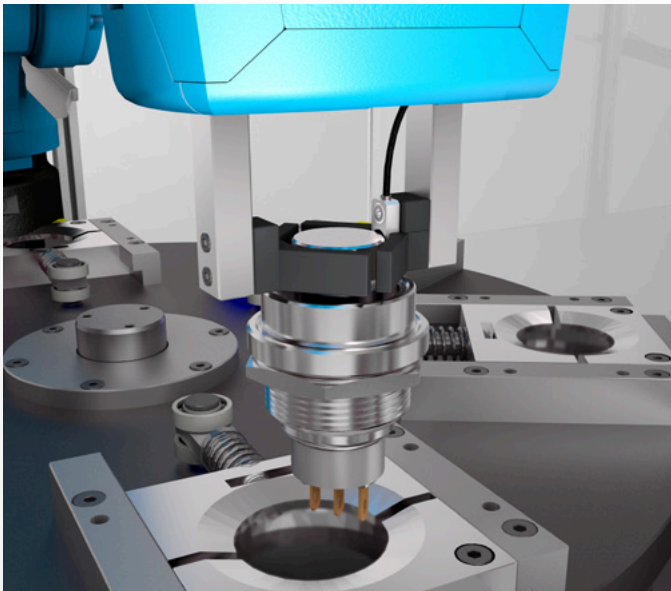
The external evaluation unit handles the safe switching of the sensor.



Detecting the presence of sheet metal parts before the bonding process

DCC 12 VL 06 PSK-IBSL

A sheet metal part is placed in a fixture in preparation for the upcoming bonding process. The sheet metal part is detected by an INW sensor, which then gives the control system the go-ahead for the bonding process. Thanks to its all-metal housing, the sensor is also protected from contact with the sheet metal at the front of the sensor.



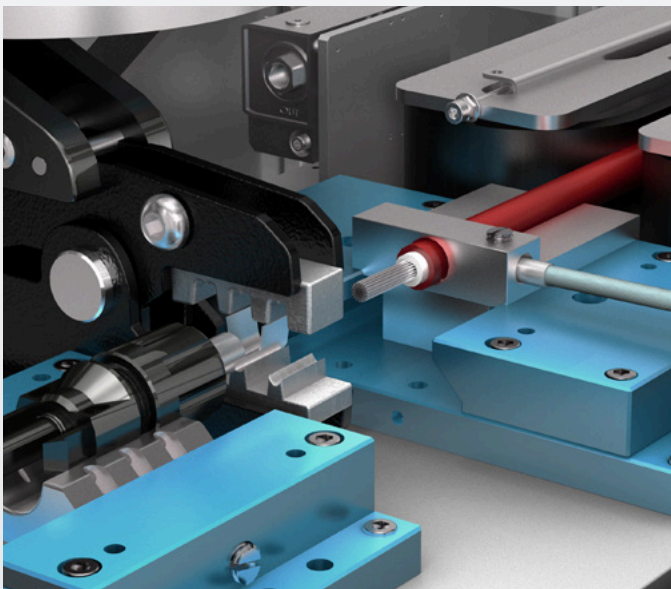
Detection of tool holders

INQ-R08/16M-B02PS-2C3

Mounted on the side of the gripper jaw, the sensor precisely detects the tool holder. Thanks to its large switching distance of 2 mm, it can be positioned perfectly in the gripper jaw.

This protects not only the sensor but also ensures smooth operation.

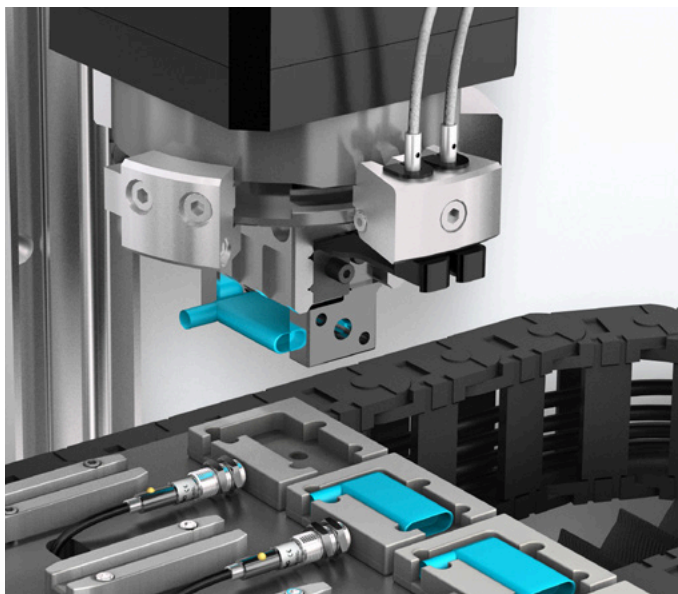
The sensor is equipped with a highly flexible cable and can be adapted to different installation situations.



Detection of a cable in a crimping machine

DCC 3.0 V 1.0 PSLK/12

The cable is inserted into a fixture. The cable is detected by a sensor, which then controls the crimping process.



Detection of components in the gripper and the gripper station

DCC 3.0 V 1.0 PSLK/12 in the gripper
DCC 08 M 02 PSLK/2m PUR during
part inspection on the fixture

The gripper picks up the component and places it in the machining station. A miniature sensor with a length of 12 mm, which detects the component, is located in the gripper. In contrast, an M8 sensor from the INE series is screwed into the gripper station and ensures reliable component detection in the station.



Position detection of a taillift on a truck

D7C 30 V 20 PSLK

There is a sensor on each side to detect the position of the taillift. The robust full-metal sensor with PUR cable is perfectly suited for the harsh environment found on a truck.

Are you looking for a solution for another application?

Our service team is here to help!

We would be happy to provide you with consultation and help you find the best solution for your requirements – quickly, easily and tailored to your requirements.

Technical Customer Service

📞 +49 7181 9879 - 700

✉ service@di-soric.com



CUSTOMIZED ACCESSORIES FOR PROXIMITY SENSORS

Connection and connecting cables

Even the best sensors can only reach their full potential with the right accessories. Our connection and connecting cables are the perfect supplement for your proximity sensors – robust, reliable and compatible with all standard industry specifications.

Whether in dynamic production environments or at extreme temperatures: Our lines ensure trouble-free signal transmission and a reliable connection – even under the toughest conditions.



Your advantages at a glance:

- **Shock-resistant:**
Integrated vibration protection reliably protects against shock and vibration
- **Waterproof:**
IP67 protection class thanks to a robust seal – ideal for harsh industrial environments
- **Can be configured easily:**
Large portfolio with various length variants (0.3 to 35 m)
- **Maximum connection flexibility:**
Connector in M8 (3- or 4-pin) and M12 versions (3-, 4- or 5-pin; 8- and 12-pin cables are also available in the connection area) with A-coding or X-coding on RJ45, straight and angled connectors
- **Versatile:**
Temperature-resistant from -30 °C to +85 °C with PUR or PVC, shielded and unshielded
- **Visible sensor status:**
Connecting cables with LED in the connector available

Product bracket or a complete assembly system – The choice is yours.

Our durable brackets are ideal for quickly and reliably mounting cylindrical sensors from M3 to M30. They enable quick commissioning, reduce downtime and allow sensors to be replaced without changing the bracket position.



Fully modular

Our modular assembly system offers universal fastening options and can be integrated easily for maximum flexibility. High-quality materials such as aluminum and stainless steel ensure stability – with components such as base holders, tubes, rods, adapter rings, articulated arms, angle clamps and cross connectors.

Thanks to practical product comparison functions, you can easily compare various sensors and accessory parts side by side. This lets you quickly decide which combination is best for your application.

SOLUTIONS. CLEVER. PRACTICAL.

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