



## Inductive Sensors

High Performance

Miniature

Metal-Face

High Temperature

High Pressure Proof

Analog Output

Metal-Selective

2-Wire AC

2-Wire DC

Cubic Variants

Ring-Sensors

## Capacitive Sensors

High Performance

High Temperature

Chem-Resist PTFE housings

Cubic Variants

Ring-Sensors

Inductive Sensors



High Performance



Miniature



Metal-Face



High Temperature



High Pressure Proof



Analog Output

Inductive Sensors



Metal-Selective



2-Wire AC



2-Wire DC



Cubic Variants



Ring-Sensors

# High Performance

## Standard

XECRO Standard Sensing ranges cover all common industry diameters including □5×5 and □8×8. The Standard Class of sensors represents the basic sensing distances of each size. The inductive sensors in the Standard Class are the perfect choice for cost-sensitive applications where longer sensing distances are not required. Even the Standard Class sensors which are rated to be used between -20...+70 °C | -4... 158 °F come with a protection class of IP67 and are ideal for general purpose applications. Also these devices already have reverse-polarity as well as overload and short-circuit protection built-in.

## Increased | Extended

If mechanical conditions require longer sensing distances, then the Increased and Extended Sensing Range Class offer up to triple sensing distances. And thus, the available safe distance to the electronics is extended reducing the risk of mechanical damage of the sensor. The electronic circuits for these classes fit into the same housing with the same dimensions as those of the Standard Class.

## Advanced

In some environments, extremely large sensing distances are essential for proper operation. Sensors from the outstanding Advanced Class offer the absolute best sensing distances of their type. XECRO builds sensors as e.g.

Sensor diameter	Sensing distance	Mounting	Body Length	Features
M8×1	4 mm	semi-flush	down to 18 mm short	• Robutst metal body
M8×1	6 mm	non-flush	down to 18 mm short	
M12×1	8 mm	semi-flush	down to 22 mm short	
M12×1	10 mm	non-flush	down to 30 mm short	• High sensing distances
M18×1	12 mm	semi-flush	down to 35 mm short	
M18×1	20 mm	non-flush	down to 35 mm short	
M30×1.5	22 mm	semi-flush	down to 35 mm short	• Polarity reversal and short-circuit protected
M30×1.5	40 mm	non-flush	down to 35 mm short	
				• LED status indication

Common Specifications	
Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT

# Miniature

Engineers are often faced with a particular need for sensors that fit into tight spaces. All inductive sensors of the Miniature Series are fully integrated; no external amplifier is required. All devices are equipped with reverse polarity protection as well as a short-circuit proof switching output. Also an optical switching indicator is generally built-in.

Features	Benefits
<ul style="list-style-type: none"><li>• Small metal housings</li><li>• High sensing distances</li><li>• Polarity reversal and short-circuit protected</li><li>• Oil resistant PUR cables</li><li>• LED status indication</li></ul>	<ul style="list-style-type: none"><li>• Minimal space requirements</li><li>• Increases the distance to moving object</li><li>• Electrically fully protected</li><li>• Increasing life time in oily environments</li><li>• Simplifies diagnostics</li></ul>

Common Specifications	
Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT

# Metal-Face

Inductive Metal-Face sensors from XECRO are constructed with housings made of one continuous piece of stainless steel – which also includes the sensing face. The exceptional ruggedness makes them ideal sensors for environments where even long sensing ranges cannot prevent mechanical damage of the sensor. The highly optimized electronics gives XECRO the ability to manufacture these robust and reliable sensors using very short housings, which allow for mounting where installation space is limited. The benefits of this innovative Metal-Face technique can also be found in the High Pressure Series.

## Features

- Robust metal body
- High sensing distances
- Polarity reversal and short-circuit protected
- LED status indication

## Common Specifications

Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT

# High Temperature

Inductive Sensors High temperature sensors are designed for continuous operation at temperatures between -25 ° C and +180 ° C. The sensors are fully integrated and their dimensions correspond to XECRO sensors for normal temperatures. This allows for high standardization if an existing sensor needs to be replaced by a high temperature sensor. High temperature sensors are available in sizes from M8 to M30 and are equipped with silicone or Teflon® (PTFE) leads. Silicone cables are very flexible, making them ideal for installations where the sensor is in motion. In contrast, PTFE has excellent robustness but should only be used for static installations.

## Features

- Wide temperature ranges
- Robust stainless body
- Polarity reversal and short-circuit protected

Common Specifications	
Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT

# High Pressure Proof

Precise position sensing that operates under high pressure requires well-constructed sensors. XECRO fulfills these requirements with the wide range of High-Pressure sensors produced with two specialized technologies. These technologies result in a permanent pressure resistant level of up to 1000 bar (14503 psi). Sensors for pressures of up to 500 bar (7251 psi), utilize traditional ceramic sealing to built the pressure-facing section of the housing. To achieve outstanding pressure durability, XECRO manufactures select High-Pressure sensors with Metal-Face technology. This kind of housing is constructed from one continuous piece of stainless steel, which also includes the sensing face. These full-metal constructions offer excellent peak-pressure immunity and function even under the harshest environments.

Most High – PressureSeries sensors from XECRO are available with a built-in LED indicator to simplify mechanical set-up.

Features	Benefits
<ul style="list-style-type: none"><li>• High peak-pressure immunity</li><li>• Wide range of pressure proof sensors available</li><li>• Polarity reversal and short-circuit protected</li><li>• LED status indication</li></ul>	<ul style="list-style-type: none"><li>• Reliable technology even under variable pressure load</li><li>• Simplified mechanical set-up</li><li>• </li></ul>

Common Specifications	
Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT



# Analog Output

XECRO sensors with analog output are able to measure precisely distances to metal objects. They are ideal for positioning, distance measurement and metal classification, or comparable applications. Analog current or voltage outputs are available with extended sensing distances in sizes ranging from M8 to M30.

All inductive sensors with analog output from XECRO are perfectly linearized between zero distance and the maximum Sn. Due to the precise digital calibration of every single sensor during the production, there is almost no device-to-device variation — even between sensors of different production lots.

Sensor diameter	Measuring distance	Mounting
M8	4 mm	semi-flush
M8	6 mm	non-flush
M12	8 mm	semi-flush
M12	10 mm	non-flush
M18	12 mm	semi-flush
M18	20 mm	non-flush
M30	20 mm	semi-flush
M30	40 mm	non-flush

Features	Benefits
<ul style="list-style-type: none"><li>Starts at diameter M8×1</li><li>High sensing distances</li><li>Polarity reversal and short-circuit protected</li><li>LED supply indicator</li></ul>	<ul style="list-style-type: none"><li>Factory calibrated sensors with digital signal processing</li><li>Absolutely linear output function—error &lt;1‰</li></ul>

Common Specifications	
Operating Voltage	10 ... 35 VDC
Reverse Polarity Protection	Built-in
Output Configurations	0... 10 V
	0... 20 mA
	4... 20 mA
Short Circuit Protection	Built-in, self-resetting
Thermal Overload Protection	Built-in, self-resetting
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP 67
Supply Indicator	Integrated, green
Sensing Face Material	PBT

# Metal-Selective

Depending on the version, metal-selective sensors react only to ferrous or non-ferrous metals. They are often used in soda-can redemption or waste sorting machines.

## Features

- Sensitive to Ferrous or non-Ferrous materials only
- Metal-Face Technology protects against mechanical impact
- Polarity reversal and short-circuit protected
- LED status indication

## Common Specifications

Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Schutzklasse	IP69, back side IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	Stainless steel 1.4305
Housing Material	Stainless steel 1.4305

## 2-Wire AC

XECRO's 2-wire AC capacitive proximity switches are ideal for alternating current applications to replace mechanical limit switches. They are available in M18 and M30 sizes with sensing ranges up to 30 mm and are rated for 20...250 VAC.

Sensor diameter	Sensing distance	Mounting
M8	2 mm	flush
M8	4 mm	non-flush
M12	4 mm	flush
M12	8 mm	non-flush
M18	8 mm	flush
M18	16 mm	non-flush
M30	16 mm	flush
M30	25 mm	non-flush
□40×40	16 mm	flush
□40×40	25 mm	non-flush

Common Specifications	
Operating Voltage	20 ... 250 VAC
Reverse Polarity Protection	400 mA
Output Load Capability	8 VAC @ 400 mA
Short Circuit Protection	By design
Voltage Drop	No
Operating Temperature	-20 ... 70°C
Schutzklasse	IP 67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT
Housing Material	

## 2-Wire DC

For installations which benefit from a sensor with a 2-wire connection, for example in order to replace mechanical limit switches in an existing installation, XECRO offers sensing distances of up to 25 mm.

Housing	Sensing distance	Mounting
M8	2 mm	flush
M8	4 mm	non-flush
M12	4 mm	flush
M12	8 mm	non-flush
M18	8 mm	flush
M18	16 mm	non-flush
M30	16 mm	flush
M30	25 mm	non-flush

Common Specifications	
Operating Voltage	10 ... 55 VDC
Reverse Polarity Protection	200 mA
Output Load Capability	1.5 V @ 200 mA
Short Circuit Protection	Built-in
Voltage Drop	Built in, selft-resetting
Operating Temperature	-20 ... 70°C
Schutzklasse	IP 67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT
Housing Material	

# Cubic Variants

The inductive sensors from XECRO also include a subset with cubic housings made of plastic. These sensors are also divided into three classes of different performance; from standard to high performance.

## Features

- High sensing distances
- Polarity reversal and short-circuit protected
- LED status indication

## Common Specifications

Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT
Mousing Material	PBT

# Ring-Sensors

The purpose of ring sensors from XECRO is to detect small metal parts with a static or dynamic functional principle. Static detection activates the output as long as an object is located in the sensing area (e.g. wire break detection). Dynamic detection means that the output is activated once an object entering the sensing area.

Due to the high resolution, a short response time, an adjustable impulse lengthening up to 150 ms, and a change-over switch to select normally closed or normally open function, XECRO ring sensors are suitable for general purposes. For optimal cable routing, the M12 male connector is mounted parallel or in a right angle to the wiring. They are protected against short circuit, polarity reversal, and overload.

Ring diameter	Operating Principle	Resolution
Ø 6.1 mm	static	> 1.0 mm
Ø 6.1 mm	dynamic	> 0.5 mm
Ø 10.1 mm	static	> 1.0 mm
Ø 10.1 mm	dynamic	> 0.5 mm
Ø 15.1 mm	static	> 2.0 mm
Ø 15.1 mm	dynamic	> 0.8 mm
Ø 21.1 mm	static	> 2.0 mm
Ø 21.1 mm	dynamic	> 1.0 mm

Common Specifications	
Operating Voltage	10 ... 30 VDC
Reverse Polarity Protection	Built-in
Output Load Capability	200 mA
Short Circuit Protection	Built-in, self-resetting
Voltage Drop	1.5 V @ 200 mA
Operating Temperature	-20 ... 70°C   -4 ... 158 °F
Protection Class	IP67
Switching Indicator	Integrated, yellow
Sensing Face Material	PBT
Ring Material	PA6.6-GF30

Features
<ul style="list-style-type: none"><li>• Different Ring-Diameters</li><li>• High Resolution</li><li>• Short Response Time</li><li>• Adjustable Impulse-Lengthening</li><li>• NO   NC selectable</li><li>• Static   Dynamic selectable</li><li>• Polarity reversal and short-circuit protected</li><li>• LED status indication</li></ul>