

FACTORY AUTOMATION



INDUCTIVE SENSORS WITH

SPECIAL FEATURES



Looking for something special?

You have an application for which standard sensors are not enough. No problem, because Pepperl+Fuchs offers the right solution even for extreme applications. The following article will introduce a series of standard products that are suited for applications in difficult environmental conditions.

We also offer customised solutions based on our wide range of products in case the following do not meet your needs.

EXPANDED TEMPERATURE RANGES

High Temperatures:

Does your application exceed the standard temperature range of $-25\text{ °C} \dots +70\text{ °C}$ per EN 60947-5-2 because e.g. sensors are mounted in close proximity to aggregates? We offer products in temperature resistant Crastin® (PBT), Ryton® (PS) and Teflon housings with 3-wire, 4-wire DC and NAMUR silicon connection cables for applications with the following temperature ranges:

- ! $-25\text{ °C} \dots +100\text{ °C}$
- ! $-40\text{ °C} \dots +150\text{ °C}$
- ! $0\text{ °C} \dots +200\text{ °C}$
- ! $0\text{ °C} \dots +250\text{ °C}$

+250 °C

Low Temperatures:

We offer the following series of sensors for temperatures to -40 °C for applications in refrigeration facilities or in external applications where the temperatures are especially low:

- ! Slot sensors
- ! M12, M18 and M30 cylindrical sensors
- ! VariKont design (40x40x118) mm
- ! FP design (80x80x40) mm

-40 °C



“METAL FACE” SENSOR – MADE

ENTIRELY OF STAINLESS STEEL

Sensors housed entirely in stainless steel where even the sensing head is made of stainless steel are available for applications that subject sensors to strong mechanical stress. Use of “Metal Face” sensors guarantees corrosion resistance, impermeability, resistance to abrasion, survivability and reliability:

- ! M12 cylindrical design
- ! M18 cylindrical design
- ! M30 cylindrical design



V2A

SENSORS WITH SELECTIVE SWITCH FEATURES

Selective sensors can distinguish between ferromagnetic and non-ferromagnetic materials. The “Metal Face” sensors also have this feature and are available in FE models for ferromagnetic and NFE models for non-ferromagnetic materials.

The VariKont series can selectively detect and separately analyse both types of material using two switch outputs.

FE/NFE



WELD-FIELD IMMUNE SENSORS

Sensors detect the positioning and presence of parts in welding machinery. Special weld-field immune sensors function reliably despite high electromagnetic alternating fields. Because the housing is Teflon coated, weld spray cannot enter the sensor and simple beads off of the housing. Customers have a choice between flush mounted and surface mounted sensors:

- ! M12, M18 and M30 cylindrical sensors
- ! F29 surface mounted sensors (6x10x27) mm
- ! VariKont L surface mounted sensors (40x40x56) mm
- ! VariKont surface mounted sensors (40x40x118) mm



Weld-field immune

SENSORS WITH REDUCTION FACTOR 1

Sensors that detect all types of metals at almost the same range have a so-called "reduction factor of 1". These sensors are used when targets made of various materials must be recognised at the same distance. Cylindrical sensors are available with M12 connectors and cable glands as flush mounted or surface mounted designs. This line includes:

- ! M12, M18 and M30 cylindrical sensors
- ! VariKont L surface mounted sensors (40x40x56) mm

R = 1



IP69K PROTECTION

CLASS SENSORS

Will the sensors in your applications be continuously exposed to moisture, water, steam cleaning or cleaning detergents? Then you'll need products with the IP69k protection class. This protection class is complied with in addition to IP68 and based on special testing using steam jets (100 bar/+80 (C)). These sensors can withstand even the toughest conditions since the sensor's electronics are hermetically sealed within the Crastin housing with special foam potting:

- ! M18, 3-wire DC cylindrical sensors
- ! M18, 2-wire AC cylindrical sensors



IP69k



PRESSURISED SENSORS

Hydraulic or pneumatic cylinders require frequent polling to determine the piston's position, by sensors that must be able to withstand high pressure. Pepperl+Fuchs offers dynamic pressurised sensors that can withstand up to 350 bar in these types of applications. This is possible through the use of an extremely hard ceramic in the sensor's face, which is firmly attached to the stainless steel housing. These sensors can be flush mounted with a switch range of 1.5 mm as:

- ! M18, 3-wire DC cylindrical sensor
- ! M18, NAMUR cylindrical sensor

350 bar



SENSORS WITH INTEGRATED

SPEED MONITORS

Our sensors with integrated speed monitors are especially useful when monitoring cyclical processes such as the rotation rate of motors or the speed of conveyor belts. All functions and components are contained in a compact VariKont housing. The use of only one device will simplify your installation and allow direct, local control.

Our offer includes 3-wire DC and 2-wire AC versions for the following frequency ranges:

- ! 0 ... 1 Hz
- ! 1 ... 10 Hz
- ! 10 ... 100 Hz

100 Hz



SENSORS WITH SAFETY FUNCTION

It is wise to use sensors with safety function when monitoring hazardous processes. These sensors ensure that the coupler's output is placed in an OFF state in the event of system faults. We offer these types of sensors as N.C. switches for use with non-ferrous metals and as N.O. switches in the following designs:

- ! Flat cylindrical with: 11 mm and 22 mm diameters
- ! Cylindrical sensors with a PG21 reinforced, threaded connector
- ! Cylindrical sensors with M12, M14, M18 and M30 threading
- ! VariKont and FP design surface mounted sensors
- ! Slot type sensors with 2 mm and 3.5 mm slots

S, S1

SENSORS WITH DEAD

STOP OR SET SCREWS



Sensors with dead stop or setscrews are used in order to prevent the direct effects of power on the sensor, radiated by the object detected. Different set-screws allow the required design with regard to dimensions and power consumption. Power of up to 20,000 N can be withstood without any damage. The following sensors are available:

- ! M12 cylindrical sensors with dead stop or set screws
- ! F2 surface mounted sensor compatible with
- ! Set screws in M8, M10 and M12 designs

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