



### PROXIMITY SENSORS

#### INDUCTIVE

- For accurate, non-contact detection of metallic objects in machinery or automation equipment.
- Connection styles include M8, M12 or terminal connection models
- Approved for gas and dust Ex zones
- Protective class of up to IP68/ IP69k (submersible/ high pressure water jet resistant)
- Weld resistant designs with PTFE-coated surface

#### CAPACITIVE

- For detection of metal objects and nearly all other materials.
- Used in applications including level, flow control for detection of liquids, grains and powders.
- Sensor outputs of 3-wire DC and NAMUR output types
- Models with hazardous area approvals

#### MAGNETIC

- Consists of the M12 housing style for magnetic detection applications.
- Also offers a non-contact, piston detection sensor for use with steel hydraulic cylinders.
- Reliable piston magnet detection and easily mounted, without the need for mounting slots or holes in the cylinder

### PHOTOELECTRIC SENSORS

#### Standard Photoelectric Sensors

- Provide all the benefits of fast and non-contact detection.
- Types: Thru-beam, retro-reflective and diffuse mode sensors.

#### Slot and Slot Grid Sensors

- For detecting tiny objects from long distances.
- To detect objects on vibrating and oscillating conveyors

#### Sensors for Automated Accesses and Entrances

- Escalators, automatic doors, gates, barriers, and elevators

#### Light Grids

- Ideal for monitoring wider areas.
- For detecting position-independent objects, controlling overlap on larger conveyed goods, and monitoring elevator doors.

#### Optical Data Couplers

- To establish wireless communication with stock feeders, industrial trucks, automated transportation systems, overhead conveyors and docking stations



#### Fiber Optic Sensors

- For applications where direct mounting of sensors is not possible due to space restrictions, temperature extremes, and so on.
- Ideal for detecting tiny objects.

#### Distance Measurement Sensors

- Suitable for a wide range of measuring and positioning tasks.

#### Special Sensors

- For applications which are functionally not covered by the standard program.

#### Contrast + Color Sensors

- Detection of print and color marks in the automation of packaging and printing processes.

#### Photoelectric Safety Sensors

- For personnel protection in automated processes.

### INDUSTRIAL VISION

#### Sensors

- For Sheet Verification: For correct sheet order, in assembling, folding or binding machines
- For Precision Positioning: To detect circular holes in the racking structure and positional deviation
- For Detection Tasks: Such as presence, completeness and position checks

#### Systems

Suppliers of automation systems, machine engineering, handling equipment, pharmaceutical industry, food industry etc.





## FACTORY AUTOMATION

### ULTRASONIC SENSORS

- Ideal solution for non-contact position and distance measurement in all industrial areas where environmental conditions (dust, smoke or steam) may affect the sensors.
- Adjustable sensitivity to the sound beam width for optimized adjustment of the sensor characteristics



### ROTARY ENCODER

- Used in applications that require monitoring rotation rate, speed, linear motion, acceleration and direction.
- Used in mechanical engineering, the conveyor industry, material handling and the packaging industry.
- Types : Absolute Rotary Encoder, Incremental Rotary Encoder.
- Cable Pulls – enable the rotary encoder to measure linear motion
- For hazardous areas (flame proof or intrinsically safe):  
 EEx d : Incremental & Absolute encoders  
 EEx I : Incremental encoders

### POSITIONING SYSTEMS

#### Inductive Positioning Systems

For high precision detection of linear movements and rotations

#### Distance Measurement Devices

Distances to 300 m with accuracies of 0.1 mm are easily detected

#### Position Encoding System WCS

Detection in warehousing, material handling and automated conveyor systems, crane positioning, elevators

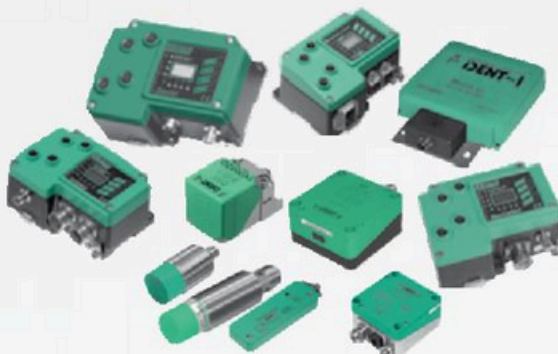
#### Data Matrix Positioning System PCV

Evaluates the exact position in X- and Y directions - up to 10,000 meters

#### Electronic CAM-Switch Controller PAX

Non-contact electronic CAM-Switch controller and used with PMI inductive angle sensor.

Captures machine shaft position



### IDENTIFICATION SYSTEMS

#### RFID (Radio Frequency Identification)

- Can be used in harsh environments
- Frequencies of 125 kHz, 250 kHz, 13.56 MHz and 868 MHz, and microwave systems of 2.45 GHz can be installed.

#### Optical Identification

- Object information is stored as a bar-code or two-dimensional code.
- Read via laser or digital photo technology.

### INCLINATION & ACCELERATION SENSORS

#### Inclination Sensors

- Provides angle feedback for motion control
- Detects critical tilt position limits.
- Applications include real-time inclination monitoring in a dip-coating system for car bodies, or tilt-angle monitoring on mobile equipment.

#### Acceleration Sensors

- Used in wind power plants to monitor machine vibration.
- To predict possible machine component wear or unsafe structural load conditions



### AS – INTERFACE

#### Master+Gateways

- Masters: Used as controllers in stand-alone mode.
- Gateways: An interface between the AS-Interface and higher-level buses
- K20, K25 and K30 enclosure for control cabinets
- G4 enclosure with degree of protection IP65 for mobile applications

#### Modules

- To link between actuators/ sensors and an AS-Interface
- Up to 1000 I/O signals can be transmitted
- Types: For field applications, control cabinets, circuit board modules, stack light modules

#### Indication/Operation

Pushbutton modules, stack lights, and audible alarms to support the AS-Interface projects

#### Power Supplies, Power Extenders+Repeaters

- Power supplies: To supply power to each AS-Interface network
- Repeater: To extend the length of the cable (100m) via repeater
- Power extenders: Option for using standard power supply to power an AS interface

#### AS-Interface Safety at Work

- For safety-related functions such as an EMERGENCY STOP or door monitors in your existing systems
- Safety monitors, E-stop, Safety switches+enabling switches, Safety modules

#### Sensors+Rotary Encoder

- Inductive, photoelectric sensors and rotary encoder for direct connection
- Self monitoring, improved diagnostics, assigning parameters to the sensor



Authorized Distributor:





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