Automation Technology for the Sugar Industry
Sensors for the sugar industry

Solution for monitoring anywhere via web browser and/or on centralized screen with online updates. Alarm management and notification via network, email or text.

Product selections and additional information can be found at www.ifm.com
With over 40 years of experience in sensors and control systems we know how to achieve maximum process reliability and plant uptime: our portfolio covers innovative, high-quality position sensors, level, temperature and pressure sensors as well as diagnostic systems with high temperature and cleaning resistance, which comply with the required standards and directives. In addition, connectors, also with the protection rating IP 68 / 69K.

The world’s leading manufacturers in the food industry rely on solutions from ifm – in over 70 countries worldwide. ifm – close to you!

Product selections and additional information can be found at www.ifm.com
Milk

Demanding requirements in milk processing

Milk is one of the most important staple foods. It can be processed into many different products such as cheese, yoghurt, ice cream or milk powder. Reliable processing is essential in order to obtain a high-quality end product, with quality and food safety playing a decisive role. Sensors are an important element of these processes, for example when separating, homogenising or pasteurising milk. Sensors from ifm comply with required approvals such as EHEDG or 3A. In addition, they are resistant to CIP / SIP cleaning processes. A wide range of adapters enables easy and hygienic integration into the process equipment.

Sugar

The highest quality in the sugar industry

Many innovative solutions are required to manufacture products with consistently high quality. ifm offers a wide range of solutions for the sugar industry, including assembly and corresponding process adaptors, as well as proper connection technology, thereby enabling total quality and reliability in application.

Product selections and additional information can be found at www.ifm.com
**For the processes in the manufacture of beverages**

In most cases beverages are manufactured in individual, highly-automated processes. One of the most complex food processes is that of brewing beer. Reliable sensors guaranteeing maximum process safety are required here so that a high-quality product results without quality fluctuations. ifm offers solutions for all areas of the manufacture of beverages. From the process and the bottling or canning of the beverages to packaging and conveying.

Sensors from ifm comply with required approvals such as EHEDG or 3A. In addition, they are resistant to CIP / SIP cleaning processes. A wide range of adapters enables easy and hygienic integration into the process equipment.

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**Sensors for the meat industry**

The hygienic requirements in the meat-processing industry are particularly high. Frequent and intensive cleaning processes are normal.

High-quality housing materials of the sensors, e.g. high-grade stainless steel withstand the aggressive cleaning agents in the complete process.

The sensors remain ingress-resistant even in case of steam cleaning thanks to the high protection rating IP 69K. The reliable ifm sensors allow downtime to be kept to a minimum and productivity maximised.

Sensors from ifm comply with required approvals such as EHEDG or 3A. A wide range of adapters enables easy and hygienic integration into the process. Suitable connectors with high-quality housing materials and protection rating IP 69K complete the product range.
**Temperature measurement on a hydraulic power pack**

- **T5000**: Temperature sensor for temperature sensors, for T5000 and T5000 measuring elements, digital output 4...20 mA, M12 connector, range: -50...300 °C, ambient temperature -25...70 °C.
- **TFL67**: Temperature sensor for temperature sensors, range: -60...+180 °C, 4-wire, PT100, IP65, M12 connector.

**Pressure measurement on a hydraulic power pack**

- **TE1000**: Pressure sensor, 2 x 2.5 mm² (2 x AWG 14), pressure range -1...10 bar, M12 connector.
- **TE1010**: Pressure sensor, 2 x 2.5 mm² (2 x AWG 14), pressure range 0...50 bar, M12 connector.

**Speed monitoring on a conveyor belt**

- **TOS01**: Compact speed monitor with integrated evaluation, 2-channel, switching and pulse output, measurement range 1...5000 rpm, measurement temperature -25...80 °C, M12 connector.
- **MONITOR**: Speed monitoring module, 2 input, 2 output, OUT1 = switching output, OUT2 = analogue output (0 bar = 4 mA / 0 V; 10bar = 20 mA / 10 V), IP 65 / IP 67, ambient temperature -25...80 °C, range: 1...5000 rpm, M12 connector.

**Temperature measurement on a hydraulic power pack**

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**Vibration monitoring on a gearless of the cane sugar mill**

Critical machine parts such as gearsboxes can be monitored for vibrations using vibration analysis to enable a predictive maintenance or to prevent unexpected damage and to prevent production downtimes. The compact diagnostic system analyzes and evaluates the vibration signals according to methods of frequency analysis.

- **VG00**: Vibration sensor for vibrations, measurement principle: dynamic principle, sensor range 0.01...10 000, measurement temperature -50...+120 °C, M12 connector.
- **WK10**: Vibration sensor for vibrations, for RK10 and RK100 measuring elements, analogue output 4...20 mA, IP 67, ambient temperature -25...80 °C, range: 0.01...10 000, M12 connector.

**Pressure measurement on a hydraulic power pack**

A constant oil pressure in the hydraulic of the cane sugar mill is decisive for the functioning of the machine. The entire system pressure is used to monitor the hydraulic pressure. These pressure sensors are used to monitor the hydraulic pressure. These pressure sensors are used to detect the level in a cane sugar mill through a non-metal tank wall.

- **ME01**: Pressure sensor, measurement principle: piezoresistive, pressure range 0...10 bar, M12 connector.
- **ME02**: Pressure sensor, measurement principle: piezoresistive, pressure range 0...10 bar, M12 connector.

**Position feedback in a cane sugar mill**

In industrial processes valves are needed for dosing and positioning. The position sensors are normally used for mechanical positioning. The position sensors must be mounted mechanically. The TV image contains two evaluation systems for “open” and “closed” detection for an actuator movement by means of target disks. A sleeve sensor detects the sugar puck. The O1D photoelectric distance sensor detects the sugar puck and an actuator movement. The O1D photoelectric sensor detects the sugar puck on the conveyor belt.

- **O1D050**: Optical distance sensor, suitable for liquids, protection class 3 (600 x 400 mm), digital display, 6-digit alphanumeric display, IP 65, ambient temperature -25...80 °C, range: 0...150 mm, M12 connector.

**Position measurement in a cane sugar mill**

The O1D photoelectric distance sensor detects the vertical roller position in a sugar mill. It is easy to install and has two switching outputs, one of which can be configured alternately as switching output or display, switching output, analogue output 4...20 mA or 0...10 V, IP 67, ambient temperature -25...70 °C.

- **O1D050**: Optical distance sensor, suitable for liquids, protection class 3 (600 x 400 mm), digital display, 6-digit alphanumeric display, IP 65, ambient temperature -25...80 °C, range: 0...150 mm, M12 connector.

**Speed monitoring on a conveyor belt**

The compact speed monitor with integrated evaluation is suited for speed monitoring for underspeed and blockage on elevators, conveyors and elevating systems. The parameters of the M18 evaluation system are monitored electronically. The valve position must be monitored electronically.

- **DD2503**: Digital output (Open Collector Ausgang), M12 connector.

**Speed monitoring**

The speed monitors from ifm electronics are used for speed monitoring, e.g. in the sugar industry. An inductive sensor which detects a damping cam on the shaft is used in pulse pick-up. The speed monitors calculate the rotational speed by evaluating pulses. The output signals are switched. This allows, for example, reliable conveyor and speed control detection.

- **LH500**: Linear sensor, range: 0...100 mm, 2 input, 2 output, IP 65, ambient temperature -25...70 °C, M12 connector.
Over 70 locations worldwide – at a glance at [www.ifm.com](http://www.ifm.com)