Position sensors

Hard on the outside, smart on the inside: predict downtime in advance

Magnetic and cylinder sensors

- High machine uptime: signals wear when the sensing range decreases
- Preventive maintenance: detects the degree of soiling in the switching zone
- Monitor the life of tools: integrated operating hours and switching cycles counter
- Fast application-specific switch point setting

Magnetic position sensor and condition monitoring in one housing
The new smart ifm sensor signals what would only become obvious when it’s too late. Its high resolution allows the sensor to detect even tiny changes in the switching area. In addition to its position sensor functions, it also provides additional information for condition-based maintenance in the user’s installation. The MQ2 continuously detects ferromagnetic objects in front of its active face. It signals soiling via IO-Link when the current value exceeds the set threshold so that cleaning can be arranged. The same applies to changes in the switching area, e.g. caused by mechanical wear. The integrated operating hours and switching cycles counter allows the provision of a signal if the selected number of switching operations has been reached, enabling targeted maintenance of tools.
Integration of smart sensors into a machine as a package

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<th>Type</th>
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<td>Package components (complete set)</td>
<td>Package set</td>
<td>ZZ0588</td>
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<td>Package accessories (individual components)</td>
<td>Sensor, 0.3 m, PUR cable, M12 connector</td>
<td>MQ2004</td>
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<td>IO-Link master DataLine, Profinet interface, 4 ports</td>
<td>AL1300</td>
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<td>IO-Link master display, connection to master</td>
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<td>Connection cable, M12, 2 m, black, PUR cable</td>
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<td>Connection cable, M12, 2 m grey, PUR cable, weld-field immune</td>
<td>EVW025</td>
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<td>Ethernet cable M12 / RJ45 0.5 m</td>
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Mounting accessories

- Angle bracket type MQ2 / IQ2, stainless steel | E12605

IO-Link accessories

- USB IO-Link master for parameter setting and analysis of units | E30390
- Supported communication protocols: IO-Link (4.8, 38.4 and 230 Kbits/s)
- Memory plug, parameter memory for IO-Link sensors | E30398
- LR DEVICE (supplied on USB flash drive)
- Software for online and offline parameter setting of IO-Link sensors and actuators | QA0011
- Plug-in power supply, 230 V/24 V | E30080

"Too close" function

Two IO-Link switch points can be easily set via the LR Device software. The first switch point of the sensor becomes active and the orange LED lights when the workpiece is at the selected distance (e.g. 300 digits). If the distance is smaller (e.g. 100 digits), that is the workpiece comes unusually close, this implies wear in the plant, e.g. bending of the spanner. In this case the second switch point becomes active and a signal is provided via IO-Link. This makes maintenance when needed possible for the user.

The benefits of IO-Link

- set two different switch points to detect drifts, e.g. caused by wear or soiling, in the plant
- switch-on delay to distinguish between soiling and an approaching object
- integrated operating hours and switching cycles counter for targeted tool exchange
- easy configuration via laptop without having to go into the installation
- plant and location identification for easy localisation of the sensor in inaccessible areas
- the display allows easy reading of the “health status” outside the machine

In addition to the connection to the machine control there is the option to evaluate secondary data for preventive maintenance in parallel.