SICK Goes Flat Out for Performance with Mini Smart Sensors

SICK has launched the versatile W4F family of miniature smart sensors, developed to achieve next-generation detection performance and incorporating powerful new optical technologies, each purpose-designed to master common sensing challenges with complete reliability.

The SICK W4F family of photoelectric smart sensors pack a choice of class-leading detection options and application-specific optics into the same, rugged, 16mm x 40mm x 12mm housing. Each features SICK's trademark BluePilot push-turn pinpoint alignment and on-sensor status display. Impressing with their resilience to bright ambient light, the versatile W4F smart sensors multiply intelligent machine integration options for almost any application, no matter how tight the available mounting space.

"The SICK W4F is really a team of tiny superstar performers and each is destined to be a future workhorse of the SICK smart sensor range," explains David Hannaby, SICK's UK Product Manager for Presence Detection.

"Superstar Performers"

"Whether you need to detect jet black, high-gloss, highly reflective, perforated, transparent, wire-thin or flat products, the W4F has a specialist Optical Expert that is up to the task. At the same time, the W4F's extended smart sensor features unlock more diagnostics and monitoring, while process information including distance measurement can be output to configure smart automation tasks.

"We have had excellent feedback from the first users of the SICK W4F photoelectric sensors. They have told us that they are getting the best-ever ambient light and sunlight suppression performance, as well as maximum immunity to all sources of optical interference."

The SICK W4F family comprises eight different sensor types, split into the Optical Experts together with a range known as Optical Standards, but which deliver performance significantly above the market standard.

Optical Experts

Among the W4F **Optical Experts** is the new **SICK W4F MultiSwitch** with two separate switching points, together with a distance measurement output in mm. It is therefore possible e.g. to reliably detect a pack both when it is upright or lying on its side using just one sensor, or to enable a robot arm to travel more quickly by allowing it to stop in two steps. Using distance measurement, an automated response can be designed to alert when products drift away from a pre-set detection position on a conveyor, or to measure the width of a roll of paper or fabric.

Another highlight is the new foreground suppression sensor optic, capable of reliably detecting low, flat objects less than one 1mm in depth on a conveyor, even if they are highly reflective. The new **SICK W4F ForegroundSuppression** sensor excels when detecting flat products, even if they are extremely dark and glossy, such as chocolate bars, PCBs, batteries or smartphone components.

The SICK **W4F V-Optic** features a new V-focused light beam, designed to achieve exceptional accuracy when detecting mirror-reflective or completely transparent products such as glass panes. Low-remission, or tiny components such as solar wafers are detected reliably, as well as objects as thin as a single fuse wire.

The SICK **W4F DoubleLine** upgrades SICK's MultiLine technology adding more power and performance to detect components that have uneven surfaces, recesses, holes, perforations, grids or grooves, such as plastic totes, packs of pharmaceuticals, or printed circuit-boards with cut-outs.

Even when faced with dirt, vibrations or high temperature, the W4F is designed to self-monitor and will continue to deliver precise results even under tough conditions thanks to its rugged IP66/IP67 VISTAL® housing and highly-reliable optics.

Optical Standards

The W4F **Optical Standards** sensors have already proven themselves in the field as space-saving and high-performing all-rounders. The through-beam photoelectric sensor has a long sensing range of up to 8 metres, while the photoelectric retro-reflective sensor extends up to 5 metres. Together with two photoelectric proximity sensors with background suppression, the Optical Standards achieve exceptionally reliable object detection. The **W4F Narrow-beam sensor** uses a highly-concentrated light beam and point geometry to detect jet black objects with a remission of less than one percent.

Using SICK's intuitive BluePilot, precise alignment of the W4F sensors is easy using the push-turn mechanism guided by the on-sensor LED display. BluePilot also provides a visual indication of detection quality and enables any loss of detection capability, e.g. as a result of dirt on the lens, to be corrected before causing unplanned downtime.

Useful IO-Link features include a ‘current receiver level’ read-out enabling detection to be monitored in real time. Extensive diagnostic functions ensure the system can monitor sensor status and can respond if process parameters such as temperature or degree of contamination deviate beyond pre-set limits. Extensive diagnostic data also enables rapid identification of the cause of failure, e.g. at critical temperatures, the W4F can automatically initiate maintenance, thus preventing failures.

For more information, please contact Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

www.sick.co.uk

-ends -

Issued on behalf of: SICK (UK) LTD, Waldkirch House, 39 Hedley Road, St Albans, Hertfordshire, AL1 5BN.