Press Message

Sensor-based safety = efficient automation

Ostfildern, 20.05.2025 - **Erich Wagner (Manager Product Management) and Markus Locke (Manager Product Management)**

(Check against delivery)

Pilz is an expert in sensor technology as well as safety relays. Pilz products are not just found in the control cabinet. Pilz sensor technology PSEN also ensures the necessary safety on many machines in the field.
Safe automation is impossible without safe sensor technology. A universal safety concept is only enabled through interaction with sensors in the field – they not only detect hazardous situations but also record data, so that machinery can be operated safely and proactively.
Pilz sensor technology is broadly positioned for the widest range of applications: from position monitoring and safeguarding of access gates and maintenance flaps through to area and zone monitoring. The Pilz sensor technology portfolio, PSEN for short, offers a broad spectrum: it is coordinated, certified to international standards, robust and long-lasting. And it encompasses many technologies in order to meet the respective application challenges: from safety switches, electromechanical and electromagnetic guard locking devices through to optoelectronic sensors such as safety light curtains, laser scanners or radar systems.

Safety gates: Conventional principle – innovative implementation!

Safety gates are required on lots of plant and machinery because they control access to machines and therefore safeguard the danger zone. Market demands are moving towards small, space-saving solutions that are easy to integrate. And economical of course.

Today's market demands that safety locking devices have a compact design. This is where Pilz sees a general trend towards installing the safety locking devices on the inside, in order to have an attractive machine design on the outside. The answer: safety locking devices and safety gate systems that are suitable for 30mm and 40mm profiles, allow installation on the inside and outside, and are available as modular or compact guard locking devices. That's why the safety locking devices PSENmlock mini are 60% smaller than their Pilz predecessors, and PSENmgate 43% smaller.

Trend topics include not just the design, but also simple connection and fast wiring. Many Pilz sensors have a plug-in connector and offer rapid diagnostics thanks to a safe series connection.

The safe sensor technology can be wired not only in the control cabinet, but also entirely in the field. This means installation via plug & play, and less control scope in the control cabinet.

And with Pilz, users can also scale their own solutions in the control cabinet, e.g. with the safety relay myPNOZ, which can now also control safe guard locking devices. Or also with the small controllers PNOZmulti 2 and the PSSuniversal PLC controller in the automation system PSS 4000, which have different blocks that you can select to suit your needs.

Alongside the "conventional", Pilz also has the future in mind: a plug & play safety gate solution based on the safe communication protocol IO-Link Safety with a decentralised IP67 Master.

Radar opens up new possibilities for safe automation

New technologies from other areas are also finding their way into the automation industry. One example is radar technology, which is familiar to the motorists among us from traffic monitoring. Radar technology is currently a promising new trend in automation for zone monitoring and distance measurements.

For Pilz, the detection of people within a defined zone is a pioneering technology. Radar technology offers the possibility to detect even very weak impulses – such as breathing movements. The very high detection capability enables you to measure these very sensitive movements. Why is Pilz driving this forward? If users know for sure where people or machine operators can safely be present in production areas, they can guarantee both Safety and Security for people, and increase plant productivity.

Like safety gate solutions that practically "merge" with the gates; in the same way, devices for zone monitoring must "not get in the way": radar technology measures three-dimensional zones, so users can also mount radar devices on the ceiling - so they don't interfere.

In this case, Pilz focuses once again on a holistic overall concept. The complete Pilz radar technology solution includes the access permission system PITreader, the small controller PNOZmulti 2 and – in order to implement automation – the industrial PC IndustrialPI as an IIOT gateway. A new app supports customers right from the start and, based on augmented reality, offers options for visualising zone monitoring as early as the engineering phase. With this complete package, users can detect unauthorised access and prevent an unexpected restart or accidents that happen when paths are out of sight – for optimum traffic management and greater safety in production.

Conclusion: Pilz is expanding conventional safety technology with innovative sensor technologies, to make the automation of the future even more efficient.

Caption:

You can find texts and images for downloading at:
https://www.pilz.com/en-INT/company/press/messages/articles/245600

Pilz – The Spirit of Safety

Pilz is a global supplier of products, systems and services for automation technology. As a pioneer of safe automation, Pilz creates safety for human, machine and environment. Founded in 1948, today the family business with its head office in Ostfildern is represented worldwide with 2500 employees in 42 subsidiaries and branches. The technology leader offers complete automation solutions for Safety and Industrial Security on the machine. These include sensor, control and drive technology – as well as systems for industrial communication, diagnostics and visualisation. An international range of services with consulting, engineering and training completes the portfolio. Pilz solutions are used in many industries beyond mechanical engineering, such as intralogistics, packaging, railway technology, or the robotics sector for example.

Pilz in social networks

In our social media channels we give you background information concerning the company and the people at Pilz, and we report on current developments in Automation Technology.

https://www.facebook.com/pilzINT

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