Safety and industrial security

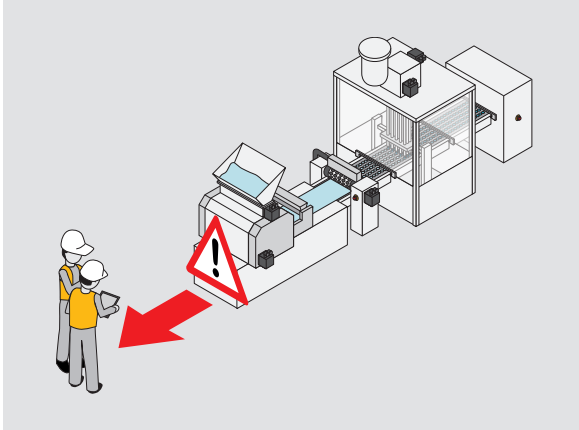
PILZ
THE SPIRIT OF SAFETY

Access and entry for authorised persons only!

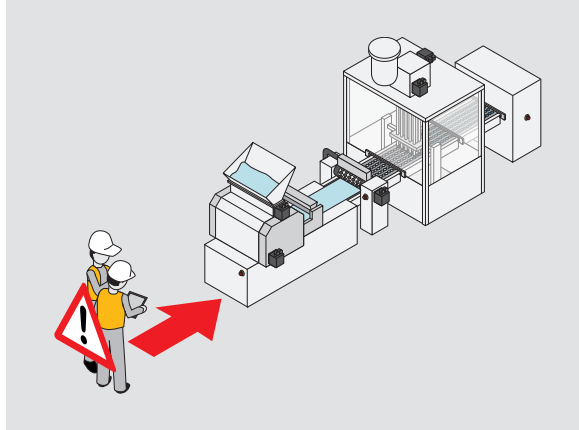



Be safe and secure with Pilz!

In addition to machinery safety, industrial security is also becoming increasingly important. Nowadays, we no longer exclusively focus on creating safe workplaces and protecting employees from hazardous machines. Instead, we also look to safeguard those areas requiring special protection that are present in every industrial machine or plant. In the context of security, this protection particularly includes preventing unwanted external access to the control network with a view to stopping unauthorised individuals from accessing machines. Security vulnerabilities must be avoided at all costs in this environment, as they can lead to incorrect operation or manipulation. This usually goes hand in hand with reduced quality or even machine downtimes and therefore production downtimes.



Safety: protects humans from the machine.



Industrial security: protects the machine from people.

Safety

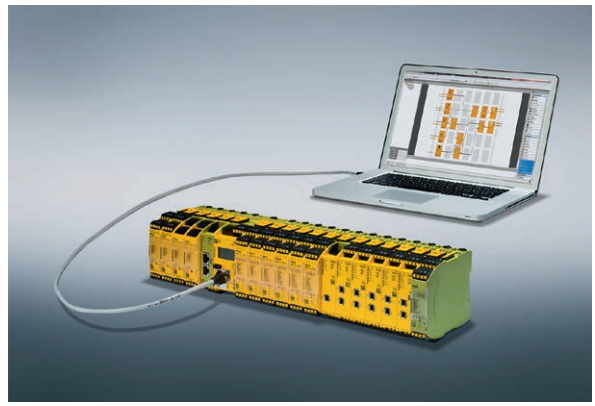
Machinery safety – or 'safety' for short – forms the basis of safe human / machine interaction. By using safe automation, you're protecting your employees from the risks that machines and plants pose, enabling smooth operation and increasing both the quality and quantity of your production operations. Companies that implement a rigorous safety policy have been proven to be more successful in the marketplace. Pilz is the world's leading provider of safety-related automation solutions, is represented in numerous countries and is well known for its high-quality, innovative products and services.

Industrial security

Industrial security describes the protection of machines and plants against manipulation and incorrect operation. Because machines and plants are becoming increasingly networked, industrial security is becoming ever more important in automation. It's no longer enough to simply protect people from accidents when they're operating a machine. The machine itself also has to be protected from potential attackers, since external manipulation can impair or even eliminate machinery safety. A holistic safety concept that also takes industrial security into account is all the more important.

Product overview

PITmode fusion: the operating mode selection and access permission system
Protect your machines and plants against unauthorised access and prevent damage caused by improper operation. If you're using a PNOZmulti 2 small controller or the PSS 4000 automation system, all you need are **PITreaders** to control access permission and safe operating mode selection. We also have a solution for using an external controller: **PITmode fusion.**



PNOZmulti 2: configurable, safe small controllers
Rely on a bestseller and the global safety standard for all types of machines for monitoring emergency stops, safety gates, light guards, two-hand and much more besides. In the graphic configuration tool, you can use certified function blocks to easily implement access permissions and safe operating mode selection with **PITreaders.**

Modular safety gate system
In addition to reliably safeguarding safety gates, the modular principle enables creation of an individual safety gate solution that's suitable for your application. As well as safe gate locking, you benefit from the possibilities of economical series connection, rapid diagnostics, additional control and pushbutton elements, and an optional escape release.

SecurityBridge: the application firewall
The SecurityBridge firewall protects Pilz controllers from manipulation. It monitors the data traffic between the PC and controller and reports unauthorised changes to the control project. It therefore protects downstream controllers from network-based attacks and unauthorised access.

Solutions for secured access and secure data

Safety and industrial security from Pilz
By offering **PITmode fusion** (the operating mode selection and access permission system), the **modular safety gate system, PNOZmulti 2** (safe small controllers), and the **SecurityBridge** firewall, we're providing a solution that meets requirements both in terms of machinery safety (safety) and access and entry protection (industrial security).

PITmode fusion (the operating mode selection and access permission system) regulates the access permissions and ensures that only individuals authenticated using an RFID key are authorised for actions according to their permissions. When combined with products from the modular safety gate system – such as the PSENmlock safety gate system – optimum protection can be provided for safety gates.

The SecurityBridge firewall prevents unauthorised access and manipulation over the network by monitoring communication with the PNOZmulti 2 small controller. Not only does this protect your employees against risks resulting from the machines; it also safeguards your machines against incorrect operation and manipulation.

The following sample applications illustrate the comprehensive solutions that can be implemented on your machines and plants in terms of safety and industrial security tasks.

Sample application: access permission

Industrial security – checking access permissions with PITreaders and evaluation on an HMI system
HMI systems on machines are used to visualise and control machine processes and must be protected against unauthorised access.

However, password protection turns out to be insufficient in many cases. The problem is that, often, there are no personal permissions in place, and passwords are known to a large group of people or – in the worst-case scenario – are noted directly on the HMI using Post-it notes.

With **PITreaders** and the associated RFID keys, you can assign individual roles and permissions and thereby ensure that each user has their key to enable precisely those functions on the HMI that match their qualification and tasks.

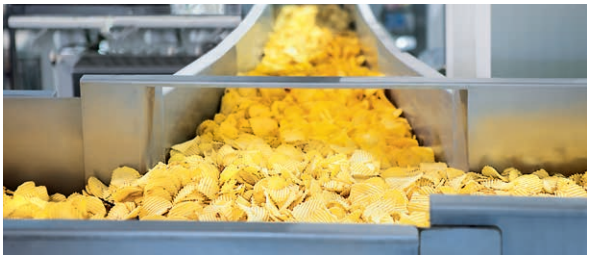
Read access, for instance, can be granted to one employee, while another staff member can change settings or recipes using the HMI. The user's personal language settings can also be selected or certain pages on the HMI can be viewed depending on the key inserted. It is also possible to trace who has authenticated themselves or made changes.

Sample application: entry permission

Safety and industrial security – verifying access permission at a safety gate with PITgatebox and evaluation using PNOZmulti 2
With the pushbutton unit PITgatebox, you can easily and flexibly control safety gate switches and systems. Integrating **PITreaders** adds another security factor – user authentication.

Individual RFID keys allow employees to authenticate themselves using the **PITgatebox** with an integrated **PITreader.** Control of the safety gate is only activated after entering an RFID key with the appropriate permission. This ensures that only authorised employees have access to the plant and can execute commands like activating, stopping or acknowledging the machine. The permissions on the key are analysed and the connection to the safety gate system is established using the **PNOZmulti 2** safe small controller. Secure data traffic to the small controller is monitored by SecurityBridge, the application firewall.

Used in conjunction with the modular safety gate system and products such as the **PSENmlock** for safe gate locking, you can ideally combine safety and security aspects to provide comprehensive safety gate guarding with access permission.



Sample application: safe operating mode selection

Safety: functionally safe operating mode selection up to PL d

You can also use **PITreader** or **PITmode fusion** to implement the requirement for functionally safe operating mode selection on your machines. This is done with individual permissions on modern RFID keys – there's no need for mechanical keys whatsoever.

In addition to fulfilling normative specifications, the goal of assigning employees the permissions they need is a key factor when choosing the operating mode. While one employee at a machine is only authorised for automatic mode, for example, a service employee requires extended rights to be able to select the "Service" operating mode for maintenance.

To give you maximum flexibility, we offer two options for implementing functionally safe operating mode selection.

- If the PNOZmulti 2 small controller or the PSS 4000 automation system is used in your plant, all you need are **PITreaders** and the relevant RFID keys to be able to implement functionally safe operating mode selection. The safe analysis unit for reading out the selected operating mode is already integrated as a function block in Pilz controllers. In this case, the operating mode can be selected using pushbuttons or by inputting using an HMI touchpad.
- If you're using a fail-safe controller from another provider, we offer you **PITmode fusion**, a corresponding solution for regulating access permissions and safely selecting operating modes. **PITmode fusion** has a modular design, includes a separate safe analysis unit in addition to the **PITreader** reading unit, and can be combined with any pushbuttons for selecting the operating mode.

Support

Technical support is available from Pilz round the clock.

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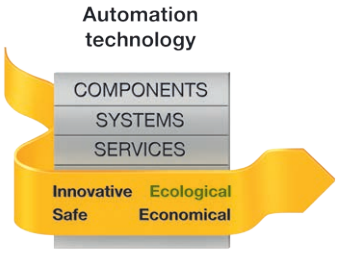
Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.



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