



**PROFIsafe**  
**open, integrated, and proven**



# ... with numerous benefits.

## For users

### Internationally established technology

PROFIsafe is an integrated safety technology for discrete manufacturing and process automation. The IEC 61508-compliant technology enjoys widespread international acceptance and has been evaluated positively by IFA and TÜV. PROFIsafe has also become an international standard (IEC 61784-3-3).

### Efficient use of technology and product

The wide range of products from different manufacturers enables easy, cost-effective system configuration. Training, documentation, and maintenance are required for only a single bus technology, thus saving time and money for system operation.

### Simple engineering and installation

Standard and safety-related applications can be programmed for PROFIsafe by means of a single tool and certified function blocks. In addition, the technology enables a high degree of flexibility when replacing existing relay technology and when retrofitting existing installations. The use of certified devices simplifies system acceptance.

## For manufacturers

A PROFIsafe solution can be easily implemented and inexpensively replicated using TÜV-certified software.

The different architectures of safety-relevant control systems can adapt PROFIsafe communication without difficulty. PROFIsafe thus opens the door to new and innovative device functions.

### Easy implementation of a PROFIsafe solution

### Flexibility based on different architectures

### Investment protection

PROFIsafe is an established technology with significant future potential. PROFIBUS & PROFINET International (PI) functions as a global network of experts who work cooperatively on further technology development. Investments are protected as a result of this long-term development strategy. All existing and future PROFIBUS standards are used, and will continue to be used, for safety-relevant applications, as well. A simple migration to PROFINET is possible based on the black channel principle (PROFIBUS DP/PROFINET IO).

# PROFIsafe, the worldwide established standard:



*The risk of human injury, property damage, and environmental harm is inherent in industrial processes. For this reason, there is hardly a machine or piece of equipment in existence today that does not feature an emergency stop button, indicating the presence of a safety system. The importance of safety in automation engineering is steadily increasing, and PROFIsafe fulfills the relevant requirements.*

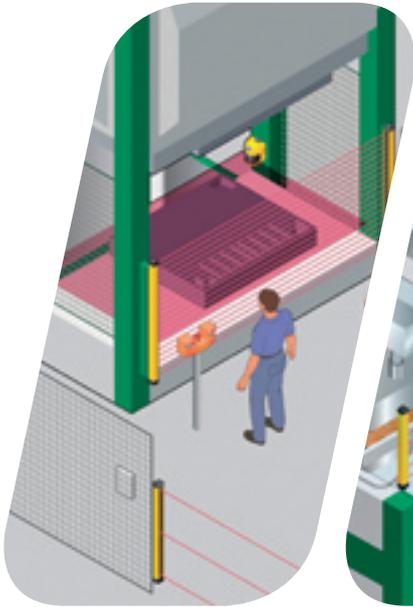
## **PROFIsafe is independent of the communication method and provides cost-effective and flexible functional safety based on:**

- Coverage of the entire communication path, ranging from the sensor to the controller to the actuator
- Integration of safety and standard communication on one cable (black channel principle)
- Support of safety functions for drives
- Approval for wired and wireless transmission

## **PROFIsafe achieves the technology leap:**

- From safety-related relay logic to programmable logic
- From parallel wiring to functionally safe bus communication
- From safety devices working in isolation to safety devices working in cooperation

## ... used in all industrial sectors ...



Maximum safety category for protection of a press



Flexible integration of all types of safety components in the electronics industry



Wireless safety-related transmission for use of driverless transport systems



Flexible production in the automotive industry for different bodies on one assembly line

In addition to the industrial sectors listed, PROFIsafe applications are also found in the packaging, transport, wood processing and process industries, for example.

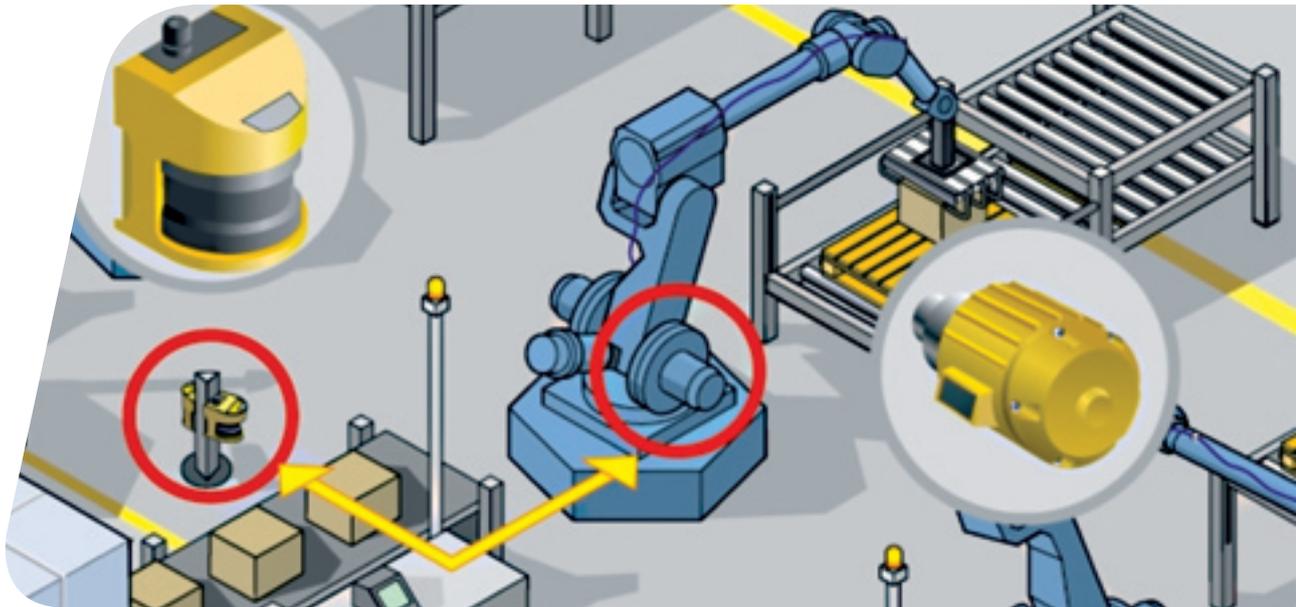
### **PROFIsafe provides the following for all industry sectors:**

- Compliance with the most stringent safety requirements (up to category 4, PL e, SIL 3)
- Integrated configuration and diagnostics
- Reduction in wiring effort
- Flexible automation
- Integration of a wide variety of safety components

PROFIsafe is flexible in its application and grows according to the requirements in the plant.

**PROFIsafe – the safe solution for all industrial sectors!**

# ... with a complete portfolio.



Numerous manufacturers of safety components have participated in the creation of vendor-neutral and open standards under the framework of PI. This enables the development of an extensive and complete portfolio by many different providers – ranging from sensors to controllers to actuators:

- Safety control systems
- Remote I/O (in IP20, IP67)
- Safety gateways (e.g., AS-i Safety at Work)
- Safety sensors (e.g., light arrays, laser scanners, rotary encoders)
- Drives with integrated safety functions
- Valves and valve blocks
- Devices for process automation (e.g., level monitors, pressure transmitters)
- Mobile operator control and monitoring with safety functionality via Industrial WLAN

The PROFIsafe technology has established itself in the market. With its numerous installations, PROFIsafe has posted striking evidence of its leading role in fieldbus-based safe communication systems.

**PROFIsafe – the recipe for success!**

# You can rely on it!

PROFIsafe has developed into the worldwide leading, integrated technology for functional safety.

**Certification** PI Test Labs have been set up to verify PROFIsafe functions in devices. Products are tested for certification according to the PROFIsafe Specification in approved and accredited PI Test Labs.

**Workshops** The stringent quality requirements for equipment and systems depend not only on the PROFIsafe products but also on the quality of the expertise and the methods and procedures applied by the development teams. In order to support you in this regard, PI is collaborating with TÜV to host PROFIsafe Designer Workshops. On successful completion, experts receive a "Certified PROFIsafe Designer" certificate recognized by TÜV. In addition to PROFIsafe Designer Workshops, PI also organizes user workshops.

**Support** PI Competence Centers are always available to help you in case of technical questions. A list of accredited PI Competence Centers around the world as well as additional information on workshops, products, and materials, such as system descriptions, can be found at [www.profibus.com](http://www.profibus.com) or [www.profinet.com](http://www.profinet.com). You can also obtain information about current topics and development activities on the web site [www.profisafe.net](http://www.profisafe.net).