

# Functional Safety Technology with **AS-Interface Safety at Work**



## Why AS-Interface?

Automation is simply easier and faster with AS-Interface. The system's connectivity reduces labor as well as expenses and supports the advantages of decentralized installations. In numerous applications, AS-Interface is the proven standard for networks.

AS-Interface provides an efficient connection of devices, switches, sensors and actuators to modern control systems, reducing the cost of many machines and systems by over 60%. The system uses a two-conductor cable that handles communication and power supply. Components can be connected quickly and easily at any place and at any time (hot plug-in). Components can be connected quickly and easily, at any location and at any time using piercing technology. This fast and easy to use technology reduces installation, system, and maintenance costs.



## Safety partner



**Bihl  
+ Wiedemann**

**Bihl+Wiedemann GmbH**  
D - 68199 Mannheim  
[www.bihl-wiedemann.com](http://www.bihl-wiedemann.com)

Bihl+Wiedemann, founded in 1992 in Mannheim, Germany, is one of the leading companies in automation and safety technology with AS-Interface. It develops and manufactures complete automation solutions for functional safety and for data communication in machines and plants.



**EUCHNER**  
More than safety.

**EUCHNER GmbH + Co. KG**  
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[www.euchner.de](http://www.euchner.de)

EUCHNER is one of the world's leading companies in the field of industrial safety technology. For 70 years, the mid-sized family business has been convincing customers with innovative and high-quality products for machine and plant construction.



## Operational advantages

- Fast and flexible installation, easily expandable
- Cost-saving decentralized installation
- Standard and safety-related components on a single network
- Simplified determination of the performance level (PL)
- Fast and easy design of logical links between safety components
- Logical circuit representation in window technology
- Simple connectivity technology –wiring errors reduced through reverse polarity protected profile cable
- Cable layout corresponding to the mechanical design, topology-free
- Trouble-free projecting through automatic recognition of all components and address assignment
- Separation of PLC control and safety switch possible
- Transparency – the comprehensive solution offers standardized system information in the host system

## AS-Interface Safety at Work

AS-Interface Safety at Work enables wiring a system up to category 4 performance level e according to EN ISO 13849 or up to SIL 3 according to IEC 61508, respectively. The system designer determines the correct combination of safety components and sets up the safety monitor configuration according to the selected control category. With appropriate component selection, performance level e, category 4 can be achieved. Testing of all safety functions is mandatory. The safety monitor works like a safety relay.

The safety monitor or the safety controller have output circuits that include two redundantly constructed release circuits and can, in general, be used up to control category 4 performance level e. The safety monitor's functions by far exceed those of a single safety relay due to additional

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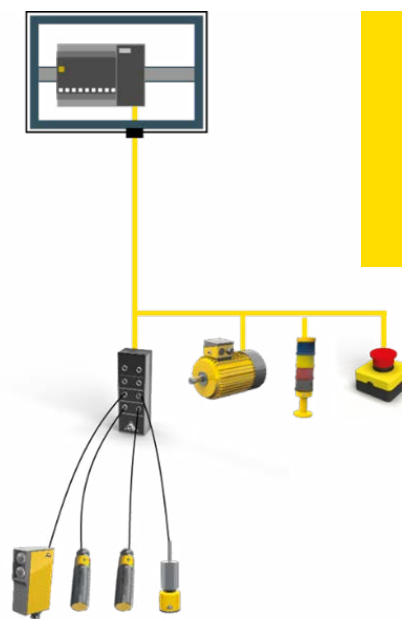
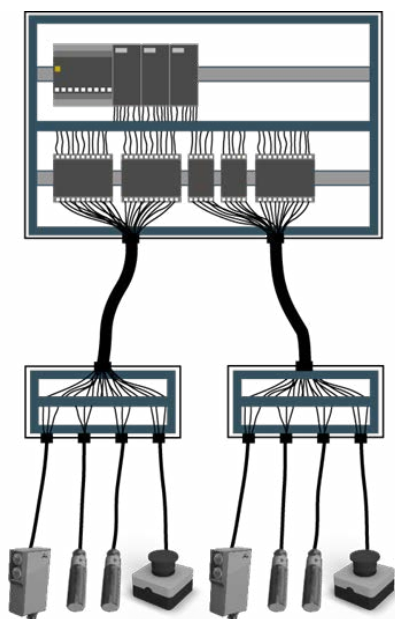
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The owner-managed Schmersal Group offers its customers worldwide systems, solutions and services for machine safety and occupational safety. Founded in Wuppertal in 1945, Schmersal is now one of the international market leaders with the world's most comprehensive range of safety technology.

integrated safe logic modules. Depending on the application, a single safety monitor can replace several conventional safety relays, significantly reducing wiring and saving space in the control cabinet.

To achieve the preferred safety category, the designer needs to ensure that the safety components and the associated safety functions are coordinated and documented accordingly during safety monitor configuration. The safety monitor's specific functions perfectly support the functional safety engineer's work.



up to  
**60%**  
cost reduction possible  
with **AS-Interface**

The development in automation has gone from having a lot of contact points and many cables to just one cable. This one cable, which connects everything and is connected directly, saves wiring time and reduces wiring errors.

More information:  
<https://www.as-interface.net/en/technology/safety-at-work>

Safety partner



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Siemens is a global company with a focus on electrification, automation and digitalization. The company plays a pioneering role in solutions for infrastructure and industry.