

Start



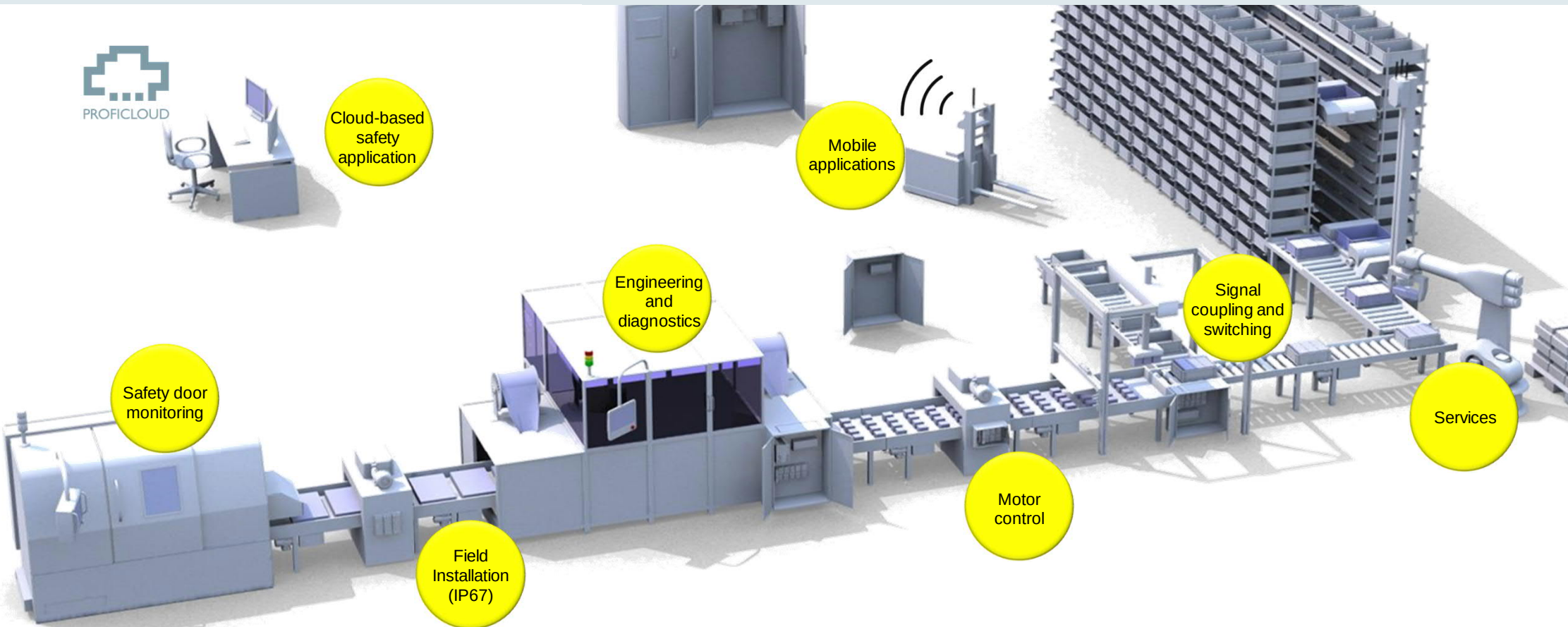
PL Functional Safety

EN ISO 12100

PL e
SIL

Smart safety solutions

Best fit for market needs



 **Products**

 **Safety services**

Technologies

 **Industries**

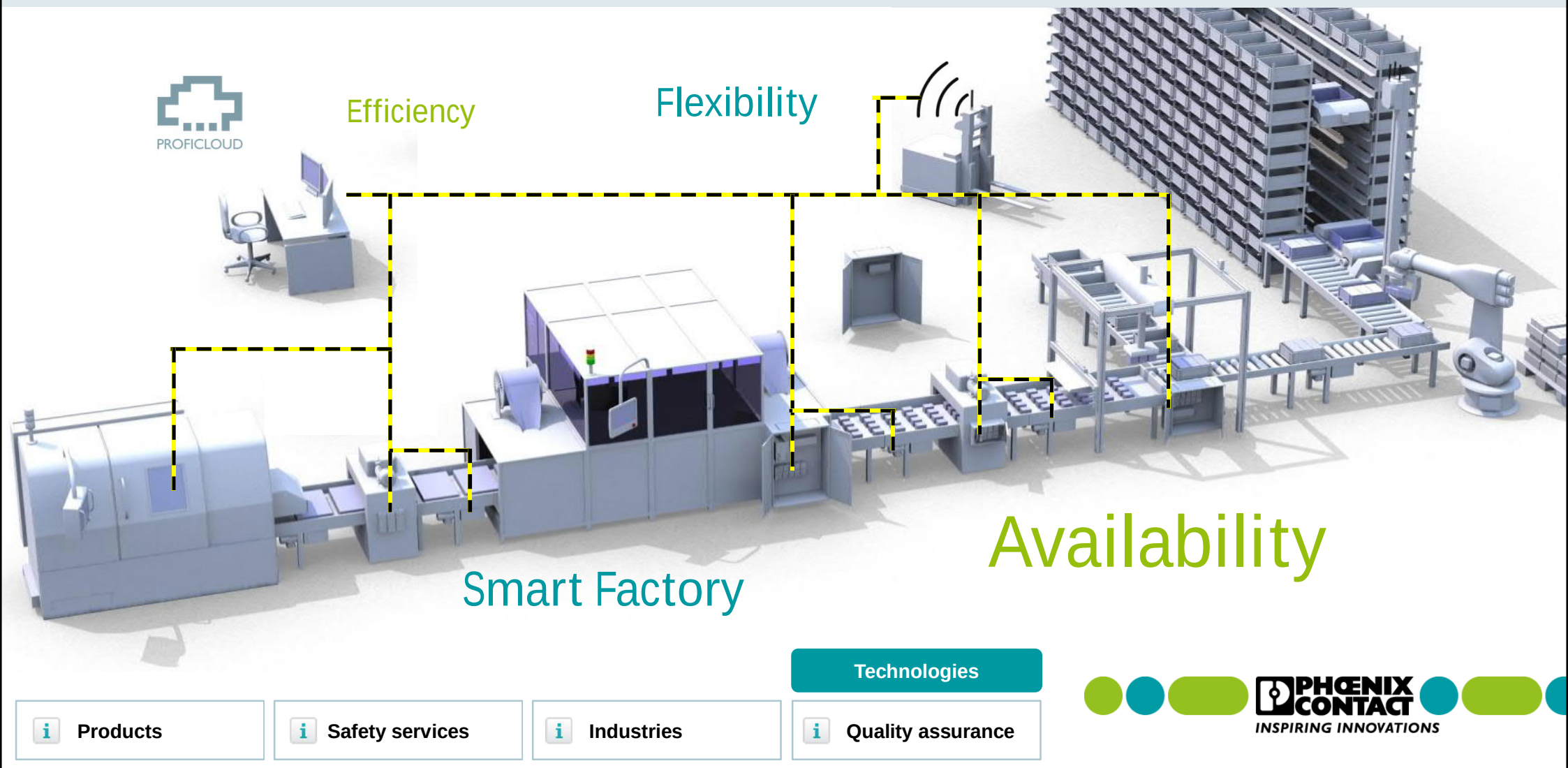
Trends

 **Quality assurance**



Trends

Inspiring safety technologies



Safety product portfolio

From safety switches to safe controllers



Configuration software

 PSRmotion



 PSRmodular



 SAFECONF



Programming software

 PLCnext Engineer



Signal processing

 **Safety relay modules**
PSRmini, PSRclassic,
PSRmotion and PSRmultifunction



Sensors

 **Configurable safety system**
PSRmodular



Signal conditioning

 **Safe I/O's**
Axioline and Inline



Actuators

 **Performance controllers**
RFC



Power

 **Safety switches**
PSRswitch



 **Safe signal conditioners**
MACX Safety



 **Safe motor starters**
CONTACTRON

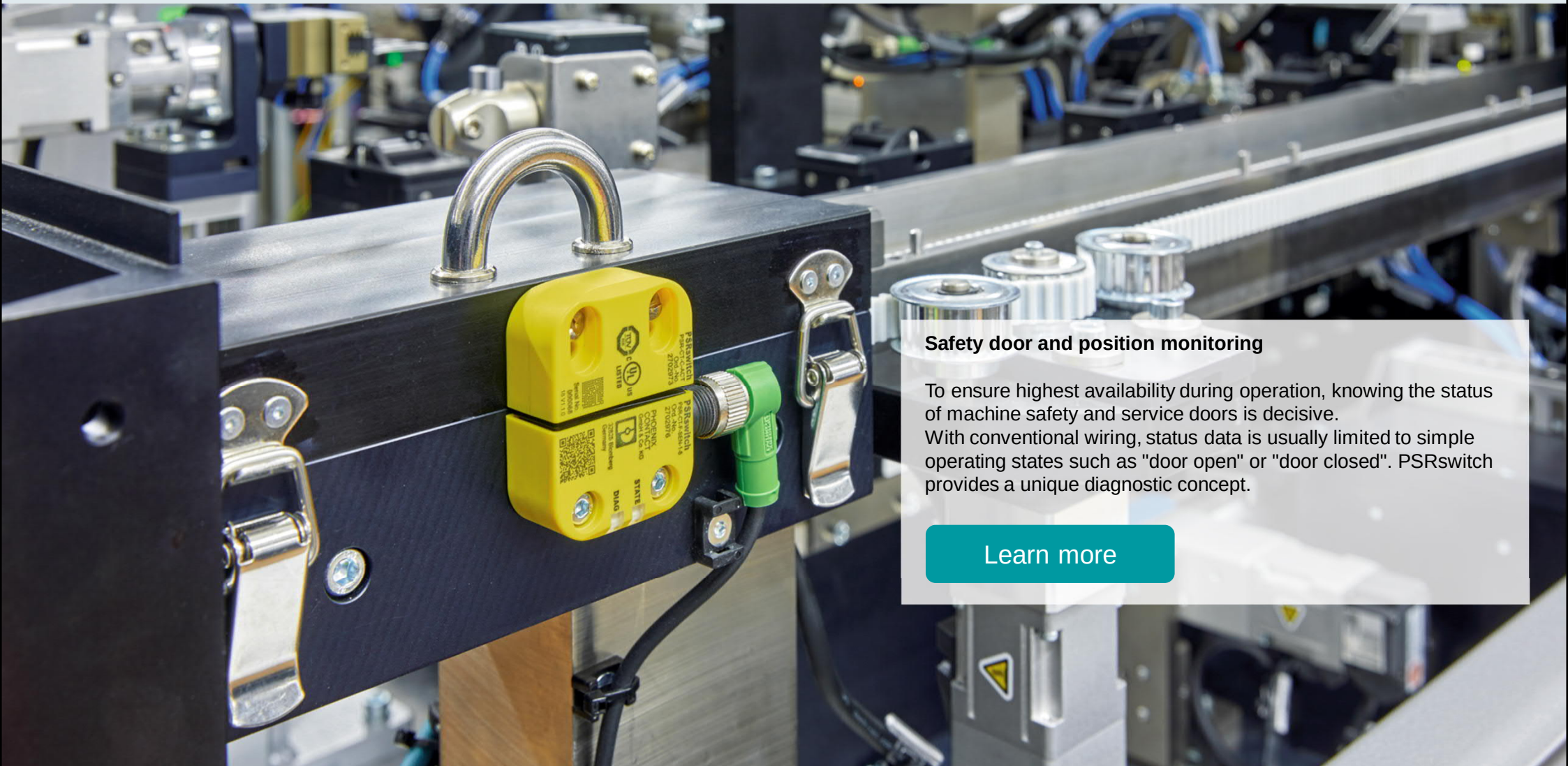


 **Safe power supplies**
QUINT POWER



Smart safety solutions

Safety door and position monitoring



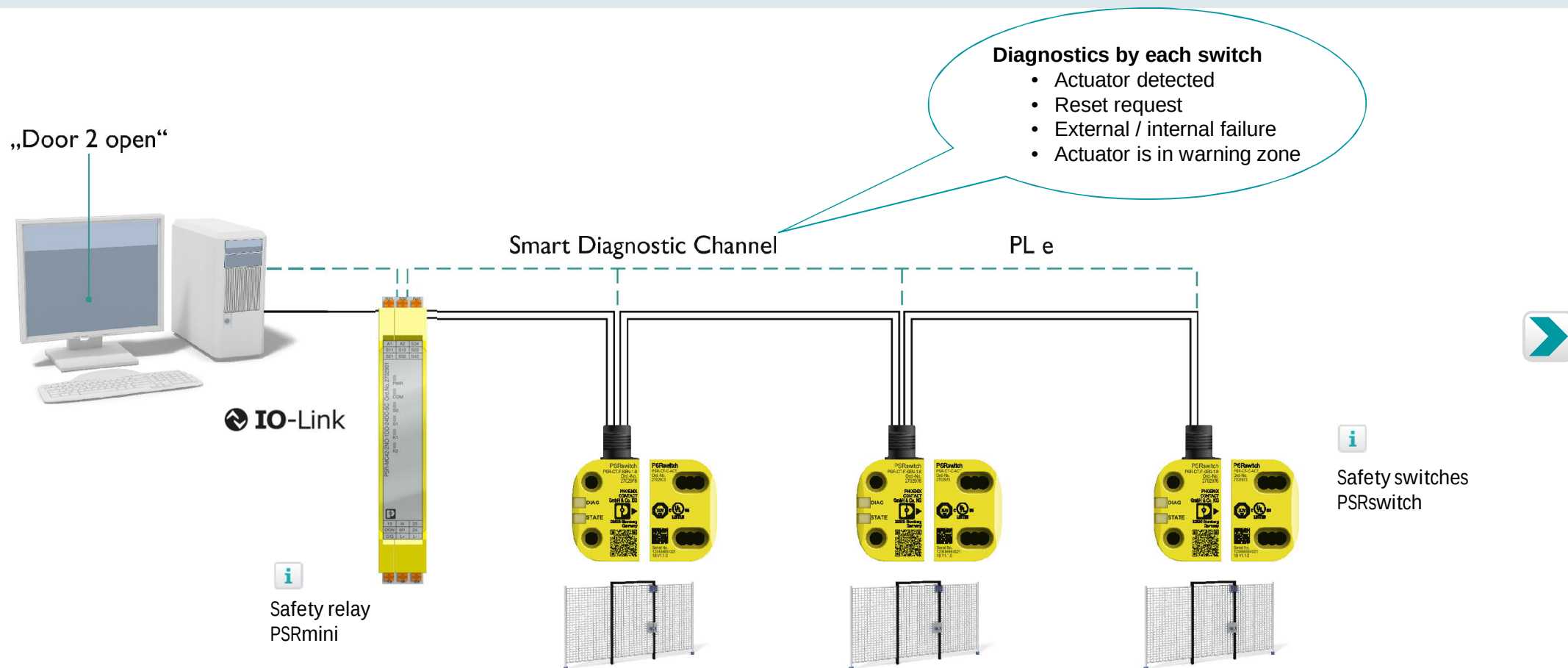
Safety door and position monitoring

To ensure highest availability during operation, knowing the status of machine safety and service doors is decisive. With conventional wiring, status data is usually limited to simple operating states such as "door open" or "door closed". PSRswitch provides a unique diagnostic concept.

[Learn more](#)

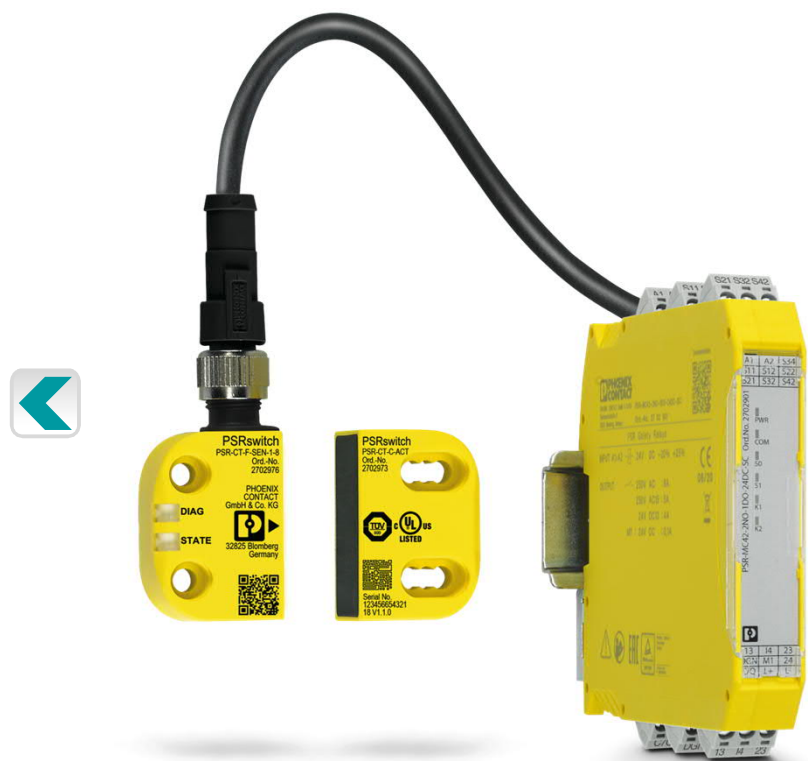
Smart safety solutions

Safety door and position monitoring



Smart safety solutions

Safety door and position monitoring



Safety switches
PSRswitch



Safety relay
PSRmini

Intelligent safety switch system

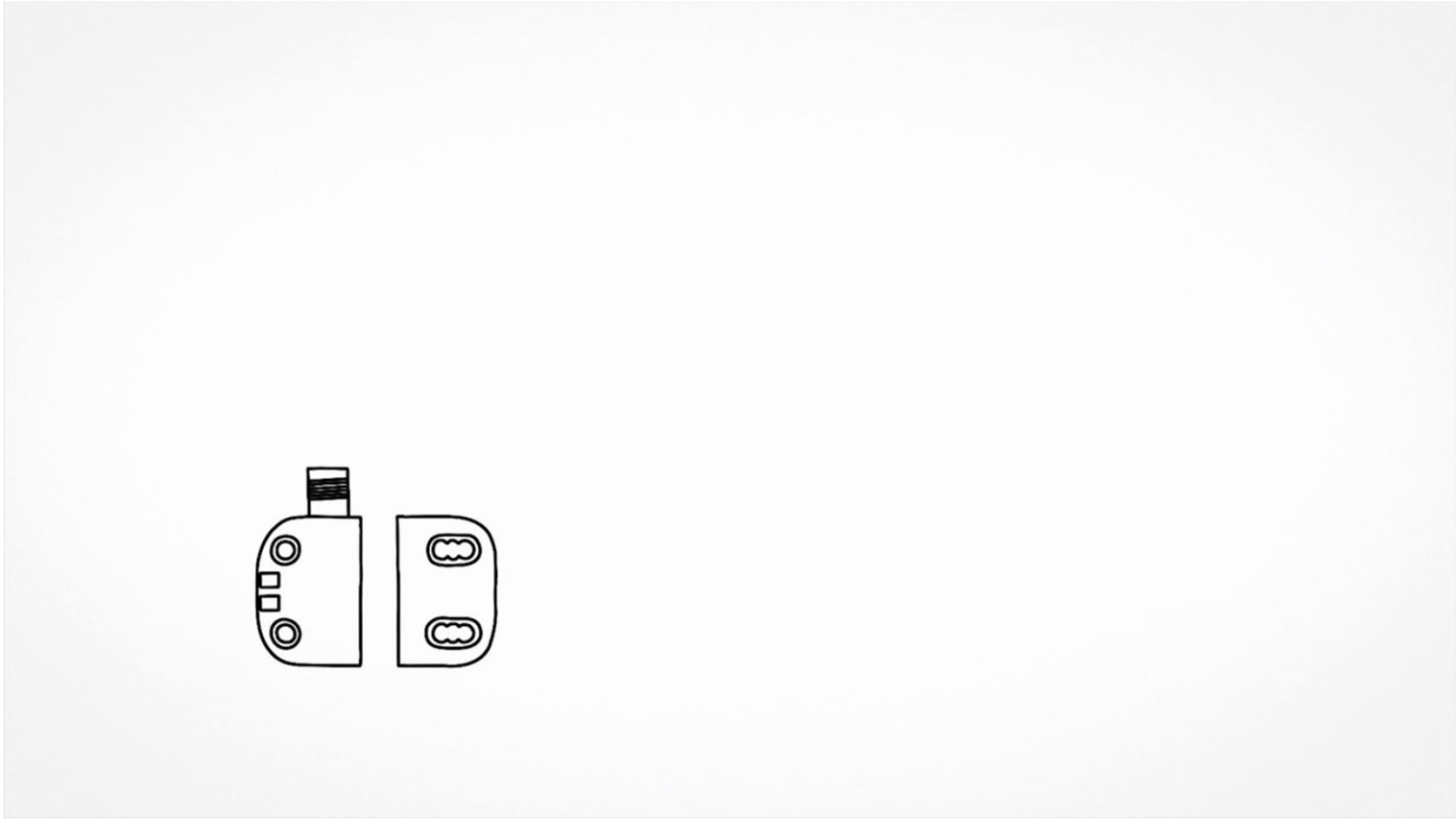
Our safety switch system comprises the PSRmini evaluation unit and PSRswitch safety switches.

- Safe series connection of switches with two-channel design
- Status information of the switches is transmitted to the safety relay (PSR-MC42) via integrated diagnostic channel
- Safety relay transmits the non-safety-relevant diagnostic data of the switch via IO-Link to the controller
- Data can then be evaluated centrally there

Watch movie

Smart safety solutions

Safety door and position monitoring



Products

Non-contact safety switch



Non-contact safety switches PSRswitch

The PSRswitch non-contact safety switch safely disconnects machines or systems while a movable guard, e.g. a hatch or door, is not closed correctly. Furthermore, the PSR switch can also reliably monitor several machine positions, e.g. of robots. Each compact switching unit comprises an RFID-coded sensor and an actuator.

Your advantages

- ✓ Flexible use, thanks to the compact design
- ✓ Maximum protection against tampering, thanks to **three RFID encoding levels**
- ✓ Safe series connection with comprehensive diagnostic information
- ✓ Consistent M12 connection technology for convenient installation
- ✓ Safe, **cost-effective complete solution** for the digital factory



Products

Non-contact safety switch



Coding types

The sensor is available in three encoding levels: Fixcode, Unicode and Multicode.

Fixcode

- sensor accepts a single actuator
- actuator is taught by the user during commissioning
- not possible to teach further actuators

Unicode

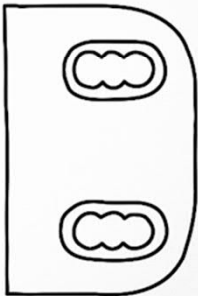
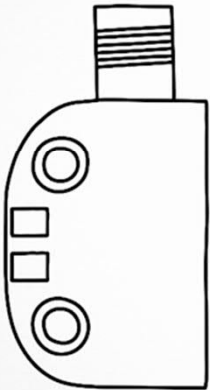
- sensor accepts one actuator
- actuator is taught by the user during commissioning
- unlimited number of actuators can be taught in one after another
- Actuators that were previously taught in are blocked by the sensor

Multicode

- sensor accepts all actuators
- not necessary to train them during commissioning



Watch movie



Products

Non-contact safety switch



Selection guide for complete solution



Safety sensors

3 coding types

Unicode
Multicode
Fixcode

PSR-CT-C-SEN-1-8
PSR-CT-M-SEN-1-8
PSR-CT-F-SEN-1-8

[2702972](#)
[2702975](#)
[2702976](#)

Actuator

Compatible with all coding types

PSR-CT-C-ACT

[2702973](#)

Bridge plug

Dummy plug for every sensor circuit

SAC-5P-M12MS BK BR 1-2-4

[1054366](#)

Y distributor

Type 1 for series connection
Type 2 for manual start-up
Type 3 for integrated diagnostics

SAC-8PY-M/2XF BK 1-PSR
SAC-8PY-M/2XF BK 2-PSR
SAC-8PY-M/2XF BK 3-PSR

[1054338](#)
[1054339](#)
[1054341](#)

Safety relay

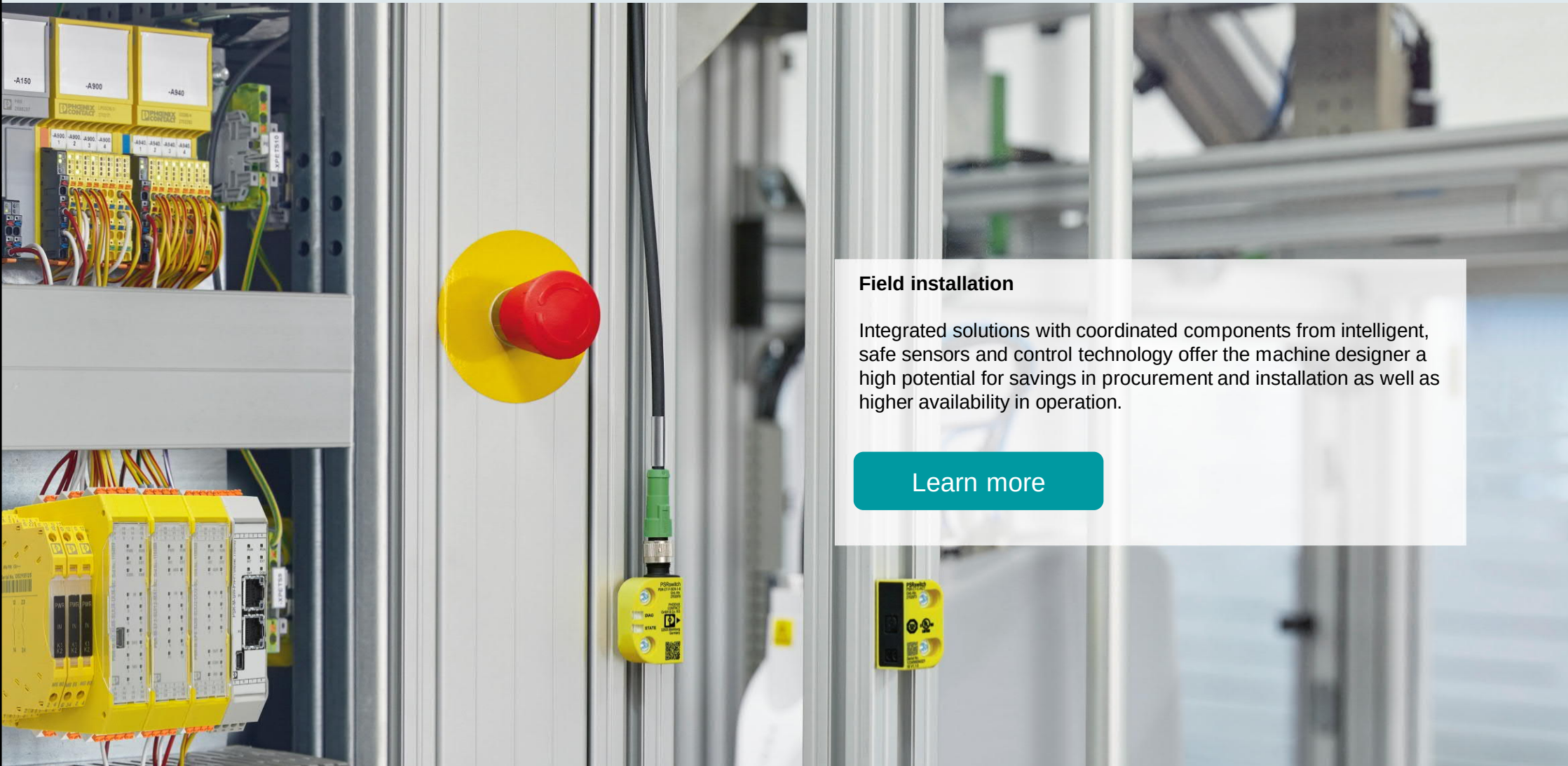
PSR-MC42 with IO-Link interface

Screw connection
Spring-cage connection

[2702901](#)
[2702902](#)

Smart safety solutions

Field installation (IP67)



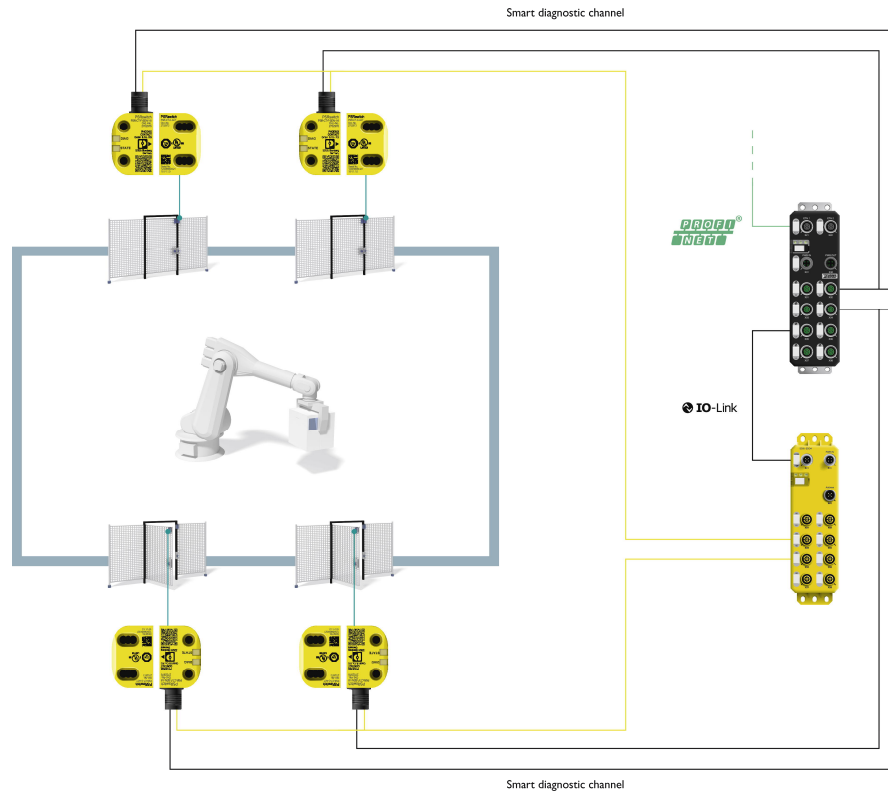
Field installation

Integrated solutions with coordinated components from intelligent, safe sensors and control technology offer the machine designer a high potential for savings in procurement and installation as well as higher availability in operation.

[Learn more](#)

Smart safety solutions

Field installation (IP67)



Safety door monitoring
with safety switch PSRswitch

Safety-related signals in the field level

Acquire safety-related signals directly on site without a control cabinet. By mounting the safe IP67 I/O box directly on the machine, near the sensors or actuators, the wiring effort is significantly reduced. The safe I/O box can be coupled to the superior network via an IO-Link interface. Depending on the parameterization, the safe I/O box can work in a PROFIsafe system with a safety controller or in SafetyBridge Technology mode with a standard controller in the installed network.



Smart safety solutions

Field installation (IP67)



Non-contact
safety switches
PSRswitch



SafetyBridge Technology[®]
Designed by PHOENIX CONTACT



 **IO-Link**



Safe IP67 I/O box
Axioline E Safe
with IO-Link



Safe IP67 I/O box Axioline E Safe with IO-Link

With the Axioline E Safe IP67 I/O box, safe inputs and outputs are processed outside the control cabinet. The safety protocol is transferred to the standard network via IO-Link.

- ✓ Can be used in SafetyBridge technology and PROFIsafe applications
- ✓ 8 safe inputs and 4 safe outputs, plus and minus switching
- ✓ SIL 3 to IEC 61508 / EN 61508, SILCL 3 to EN 62061
- ✓ UL und cUL
- ✓ PL e according to EN ISO 13849-1
- ✓ SPEEDCON quick locking system

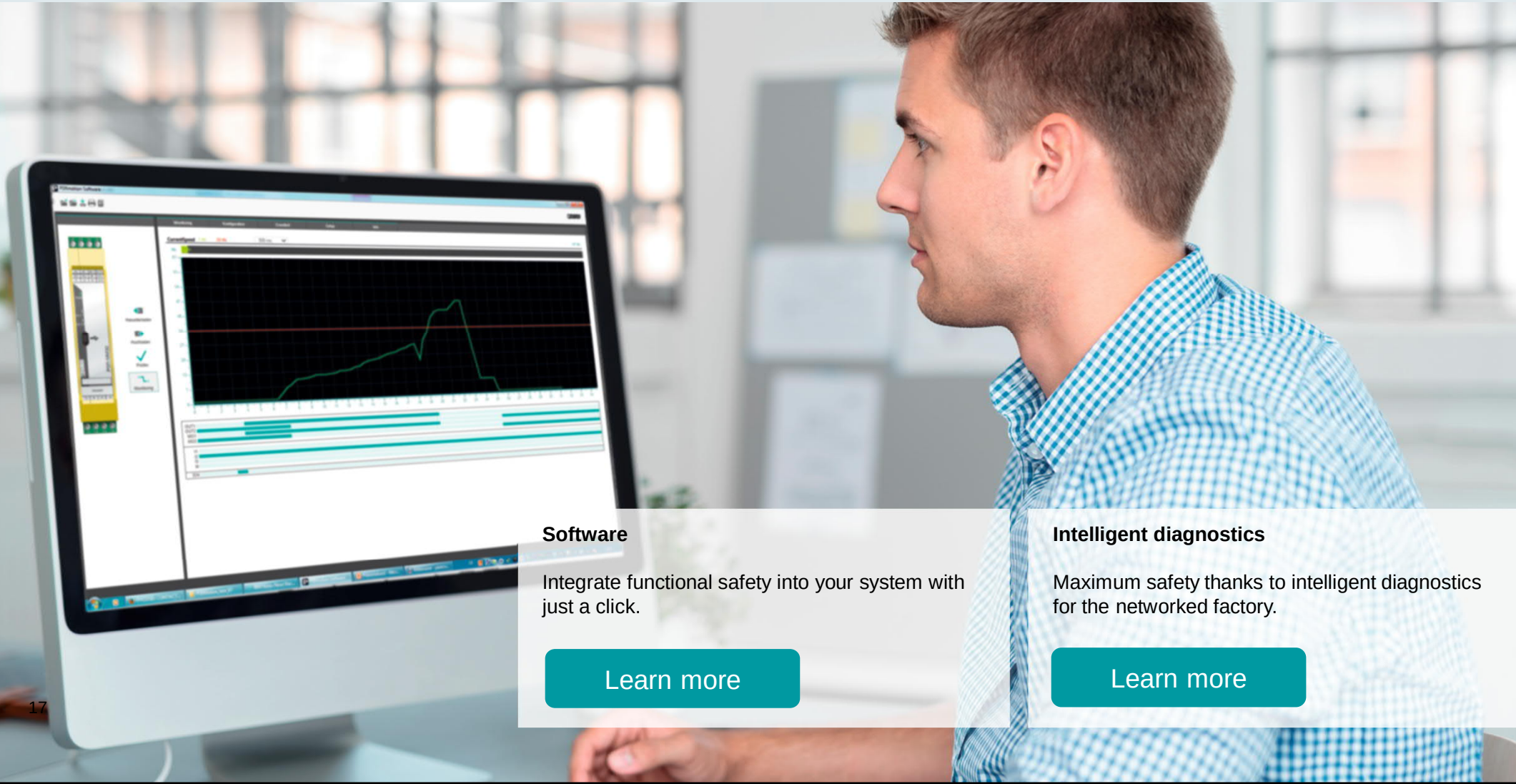


SafetyBridge Technology[®]
Designed by PHOENIX CONTACT



Smart safety solutions

Engineering and diagnostics



Software

Integrate functional safety into your system with just a click.

Learn more

Intelligent diagnostics

Maximum safety thanks to intelligent diagnostics for the networked factory.

Learn more

Smart safety solutions

Safety software



Configuration software
PSRmotion



Configuration software
PSRmodular



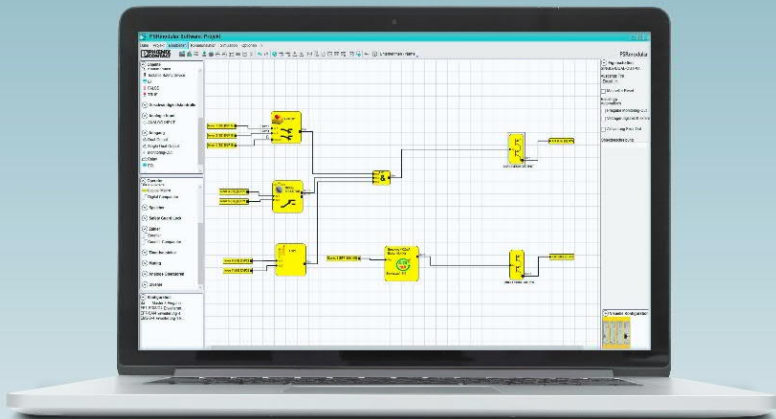
Configuration software
SAFECONF



Programming software
PLCnext Engineer

Smart safety solutions

Intuitive configuration with PSRmodular software

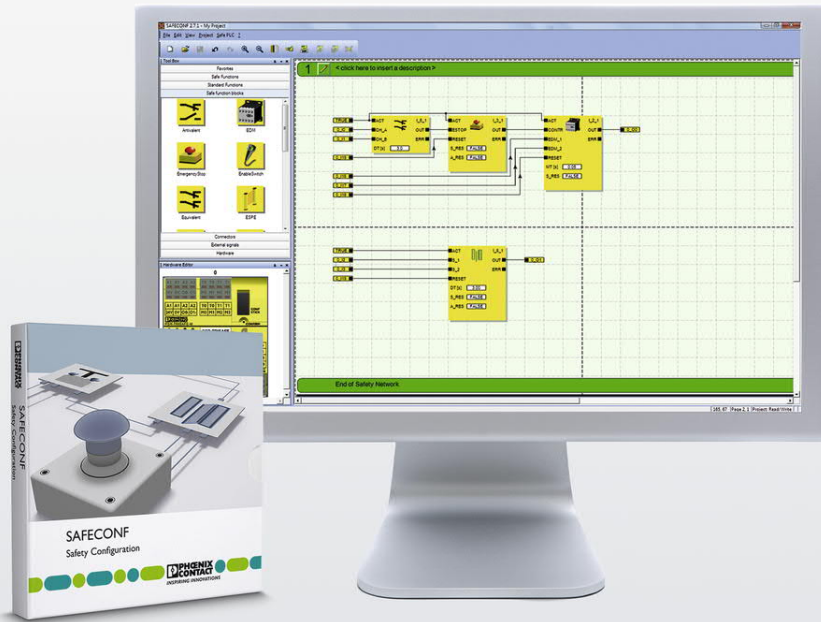


Configuration software PSRmodular with extensive functional and diagnostic options

- No programming skills required thanks to Drag-and-Drop concept
- Preconfigured TÜV-certified software modules
- Detailed simulation and reporting function for validation

Smart safety solutions

Easy configuration with software SAFECONF



Configuration software SAFECONF

- Easily create the safety logic for TRISAFE and SafetyBridge I/O modules using drag-and-drop
- Intuitive operation and certified blocks
- Simulation and diagnostics
- Application help
- Integrated e-learning



Free download

Smart safety solutions

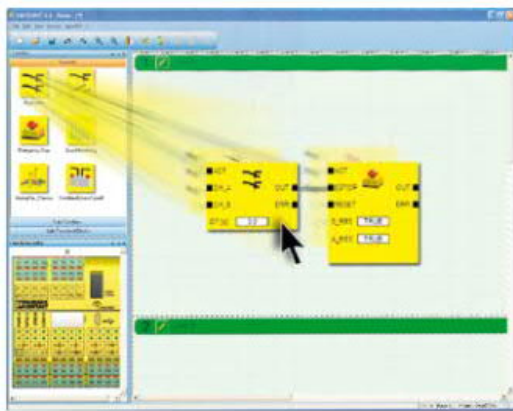
Easy configuration with software SAFECONF



Easy configuration in three steps and with TÜV certified functions blocks

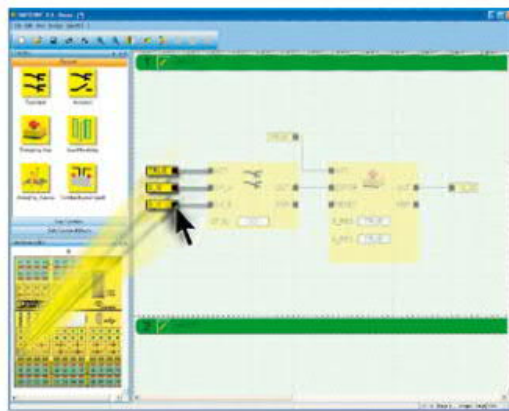
1

Select and drag and drop security features to configure.



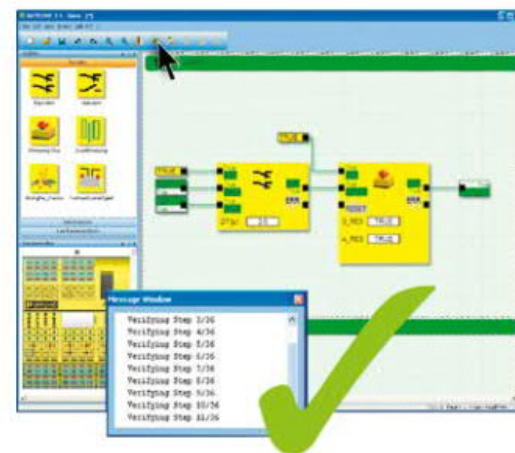
2

Connect the inputs and outputs of the modules to the safety functions.



3

Check and save safety functions. Done!



Smart safety solutions

Live-Monitoring with software PSRmotion



Configuration software PSRmotion

- Easy set-up, configuration and monitoring of zero-speed and over-speed safety relays
- Live measuring operations to visualize the motion sequences of a machine
- Adaptation of the software via a USB interface
- Windows-based and free-of-charge

Smart safety solutions

Programming with software PLCnext Engineer



Programming software PLCnext Engineer

- Develop safe applications with safety controllers
- PROFIsafe networks can be used

TÜV-certified programming tool guides help to go through development phases of a safety application:

- Compiling the project and sending it to the safety controller
- Controlling the safety controller, e.g., start, stop or reset
- Performing function tests and monitoring the safety controller
- Project documentation

Smart safety solutions

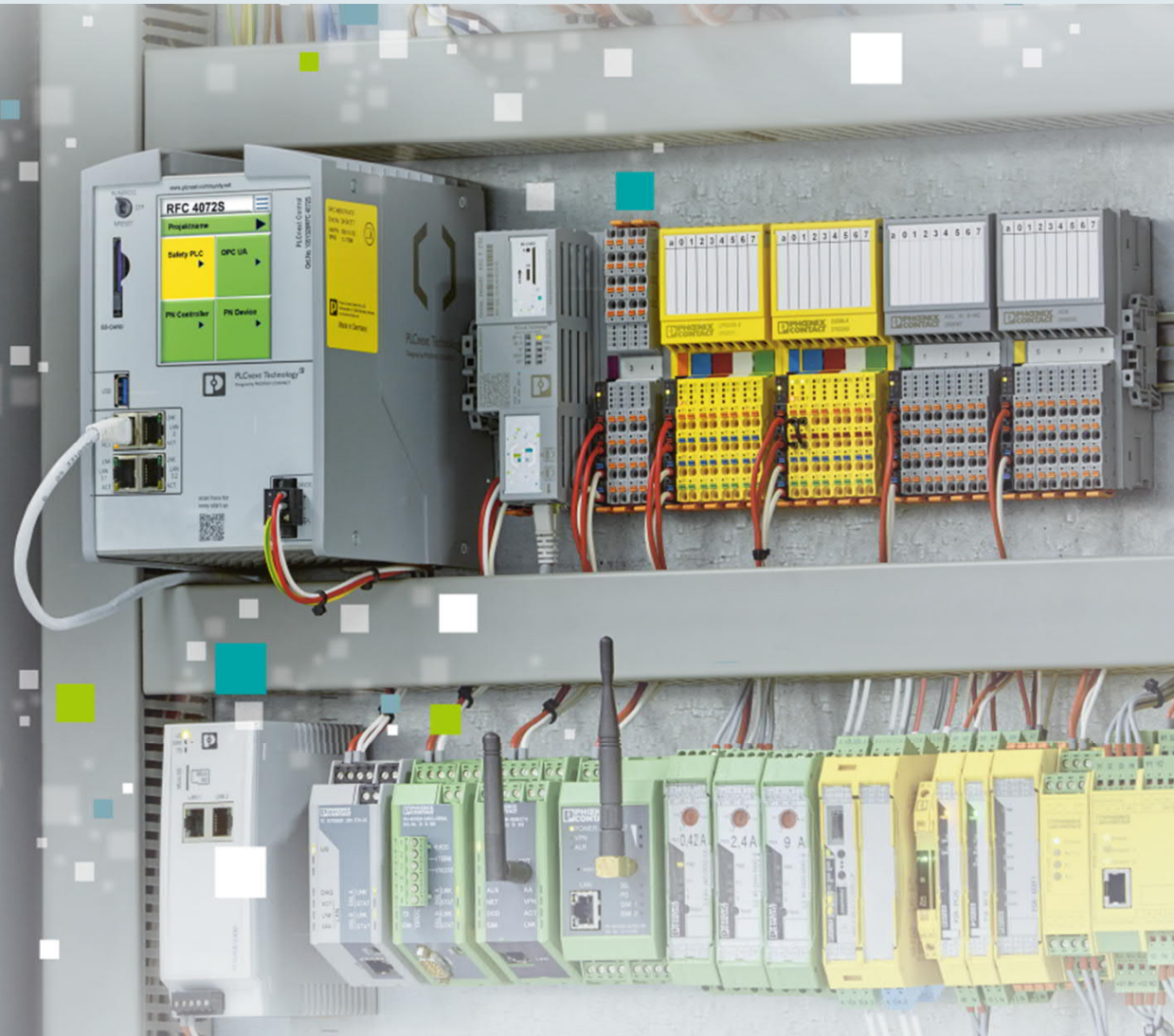
Automation and networks



Automation and networks

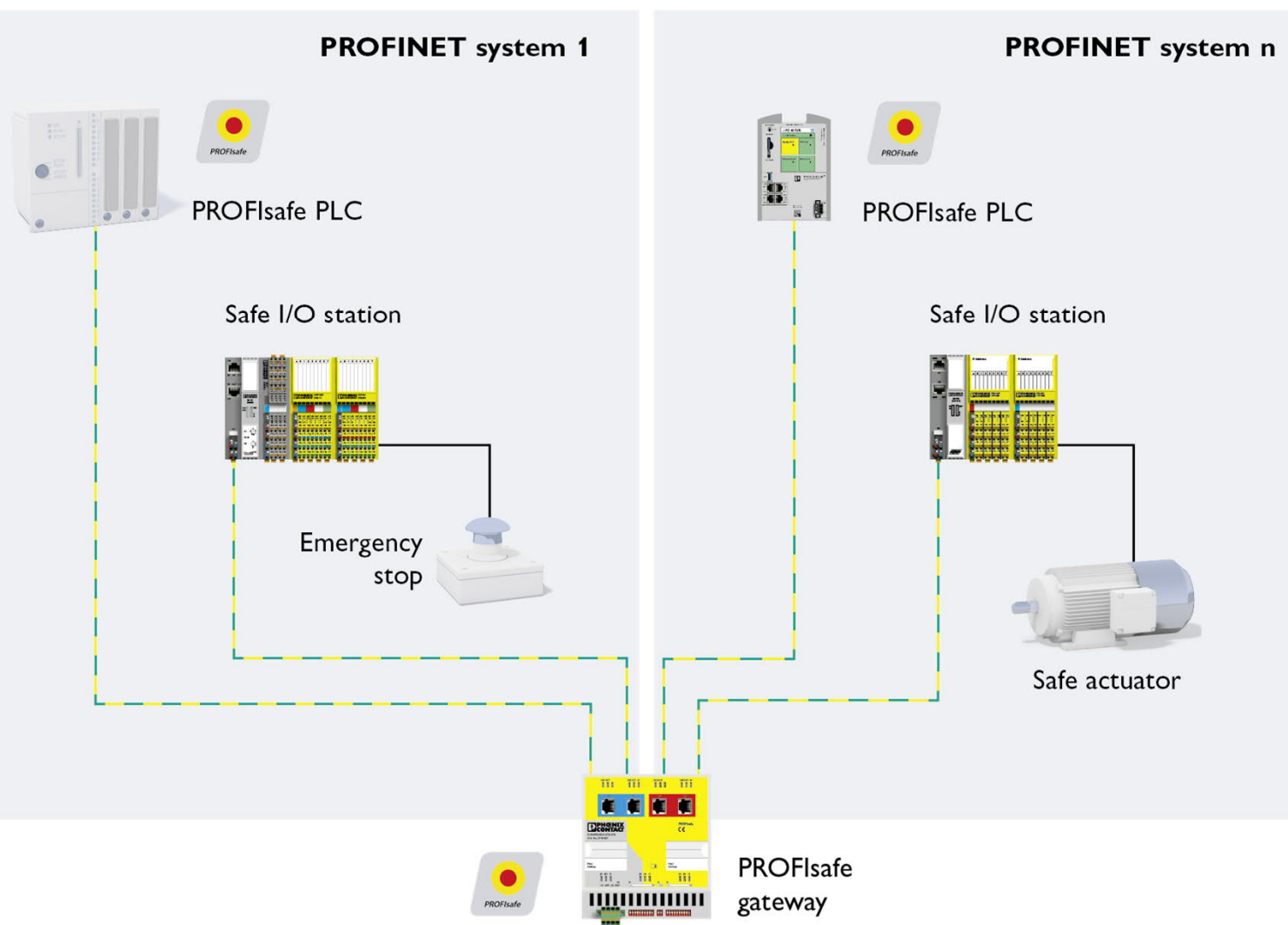
Wide range of safety functions, high numbers of I/O's, and large networks – the integration of safety in more complex and demanding automation systems requires matched interfaces and often a high-performance process technology.

[Learn more](#)



Smart safety solutions

Automation and networks



Safe control technology for complex applications

With the powerful safety controllers from Phoenix Contact, functional safety can be reliably integrated into PROFIsafe or PROFINET networks. Both systems can be coupled. This enables you to implement manufacturer-independent functional safety, such as emergency stop concepts, across systems.



Smart safety solutions

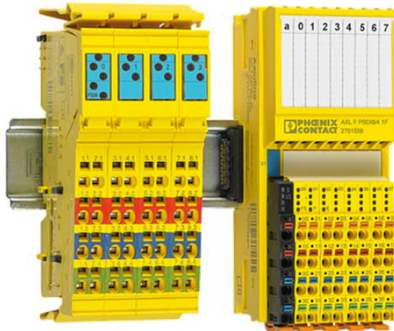
Automation and networks



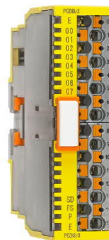
Modular safety system
PSRmodular



Safe I/O's for IP67
Axioline E



Safe I/O's for IP20
Axioline F and Inline



Safe I/O's for IP20
Axioline Smart Elements



Performance controllers
RFC

Products

Configurable safety system



Configurable safety system PSRmodular

Use the configurable safety system PSRmodular to combine all safety functions in accordance with your requirements.

- ✓ Economical complete solution thanks to high scalability
- ✓ Fast set-up through simple configuration of hardware and software
- ✓ Easy configuration via drag and drop with the [PSRmodular software](#)
- ✓ Minimized machine downtimes thanks to comprehensive diagnostics



COMPLETE line

Push-in Technology[®]
Designed by PHOENIX CONTACT



Products

Experience PSRmodular



- ✓ Experience high scalability
- ✓ Experience detailed diagnostics
- ✓ Experience easy handling



Products

High scalability



Wide application range

- Base modules can be used as stand alone
- High functionality incl. **safe analogue** and **motion monitoring**
- Up to 160 I/O's

Easy adaptable

- Expansion via PSR-TBUS connection
- Up to 14 expansion modules for large scale applications

Small foot print

- 22.5 mm per slice



Fast installation

- Tool-free thanks to PSR-TBUS connection and Push-in Technology

Efficient commissioning

- Fast project creation and verification
- Rapid transfer to hardware and validation

[PSRmodular software](#) for intuitive configuration

Products

Detailed diagnostics



CANopen

EtherCAT

PROFINET

PROFIBUS

CC-Link

DeviceNet

Modbus

EtherNet/IP



Diagnostics on HMI:

- Device information
- Safety function status information
- Consistently available in all common automation networks

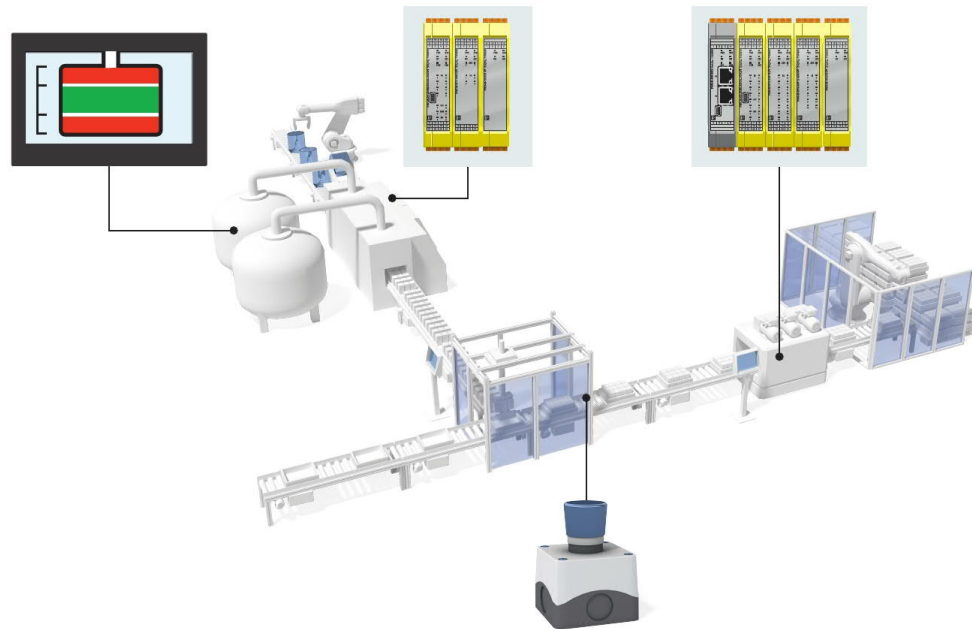
Diagnostics on device:

- LED status information
 - Channel information
 - Module status

Bidirectional communication for machine control functions

Products

Safe analog and expansion



Safe analog

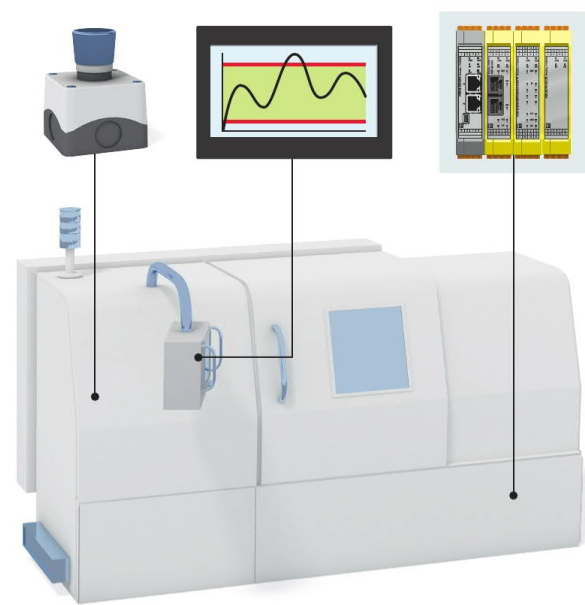
- Threshold monitoring for level, flow, pressure and temperature measurement

Expansion

- Easy expansion of the system with T-BUS connection

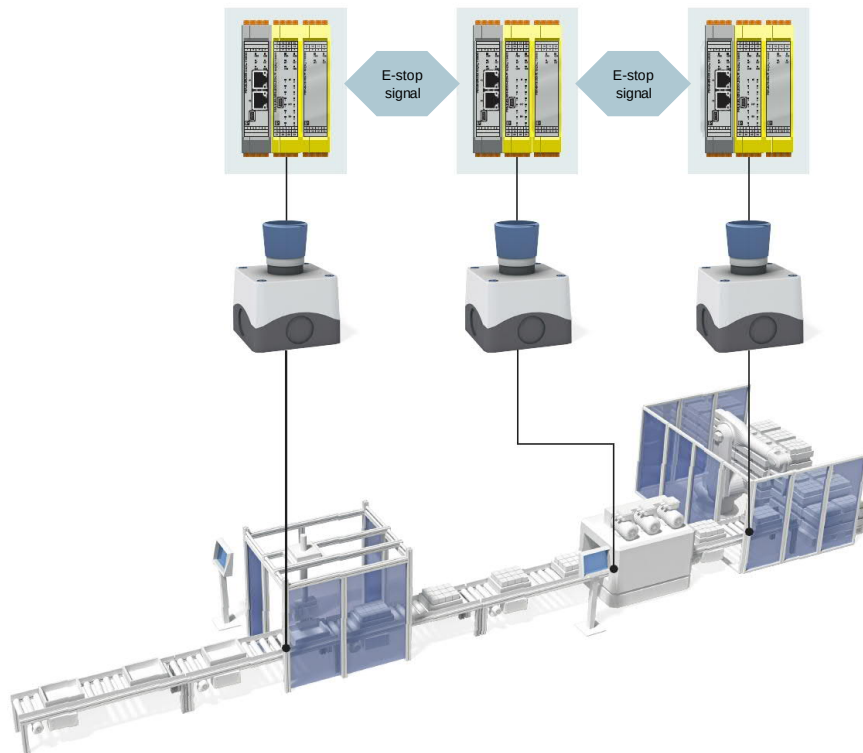
Safe motion monitoring with PSRmodular

Integrated zero- and over-speed monitoring



Products

Line E-Stop Concept



Line E-Stop Concept with PSRmodular

„Wherever possible an E-Stop command shall cause a stop of the complete manufacturing system.“

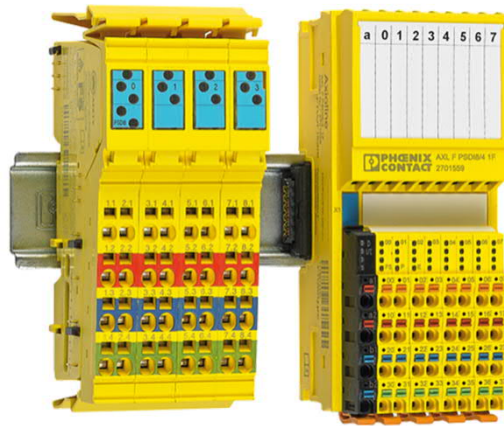
Obtained from ISO regulation 11161

Smart safety solutions

Safe I/O's for field installation (IP67) and control cabinet (IP20)



Safe I/O's for IP67
Axioline E



Safe I/O's for IP20
Inline and Axioline F



Safe I/O's for IP20
Axioline Smart Elements

Products

Safe I/O's for control cabinet (IP20)



Inline I/O system

Axioline F I/O system



Safe I/O's for the I/O systems Axioline F and Inline

Inline comprises safe I/O terminals for easy, central integration of safety functions into compact machines.

Axioline offers safe I/O modules with SafetyBridge Technology to implement complex, distributed safety solutions in an existing network solution.

- ✓ Cost-effective system configuration, because safety PLCs and safe fieldbus systems are not required
- ✓ Compatibility with all common bus systems
- ✓ Safe data transmission via wireless systems and into the cloud possible
- ✓ Easy configuration with the SAFECONF software





Safe I/O terminal Inline ECO Safe

Deactivate connected standard output terminals safely with the safe Inline I/O terminal. The standard output terminals are mounted to the right of the safe I/O terminal. When a sensor is activated, e.g. emergency stop, the actuator voltage supply for the output terminals is switched off.

- ✓ Safe I/O terminal with two two-channel sensor circuits
- ✓ Cascadable switch-off of segment circuits
- ✓ Diagnostic and status messages in the controller
- ✓ Reduced wiring effort, thanks to the enable principle
- ✓ Up to SILCL 3 in accordance with IEC 62061 and up to PL e in accordance with ISO 13849, UL and cUL

 **Relay Technology**[®]
Designed by PHOENIX CONTACT

Safe I/O's for control cabinet (IP20)

Decentralised approach with Inline ECO Safe



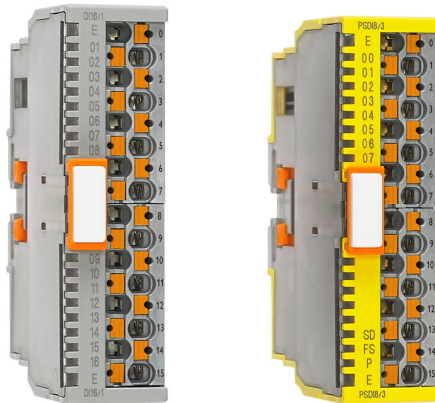
Safe I/O terminal with the function of two safety relays

With the safe I/O terminal, safety functions can be integrated into the Inline I/O station. Digital output terminals are mounted to the right of the safe I/O terminal. In the event of a fault, the actuator voltage for the I/O terminals arranged in a block is safely switched off. Up to two two-channel sensor circuits can be connected to one Inline ECO Safe. Status and error messages are forwarded to the controller.



Products

Safe I/O's for control cabinet (IP20)



Compact and flexible I/O's Axioline Smart Elements

- ✓ Compact, plug-in, and system-independent I/O elements
- ✓ Very easy handling when it comes to configuration, installation, and startup
- ✓ Portfolio includes an IO-Link master, digital/analog input and output modules, safety modules for PROFIsafe, and further function modules

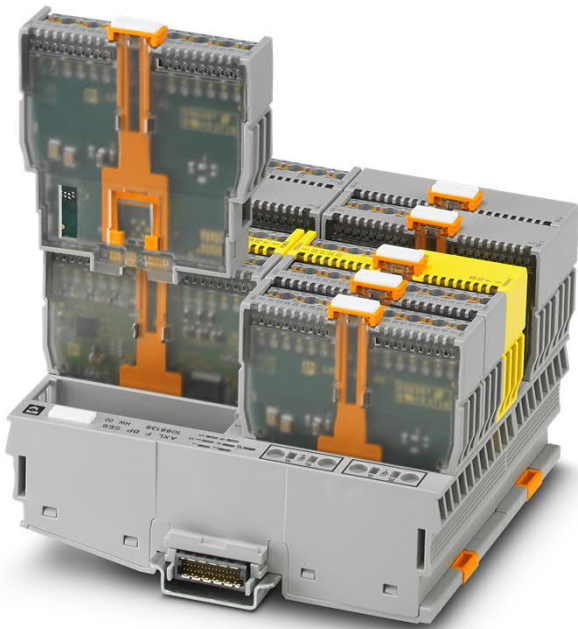


Push-in Technology[®]
Designed by PHOENIX CONTACT

COMPLETE line

Safe I/O's for control cabinet (IP20)

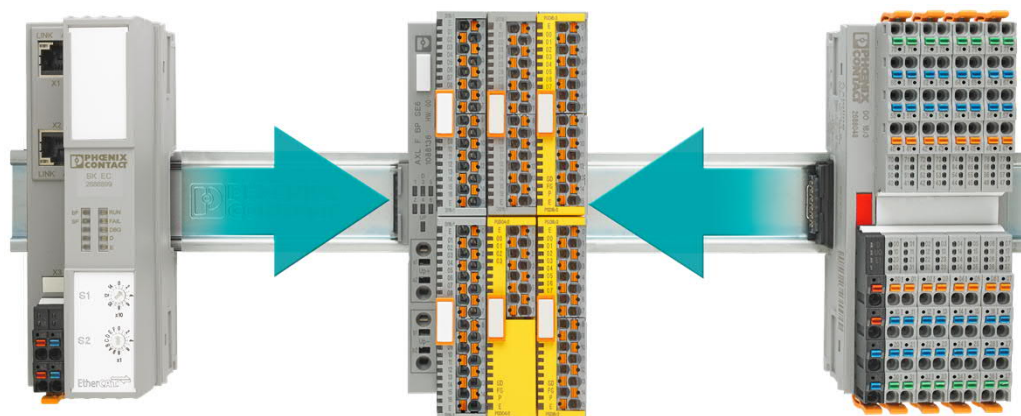
Intelligent and cost-effective automation



Compact, System-independent, Easy handling

- ✓ 32 channels within 15 mm in the Axioline F system
- ✓ Tailored I/O configuration on a single Axioline F backplane
- ✓ High degree of flexibility with reduced product variance
- ✓ Less space needed on the DIN rail enables compact control cabinet solutions
- ✓ Reduced installation time and connection time thanks to Push-in Technology

Safe I/O's for control cabinet (IP20) Compatibility of the Axioline Smart Elements



Axioline Smart Elements in a modular automation system

Within an I/O station, Axioline F modules and Axioline Smart Elements can be freely combined as desired. They can therefore be operated on existing Axioline F bus couplers or Axiocontrol devices (PLCnext Control devices and conventional PLCs). Choose from a range of more than 80 I/O's, bus couplers, and control components.

Products

High-performance safety controller



PLCnext Technology
Designed by PHOENIX CONTACT

High-performance safety controller RFC 4072S

The performance safety controller for high-level languages is ideal for PROFIsafe applications with the highest safety demands.

- ✓ Based on PLCnext Technology with independent CPUs for safety calculations
- ✓ Standard and safety programming codes can be realized in just one engineering tool with PC Worx Engineer
- ✓ Extended networks with up to 300 safety-relevant devices
- ✓ Connection to Proficloud and the potential integration of open source software



Products

PROFIsafe gateway



PROFIsafe gateway

The PROFIsafe gateway is made for PLC-PLC-communication and network insulation

- ✓ Two PROFINET and PROFIsafe-devices in one housing
- ✓ Redundant insulated power supply concept
- ✓ Makes different PLC-types compatible to each other:
Phoenix, Siemens, ABB,...
- ✓ Simple in parameterization and handling,
good in transmission time and diagnostics
- ✓ 2..11 bytes safety exchange data
- ✓ 2..128 bytes standard exchange data

High-performance safety controller

Reliably integrated into PROFIsafe or PROFINET networks



PROFINET system 1

PROFIsafe PLC

Safe I/O station

Emergency stop

PROFINET system n

PROFIsafe PLC

Safe I/O station

Safe actuator

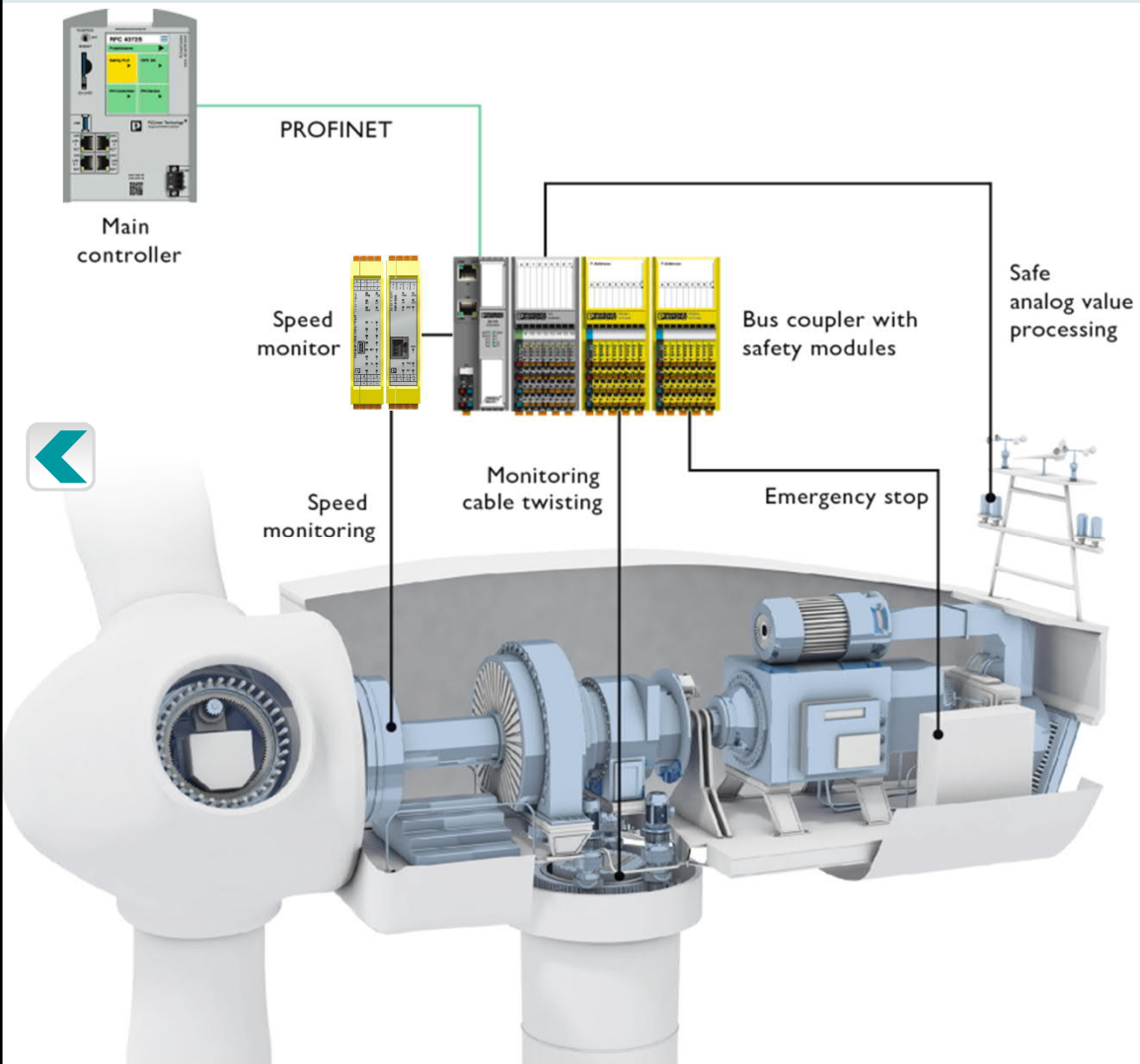
PROFIsafe gateway

Safe control technology for complex applications

With the powerful safety controllers from Phoenix Contact, functional safety can be reliably integrated into PROFIsafe or PROFINET networks. Both systems can be coupled. This enables you to implement manufacturer-independent functional safety, such as emergency stop concepts, across systems.

High-performance safety controller

Performance controllers for wind applications



Safe monitoring of the wind turbine generators

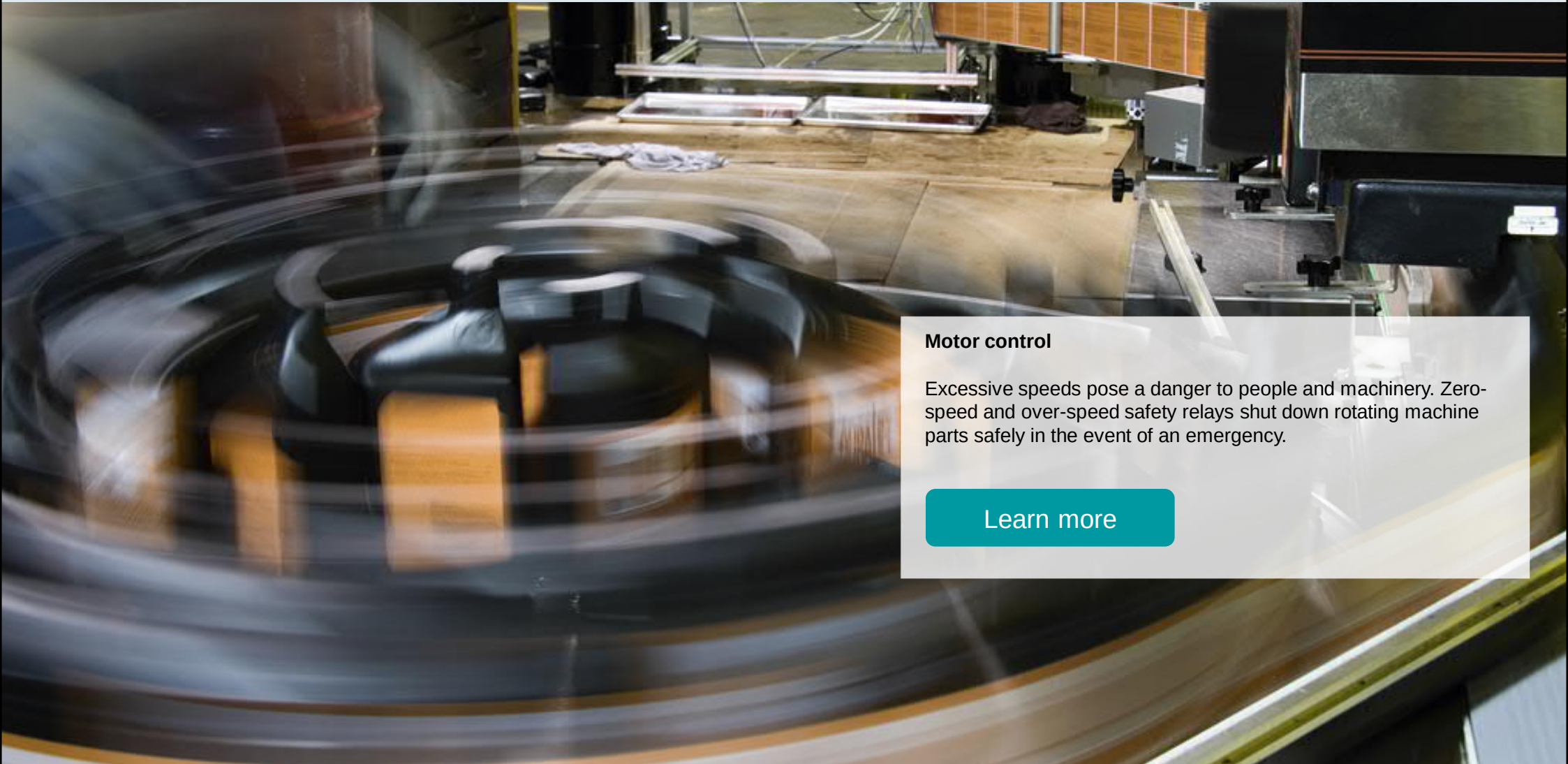
Safe monitoring of a wide range of signals is a challenge when controlling WTGs.

With the SAFE AI solution package, for example, safety-related analog I/O modules are no longer required in order to process safe signals from wind measurement. This takes place using TÜV-certified software and enables you to implement safety functions up to SIL 3 and PL e in your WTG.

The consultation service provided by our safety experts for the wind industry completes the package.

Smart safety solutions

Motor control



Motor control

Excessive speeds pose a danger to people and machinery. Zero-speed and over-speed safety relays shut down rotating machine parts safely in the event of an emergency.

[Learn more](#)

Smart safety solutions

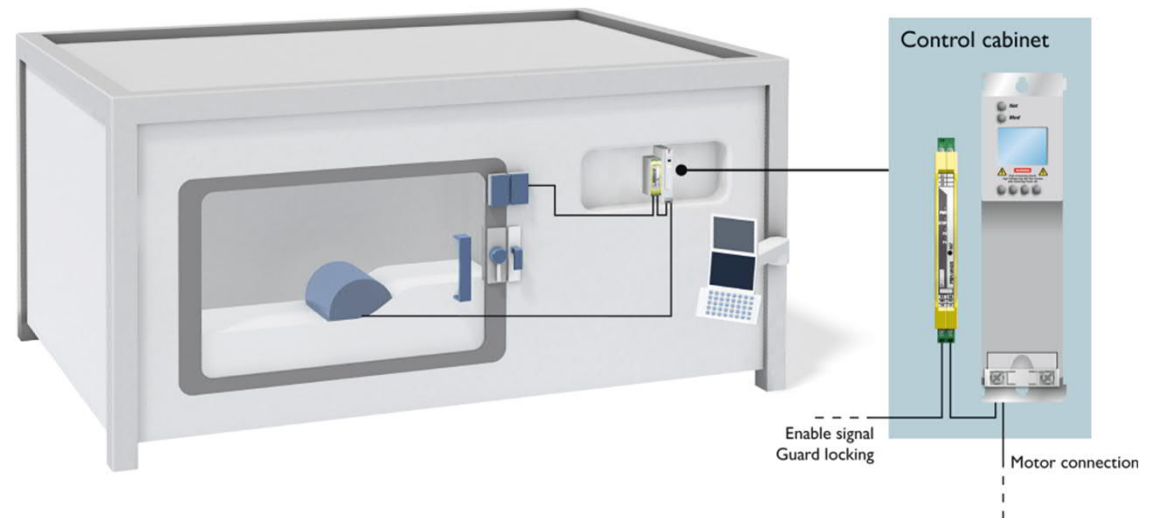
Safe motion monitoring of motors



Monitoring single-phase and three-phase AC motors

Sensorless measurement is suitable for connection to controlled and uncontrolled motors. Usually, the user connects the measuring leads on the output side to the motor contactors or the frequency inverter. The sensors required for motion monitoring can be dispensed with here.

Vibrations during standstill often lead to malfunctions in sensor-supported measuring systems. PSRmotion uses a measurement method based on remanence voltage that remains available even under external influences.



Smart safety solutions

Safe motion monitoring of motors



Over-speed
and zero-speed safety
relays
PSRmotion



Safe hybrid motor
starters
CONTACTRON pro

Products

Zero-speed and over-speed safety relays



Safe motion monitoring of motors

The PSR-MM30 zero-speed and over-speed safety relay also monitors the speed and disconnects safely in the event of danger.

Combined with a safety door unit, the PSR-MM25 zero-speed safety relay without sensor ensures that the door remains locked until the dangerous motion stops.

- ✓ Highly compact design
- ✓ Easy setup for fast commissioning
- ✓ Innovative measurement methods for highest system availability
- ✓ Easy configuration via buttons on the product or with the [PSRmotion software](#), including live monitoring

Products

Hybrid motor starters



CONTACTRON Hybrid Technology[®]

Designed by PHOENIX CONTACT

Push-in Technology[®]

Designed by PHOENIX CONTACT

Hybrid motor starters CONTACTRON

The safe hybrid motor starters combine up to four functions in one device: emergency stop, motor starter, reversing function, and motor protection against overload.

- ✓ Integrated safety function up to SIL 3 and Category 3 / PL e
- ✓ Narrow design with an overall width of 22.5 mm
- ✓ Adjustable motor protection with bimetal function up to 9 A
- ✓ Integrated locking circuit and load wiring
- ✓ Smooth switching with CONTACTRON hybrid motor starter technology

Hybrid motor starters

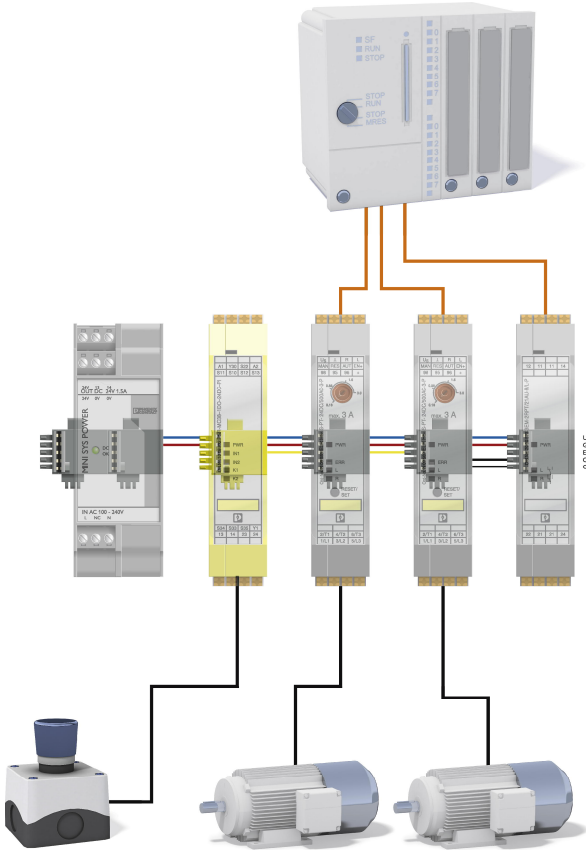
Safe and low-wear motor switching



Safe and low-wear motor switching

The PSRmini safety relay (PSR-MC38) ensures the safety-related shutdown of a motor via the CONTACTRON pro hybrid motor starter.

You can connect the switchgear simply, quickly and modularly via the TBUS connector.



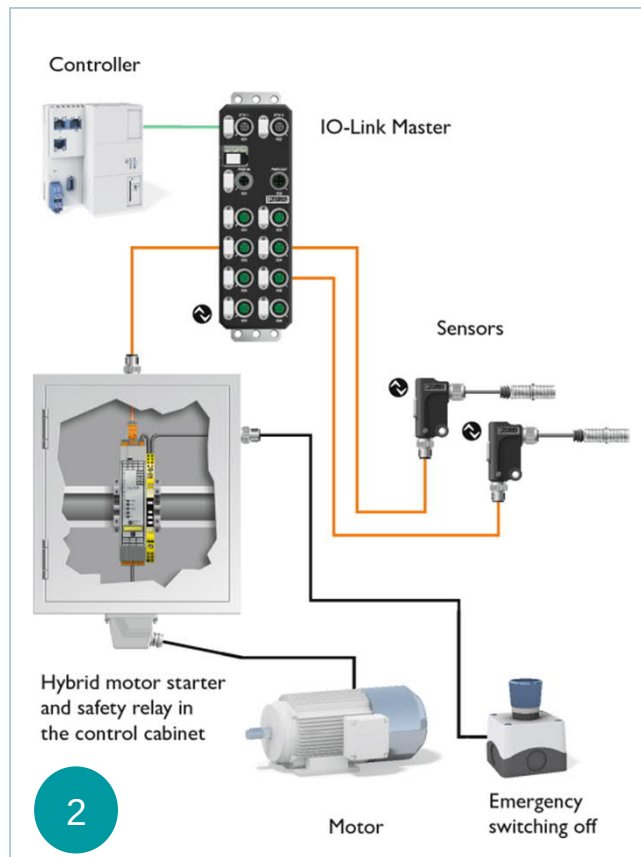
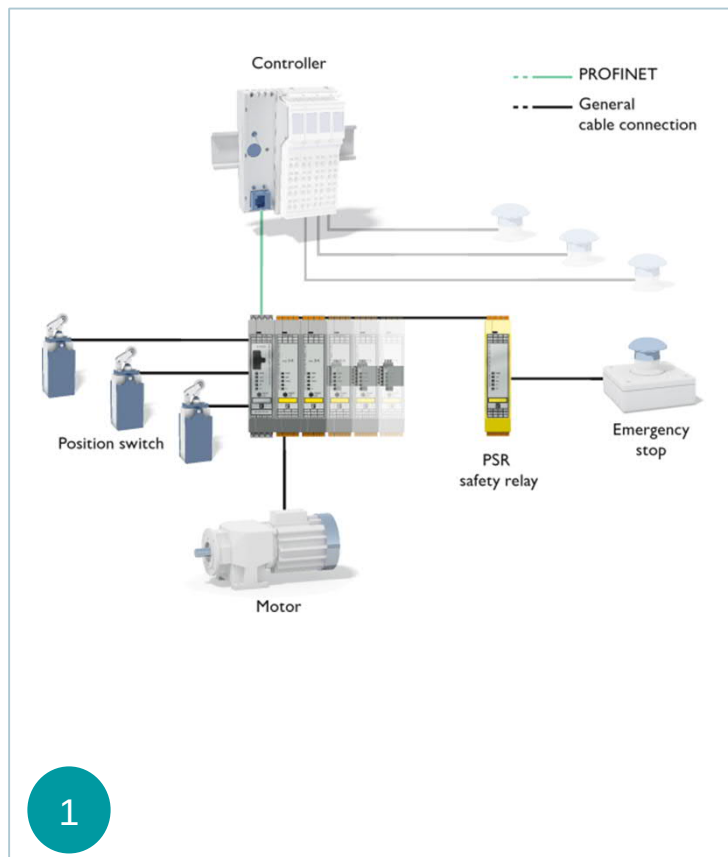
Controller

Safety relay and hybrid motor starter with TBUS connector

Motors

Hybrid motor starters

Consistent networking via the interface system IO-Link



Network-capable motor starters

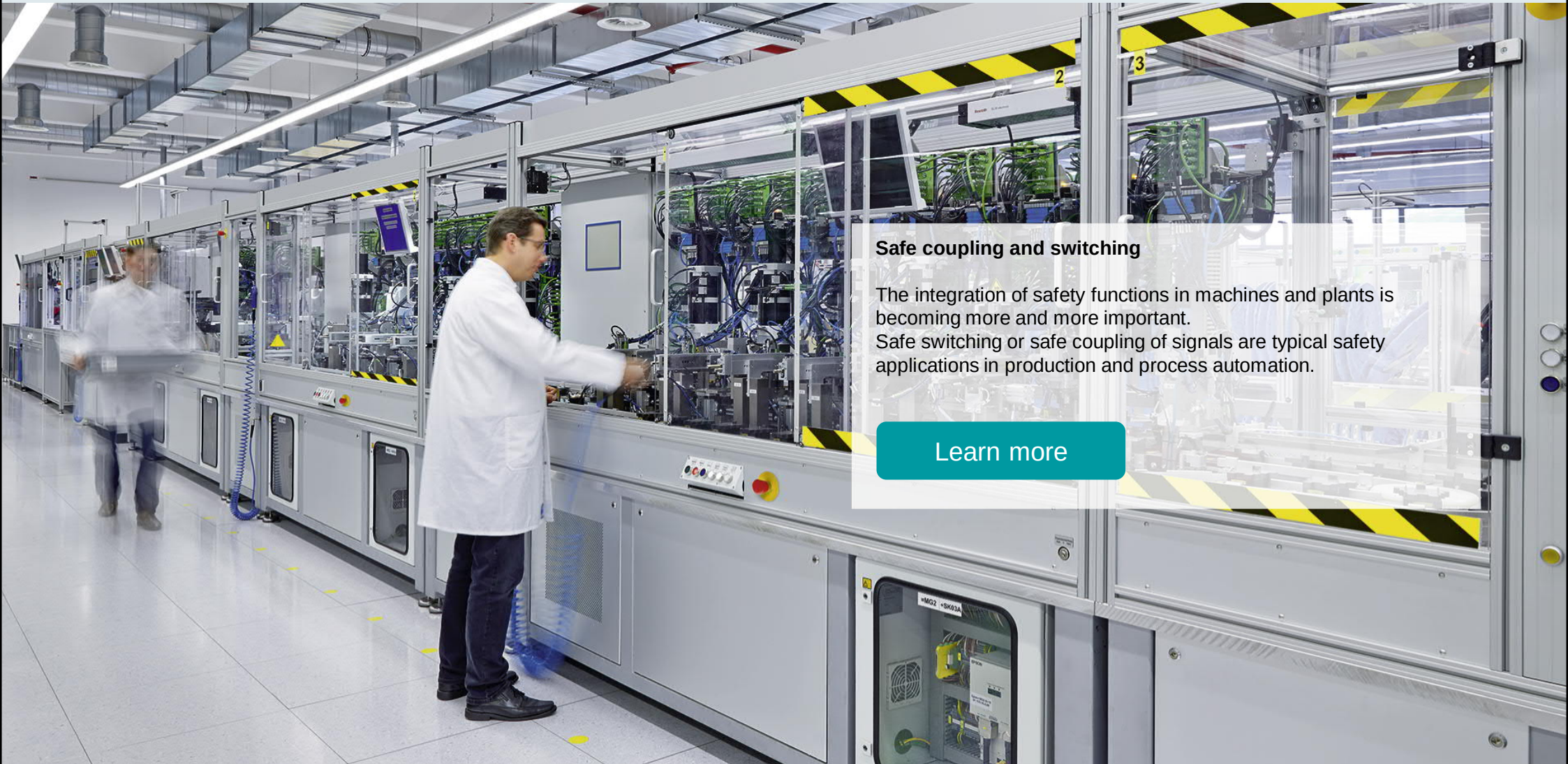
In addition to standard devices for parallel wiring, network-capable versions are also available.

The network-capable versions enable consistent communication between the field and control level. The integration into all common fieldbus systems is realized via the interface system or IO-Link.

1. Fieldbus connection via interface system (IFS)
2. Hybrid motor starters for networking with IO-Link

Smart safety solutions

Signal coupling and switching



Safe coupling and switching

The integration of safety functions in machines and plants is becoming more and more important. Safe switching or safe coupling of signals are typical safety applications in production and process automation.

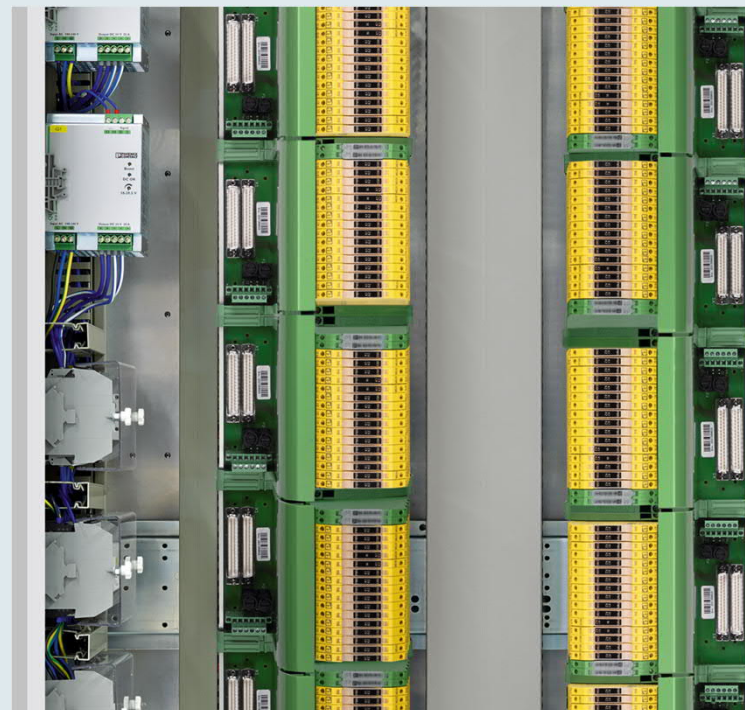
[Learn more](#)

Smart safety solutions

Signal coupling and switching



Safety for
production automation



Safety for
process automation



Smart safety solutions

Signal coupling and switching



Safety relays
PSRmini and PSRclassic



Multifunctional safety relays
PSRmultifunction



Safe coupling relays
PSRmini and PSRclassic

Products

Highly-compact safety relays



Highly-compact safety relay PSRmini - one function, one device

PSRmini safety relays are the narrowest on the market. Thanks to an innovative DIP switch concept, you can implement selected settings directly on the module. The needs-based structure starting at one enable path also ensures increased flexibility of your application without limiting performance.

- ✓ Overall width 6 mm and 12 mm
- ✓ Proven safety, thanks to force-guided relay contacts
- ✓ TÜV-certified and approvals for all global markets
- ✓ PL e in accordance with ISO 13849 and SILCL 3 in accordance with IEC 62061

[Product list](#)

Products

Multifunctional safety relays



Push-in Technology[®]
Designed by PHOENIX CONTACT



Safety relays PSRmultifunction – three functions in one device

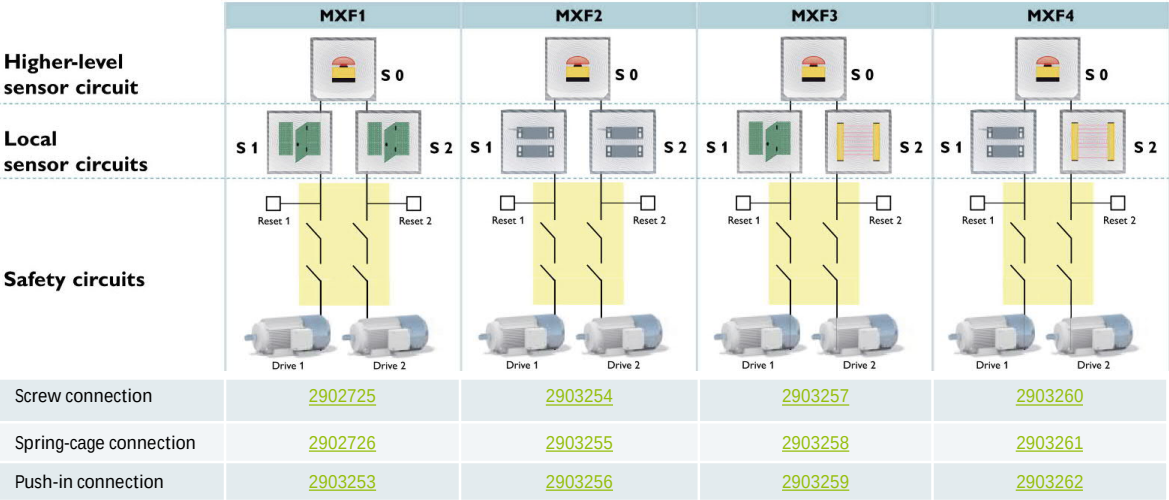
You can implement three safety functions such as emergency stop, safety door, and light grid monitoring using just one device. The safety functions are already connected in the device and reduce potential wiring errors.

- ✓ Overall width 22.5 mm
- ✓ No software configuration required
- ✓ TÜV-certified and approvals for all global markets
- ✓ PL e in accordance with ISO 13849 and SILCL 3 in accordance with IEC 62061
- ✓ Screw, spring-cage, and Push-in connection
- ✓ Compatible connections to the hybrid motor starter



Multifunctional safety relays

Product overview



Three safety functions in one device

The PSRmultifunction safety relays have three sensor circuits which are all connected via one or two channels:

- One higher-level sensor circuit S0
- Two local sensor circuits S1 and S2

The local sensor circuits S1 and S2 each cover one function. In the event of an error, both sensor circuits can be reactivated independently of one another. The higher-level sensor circuit S0 monitors both local sensor circuits. If triggered, the safety circuits protected by S1 and S2 are both shut down.

 Electromechanical signal generators (e.g. emergency stop)

 Electromechanical signal generators (e.g. mechanical safety door lockings)

 Signal generator, OSSD (e.g. light grid, transponder switch, fail-safe outputs)

 Contact-free signal generators, magnetic (e.g. reed contacts)



Highly-compact safe coupling relays PSRmini

PSRmini coupling relays are the narrowest coupling relays in the world, available for safe switch-on and switch-off.

- ✓ Safe diagnostics and easy proof test in accordance with IEC 61508
- ✓ Diagnostic LEDs for SIL 3-qualified inspection directly on the module
- ✓ Active error messaging to the controller ensures short downtimes during planned maintenance phases
- ✓ Overall width 6 mm and 12 mm
- ✓ TÜV-certified and approvals for all global markets
- ✓ SIL 3 in accordance with IEC 61508 / IEC 61511 / EN 50156



[Product overview](#)

Highly-compact safe coupling relays

Product overview



Type	Applications	Output contacts			Diagnostics / proof test				Safety approvals				Width	Connection technology		
	Highly compact, safe coupling relays for failsafe controllers:				Visual via LED	Active error acknowledgment via A1 ²⁾	Measurement on the device	Self-monitoring with interlocking	SIL in accordance with IEC 61508 / 61511	SIL in accordance with IEC 50156	ATEX / IECEx / Class I zone 2	G3 in accordance with ANSI / ISA-571.04	GL	In mm	Screw connection	Push-in connection
PSR-PS20 24 V DC	For safety-related shutdown (ESD)	1	1	1	●	●	●	–	3	3	●	●	●	6.8	2700356	–
PSR-PS21 24 V DC		1	1	1	●	●	●	–	2	2	●	●	●	6.8	2700357	–
PSR-PS22 24 V DC		1	1	–	●	●	●	–	3	3	●	●	●	6.8	2702524	–
PSR-PS23 24 V DC		1	1	–	●	–	●	–	3	3	●	●	●	6.8	2702663	–
PSR-PS40 24 V DC		1	–	1	●	–	–	●	3	3	●	●	●	6.8	2700398	–
PSR-PC20 24 V DC		1	1	1	●	●	●	–	3	3	●	●	●	12.5	2700577	2700578
PSR-PC32 24 ... 230 V		2	1	–	●	–	●	–	3	3	●	●	●	17.5	2700581	2700582
PSR-PC40 24 V DC		2	–	1	●	●	–	●	3	3	●	●	●	12.5	2700588	2700589

Highly-compact safe coupling relays

Product overview

Type	Applications	Output contacts			Diagnostics / proof test				Safety approvals				Width	Connection technology		
	Highly compact, safe coupling relays for failsafe controllers:				Visual via LED	Active error acknowledgment via A1 ²⁾	Measurement on the device	Self-monitoring with interlocking	SIL in accordance with IEC 61508 / 61511	SIL in accordance with IEC 60156	ATEX / IECEx / Class I zone 2	G3 in accordance with ANSI / ISA-S71.04	GL	In mm	Screw connection	Push-in connection
PSR-PC50 24 V DC	For safety-related startup (F&G)	1	-	1	-	●	●	-	3 ¹⁾	-	●	-	●	17.5	2904664	2904665
PSR-PC51 24 V DC		1	1	-	-	●	●	-	3	3	●	●	●	17.5	2702522	2702523
PSR-PC52 24 V DC		1	1	-	-	●	●	-	3	3	●	●	●	17.5	1017062	1017064





Conventional safe coupling relays PSRclassic

In the PSRclassic series, you will find the conventional coupling relays with force-guided contacts for safe shut down. The conventional coupling relays are characterized by a wide range of features and versions. They are compatible with standard safe systems.

- ✓ Safe diagnostics and easy proof test in accordance with IEC 61508
- ✓ Overall width from 17.5 mm
- ✓ Proven safety, thanks to force-guided relay contacts
- ✓ TÜV-certified and approvals for all global markets
- ✓ SIL 3 in accordance with IEC 61508 / IEC 61511 / EN 50156

[Product overview](#)

Conventional safe coupling relays

Product overview



Type	Applications							Output contacts		Safety approvals		Connection technology		
										PL in accordance with EN ISO 13849-1	SILCL in accordance with EN 62061	Screw connection	Spring-cage connection	Push-in connection
PSR-MXF1 24 V DC	•	•	–	–	–	–	A/M	4	2	e	3	2902725	2902726	2903253
PSR-MXF2 24 V DC	•	•	–	•	–	–	A/M	4	2	e	3	2903254	2903255	2903256
PSR-MXF3 24 V DC	•	•	•	–	–	•	A/M	4	2	e	3	2903257	2903258	2903259
PSR-MXF4 24 V DC	•	•	•	•	–	•	A/M	4	2	e	3	2903260	2903261	2903262

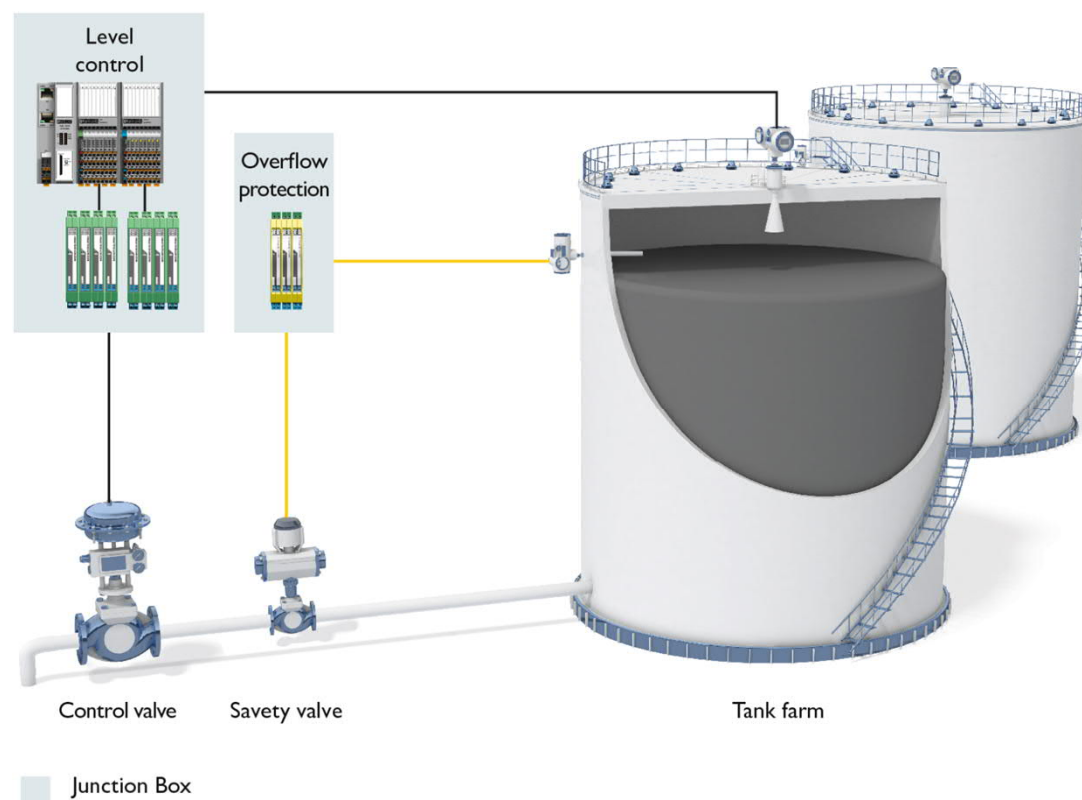
Safe coupling relays

Tank monitoring



Complete solutions for automated tank farm management

With a broad portfolio of SIL-certified technology for functional safety, Ex-i signal conditioners and modular control systems, you can design efficient level control. An overflow protection is installed parallel to the level control, which activates a safety valve in an emergency and immediately stops the flow of the conveyed material.



Products

Safe signal conditioners



Signal conditioners with SIL and PL functional safety

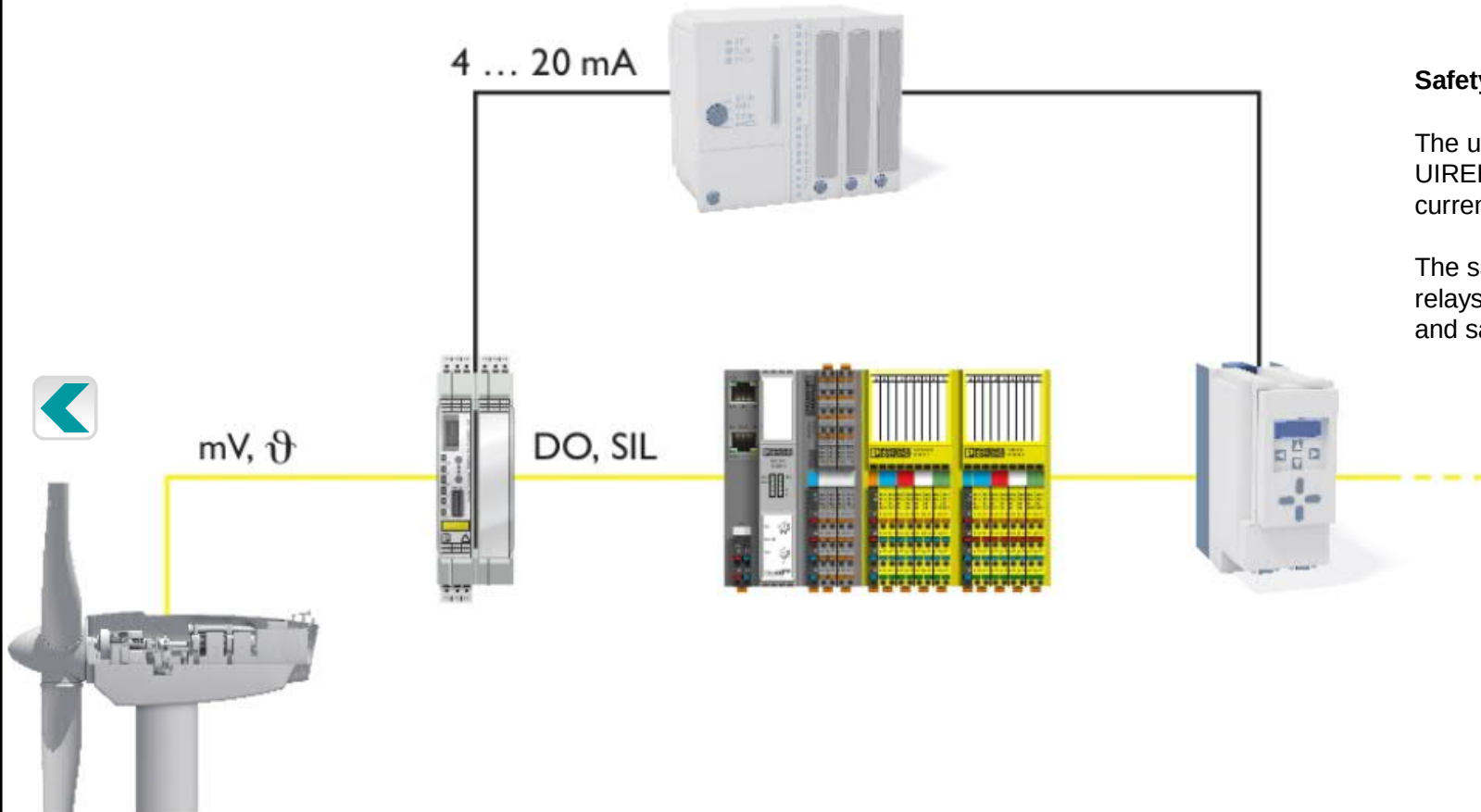
Signal conditioners for safe isolation, conditioning, filtering, and amplifying - also suitable for the Ex area.

- ✓ SIL certified
- ✓ PL d in accordance with EN ISO 13849-1
- ✓ Versions with wide range input for worldwide power supply networks
- ✓ Push-in connection technology
- ✓ Ex approvals in accordance with ATEX and IECEx



Safe signal conditioners

Safe signal conditioning with functional safety



Safety-relevant temperature monitoring

The universal temperature transducer (MACX TTT-UIREL) has two switching outputs, in addition to a current output.

The safety-relevant switching output, to which two relays are connected, switches limit values directly and safely without an additional safety controller.



Safe power supplies QUINT POWER

The high-performance power supplies QUINT POWER ensure superior availability of your system. It satisfies the requirements in accordance with functional safety (SIL) and ensures maximum operational safety.

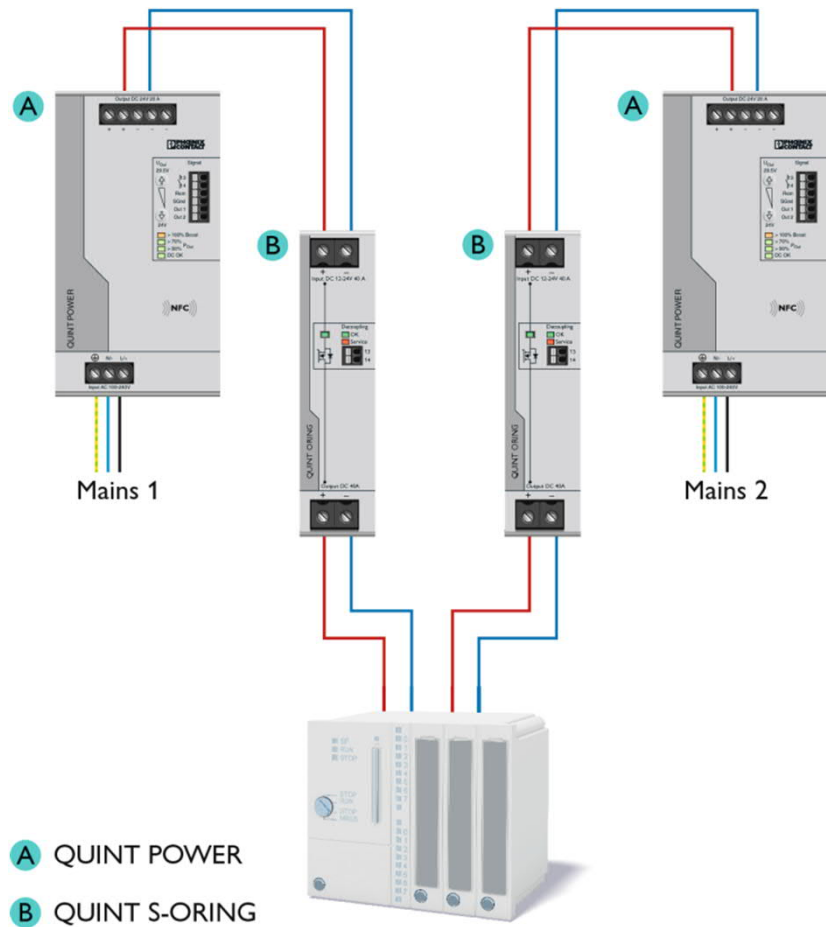
- ✓ Superior system availability, thanks to SFB Technology and preventive function monitoring
- ✓ Safe supply for your application, thanks to SIL certification in accordance with IEC 61508
- ✓ Fully functional monitoring, thanks to redundant system



Product overview

Safe power supply

Increased demands on functional safety



Redundant system for functional safety

The 1+1 redundant power supply system provides symmetrical load distribution and increases system availability. Thanks to isolated conductor routing, consistent redundancy through to the load is assured.

Thanks to the SIL 3 certification in accordance with IEC 61508, the system can be integrated into redundant applications with the greatest demands on functional safety and superior system availability.

Safe power supplies

Product overview



Product overview



Type	Applications	Output current				Safety approvals					Dimensions W x H x D	Order No.	
		Nominal output current	Static boost	Dynamic boost	SFB Technology	IEC 60950-1	SIL in accordance with IEC 61508	ATEX / IECEx / Class I zone 2	UL ANSI / ISA-12.12.01 Class I Division 2	DNV GL	HART-compatible	[mm]	
High-performance power supplies, single phase													
Input voltage: 85 V AC ... 264 V AC, 90 V DC ... 350 V DC Output voltage: 24 V DC ... 29.5 V DC													
QUINT4-PS/ 1AC/24DC/20	For the safe supply of your systems	20 A	25 A	30 A (5 s)	120 A (15 ms)	●	SIL 2	–	●	●	●	70 x 130 x 125	2904602
QUINT4-PS/ 1AC/24DC/20/+	For the safe supply of your systems	20 A	25 A	30 A (5 s)	120 A (5 ms)	●	SIL 3	●	●	●	●	70 x 130 x 125	2904617
Active redundancy module, Plus version													
Input voltage: 8 V DC ... 26 V DC Output voltage: U _o – 0.1 V DC													
QUINT4-S-ORING/ 12-24DC/1X40/+	For decoupling	40 A	45 A	60 A (5 s)	240 A (15 ms)	●	SIL 3 ¹⁾	●	●	●	–	32 x 130 x 125	2907753

Smart safety solutions

Mobile applications



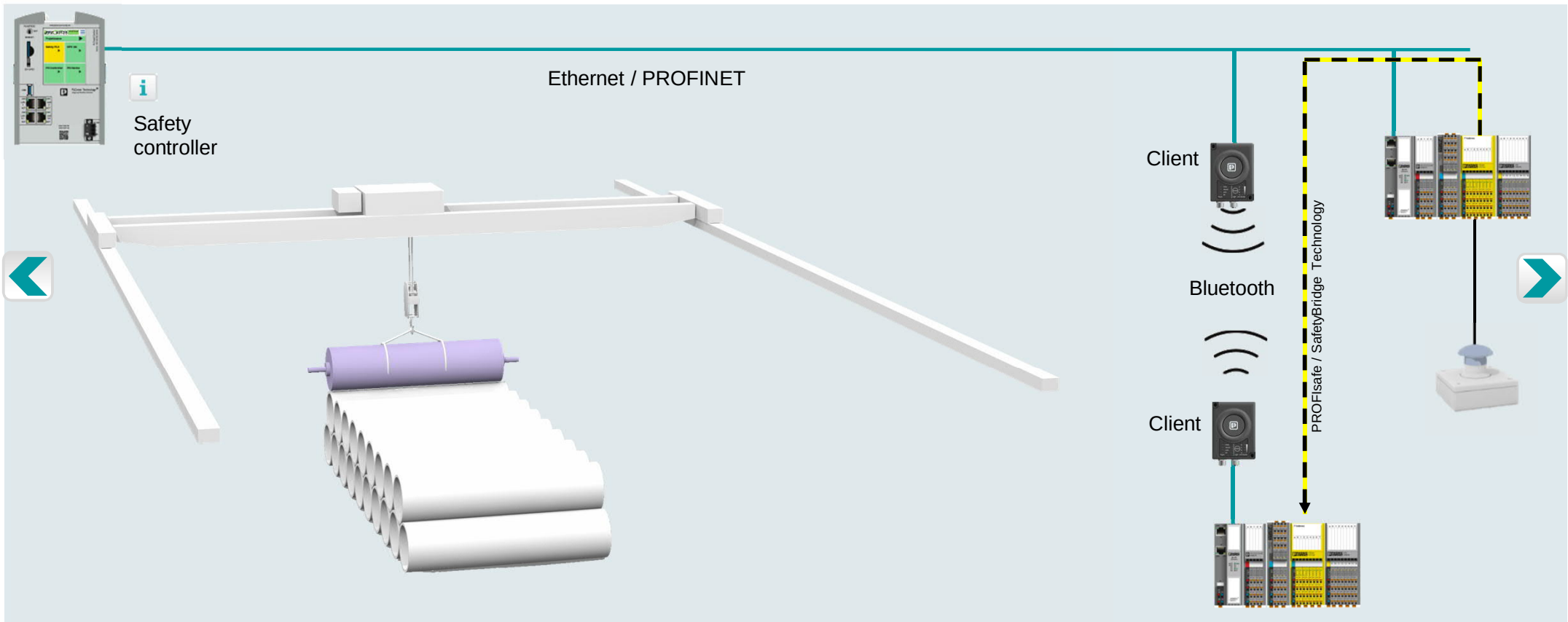
Mobile applications

With regard to passengerless transport systems, airport bridges or the like, functional safety is also becoming increasingly important. In addition, the combination of safety and wireless has many advantages.

[Learn more](#)

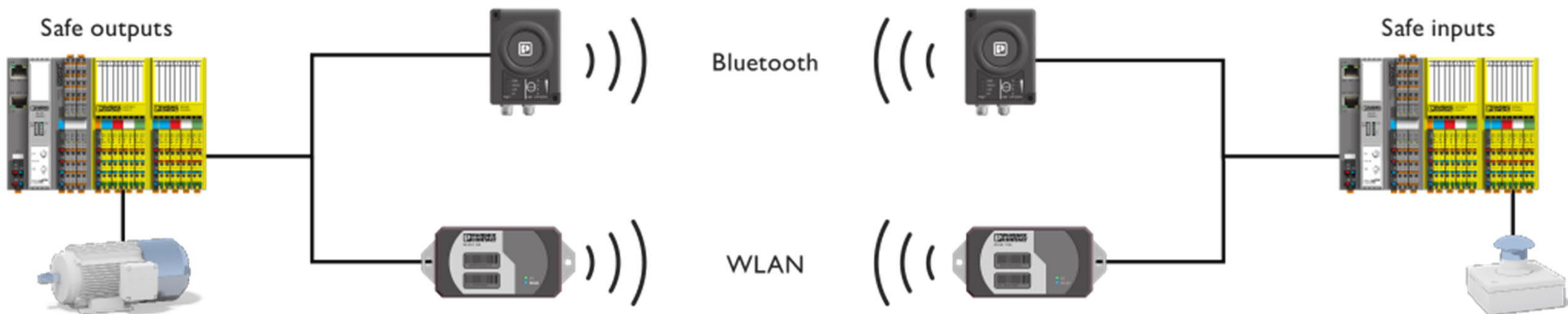
Smart safety solutions

Transmitting safe data via wireless systems



Smart safety solutions

Transmitting safe data via wireless systems



SafetyBridge Technology enables the safe and reliable wireless transmission of safety-related data signals. You can choose between the two wireless technologies, WLAN and Bluetooth. Cable and slip ring transmission systems can thus be replaced, with the wireless paths, without having to change the security passwords for the safety application.

SafetyBridge Technology[®]
Designed by PHOENIX CONTACT 

Advantages of combining safety and wireless:

- ✓ Easy integration in existing automation networks
- ✓ Transmission of safety signals over long distances
- ✓ Cost savings with a decentralised or mobile machine design

Quality assurance

Certified products and processes



Quality assurance over the product lifecycle

- Certified Functional Safety Management (FSM)
- Independent product certifications
- Qualified personnel (FS Engineers)
- Application oriented services and support
- Qualified training programs

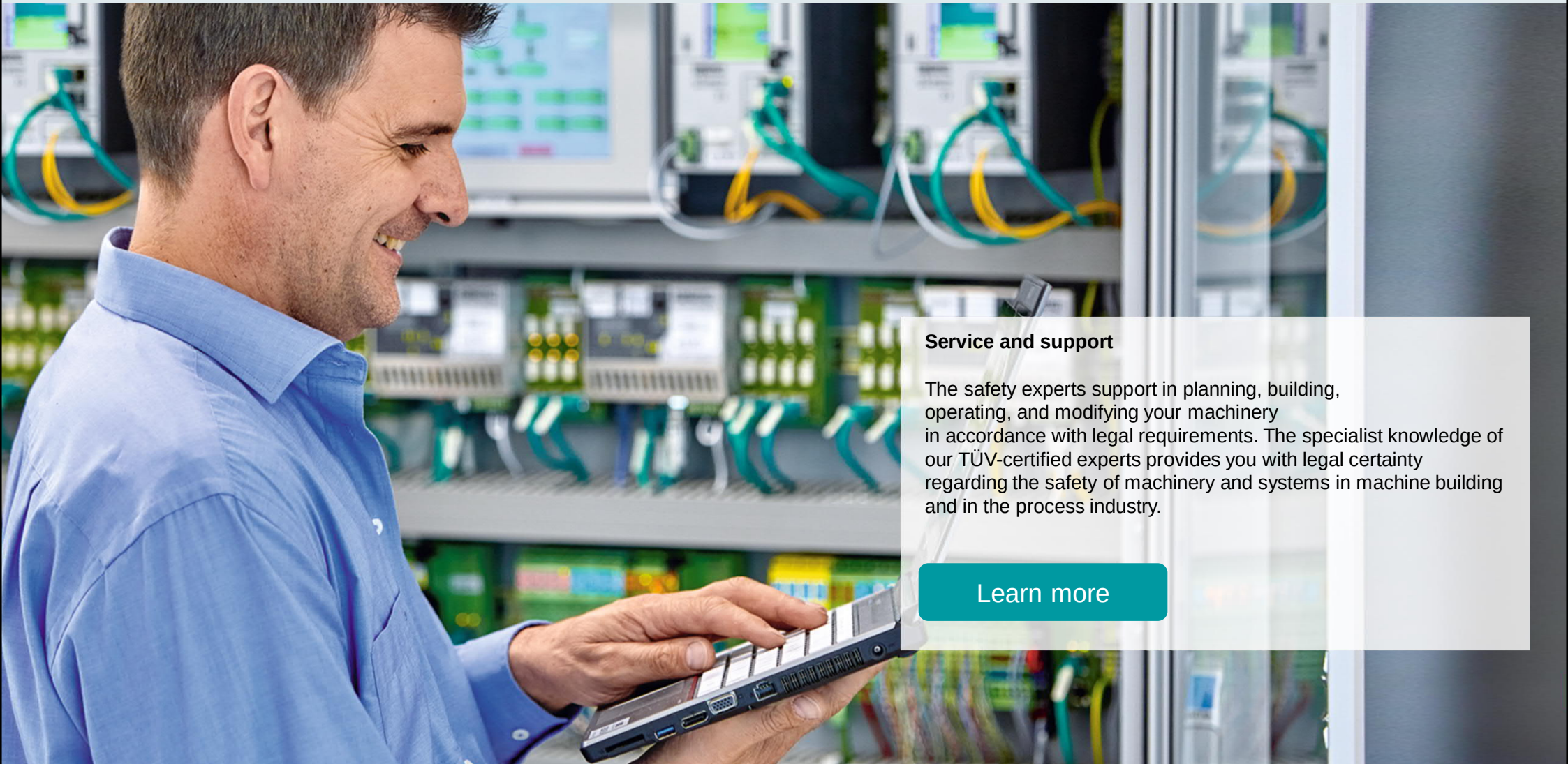


Certified and tested for your application

- EN 50205 force-guided contacts
- EN ISO 13849-1 and EN 62061 for machine building
- IEC 61508/61511 for the process industry
- EN 50156 for use in furnaces, steam generators, waste heat boilers, rotary furnaces and hot gas generators
- Germanic Lloyd (GL) for use in shipbuilding and offshore systems
- SIL 1, 2 and 3

Safety service and support

Worldwide support from TÜV certified experts



Service and support

The safety experts support in planning, building, operating, and modifying your machinery in accordance with legal requirements. The specialist knowledge of our TÜV-certified experts provides you with legal certainty regarding the safety of machinery and systems in machine building and in the process industry.

[Learn more](#)

Safety service and support

Services for machine and system safety



Consulting

We provide advice on various subjects in the planning and implementation of your system:

- Design of the safety lifecycle: standards and their implementation
- Machinery Directive
- Changes to machinery and systems



Engineering

To assess the safety integrity, we determine the SIL of the safety functions with the help of your technical documentation. These must be sufficiently robust to withstand random errors. In the case of Machinery Directive requirements, we implement the entire **safety lifecycle process**.



Product support

We provide support regarding any Phoenix Contact safety hardware and software questions. You can contact our support team regarding anything – from the preliminary technical clarification, through planning and implementation, right through to operation



Seminars and trainings

We offer instruction and practical training that is tailored to your individual requirements, e.g. safety application software:

- Demands on safety-related software
- Specification of safety requirements and software
- Realization of safety functions

Safety service and support

Services for safety in the process industry



Demands on safety in the process industry

Design guidelines relating to functional safety are in place for the requirements on the safe operation of systems in the process industry. The internationally harmonized procedure is described in IEC 61511. A significant component of this is the safety lifecycle in conjunction with functional safety management.

Seminars for functional safety in the process industry in accordance with EN 61511:

- Risk analysis
- Safety lifecycle
- Creation of process control technology

Successful in use Industries



Machine building



Automotive



Process industry



Industries

Machine building



- ✓ Wide product portfolio with compatibility to a large number of sensors
- ✓ In-house mechanical engineering supports all business fields of Phoenix Contact as well as the developing and producing sites worldwide
- ✓ Approvals for markets around the world such as EN ISO 13849-1 and EN 62061



- ✓ Reliable automation developed specially for high-end applications with efficient PROFIsafe safety controllers
- ✓ EN ISO 13849-1 and EN 62061
- ✓ Labs-free components to prevent defects on the end product (substances which interfere the lacquering process)

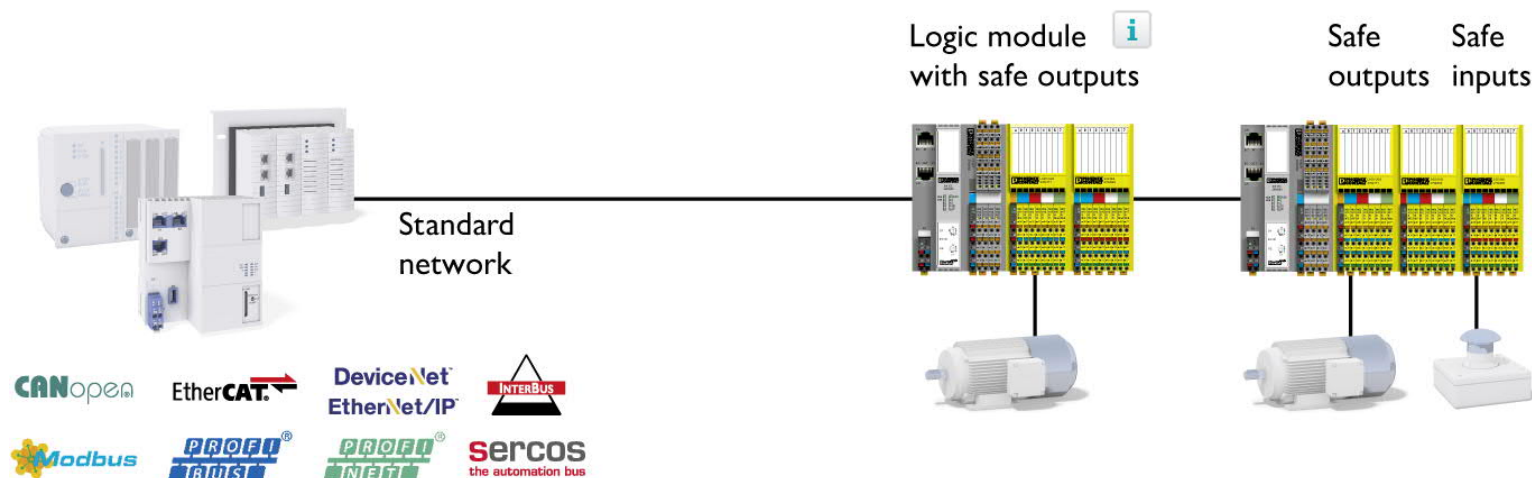
Industries

Process industry



- ✓ Extensive diagnostic features
- ✓ IEC 61508/61511 and EN 50156 for the use in furnaces, steam generators, waste heat boilers, rotary furnaces and hot gas generator
- ✓ Germanischer Lloyd (GL) for the use in shipbuilding and the offshore industry
- ✓ ATEX

Progressive through innovative technologies SafetyBridge Technology



What is SafetyBridge Technology (SBT)?

With SBT, you can realize distributed safety solutions and do this without a safety controller and regardless of the network installed. The SBT is integrated into the Inline and Axioline F I/O systems and is compatible with all bus couplers of these systems. The safe I/O's are installed with the standard I/O's distributed in the equipment.

SafetyBridge TechnologyTM
Designed by PHOENIX CONTACT

How does it work?

The system consists of safe input and output modules and a logic module. The latter captures and issues safe signals. It generates and monitors the safety-relevant SBT transmission protocol and processes the logical connections of the parameterized safety logic. The logic module therefore assumes the task of a safe controller.

Programming is implemented via [SAFECONF software](#).

Progressive through innovative technologies

Relay Technology



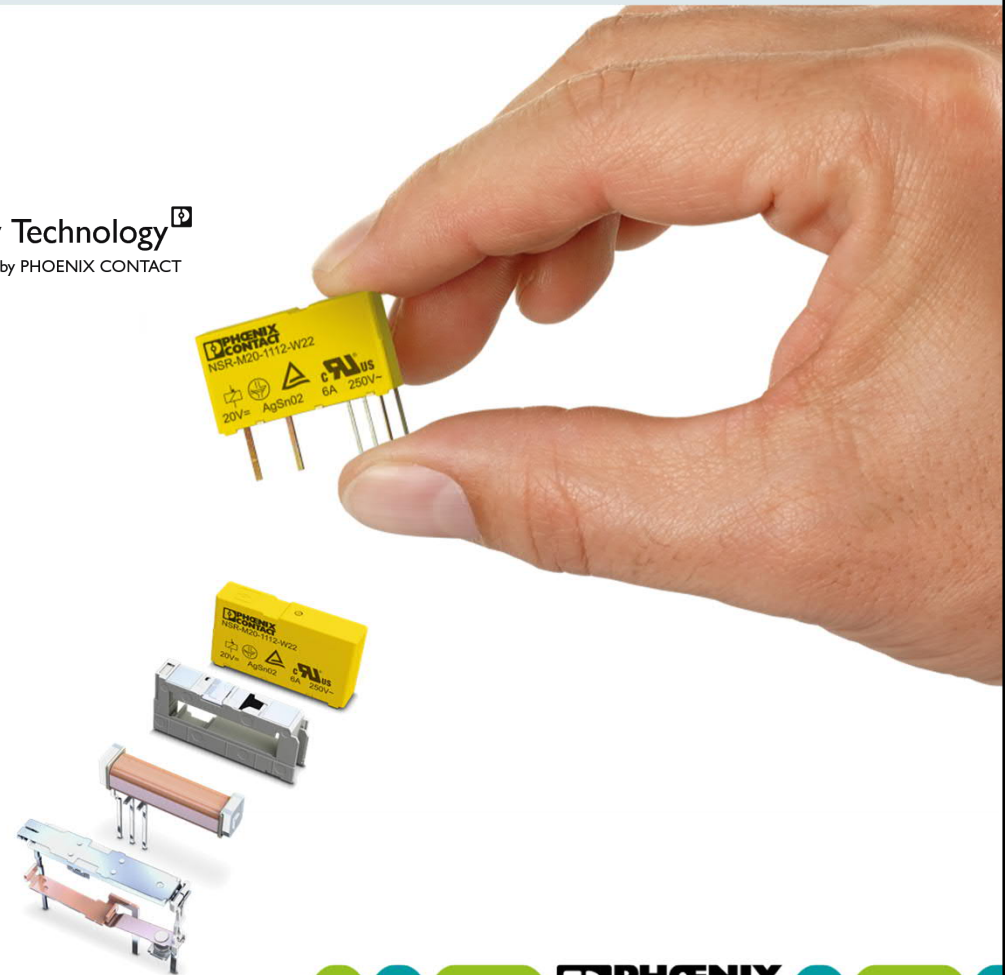
Relay Technology from Phoenix Contact

Phoenix Contact has developed a narrow force-guided elementary relay which features full performance with an overall width of just 6 mm.

The miniaturization of mechatronic functions enables modular safety concepts, as required for IIoT. With a switching capacity of 6 ampere, the relay ensures superior availability, thanks to a redundant diagnostic contact, and enabled us to develop the PSRmini safety relay in a 6 mm housing.

[Watch movie](#)

Relay Technology[®]
Designed by PHOENIX CONTACT

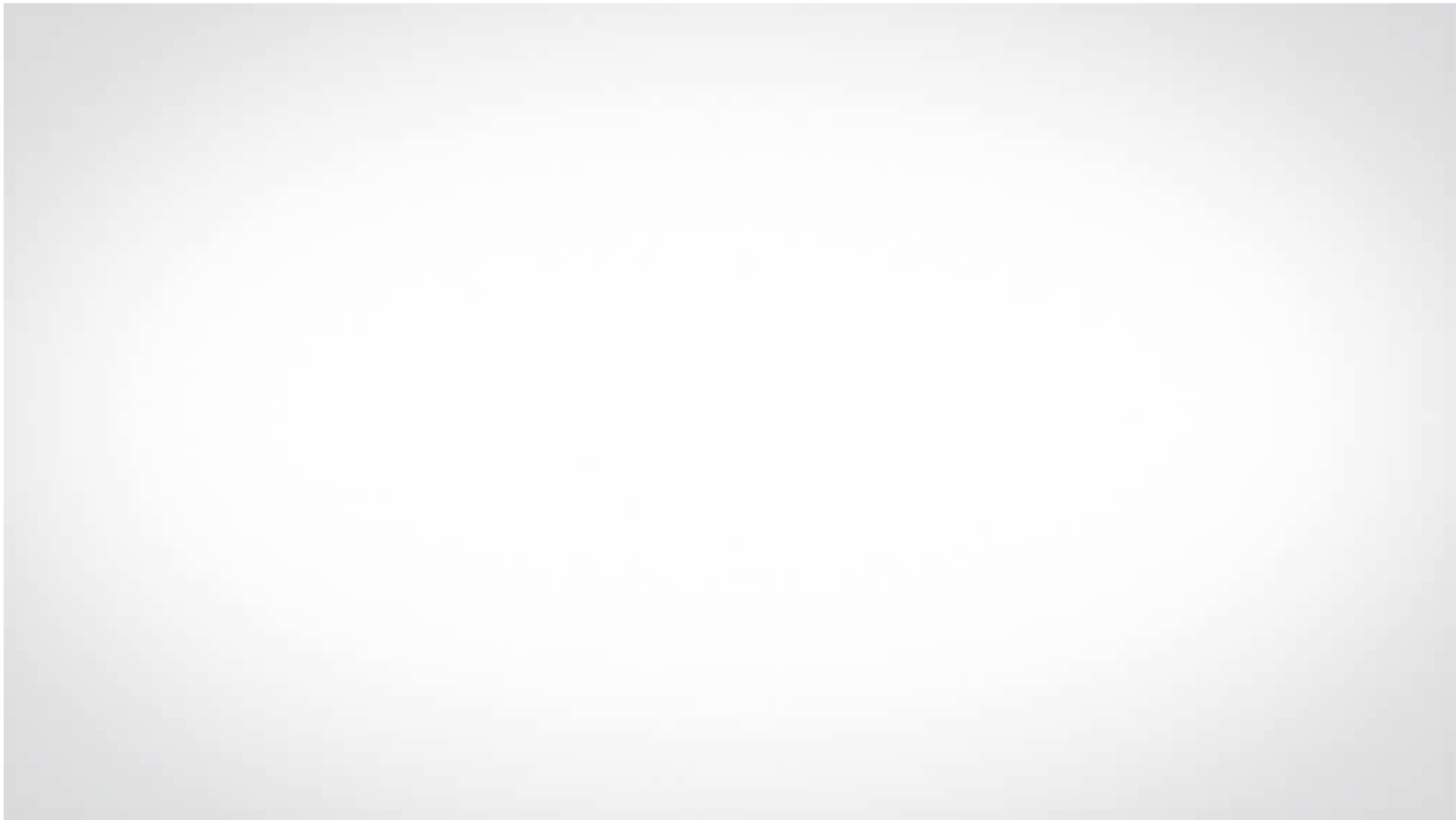


Progressive through innovative technologies

Relay Technology

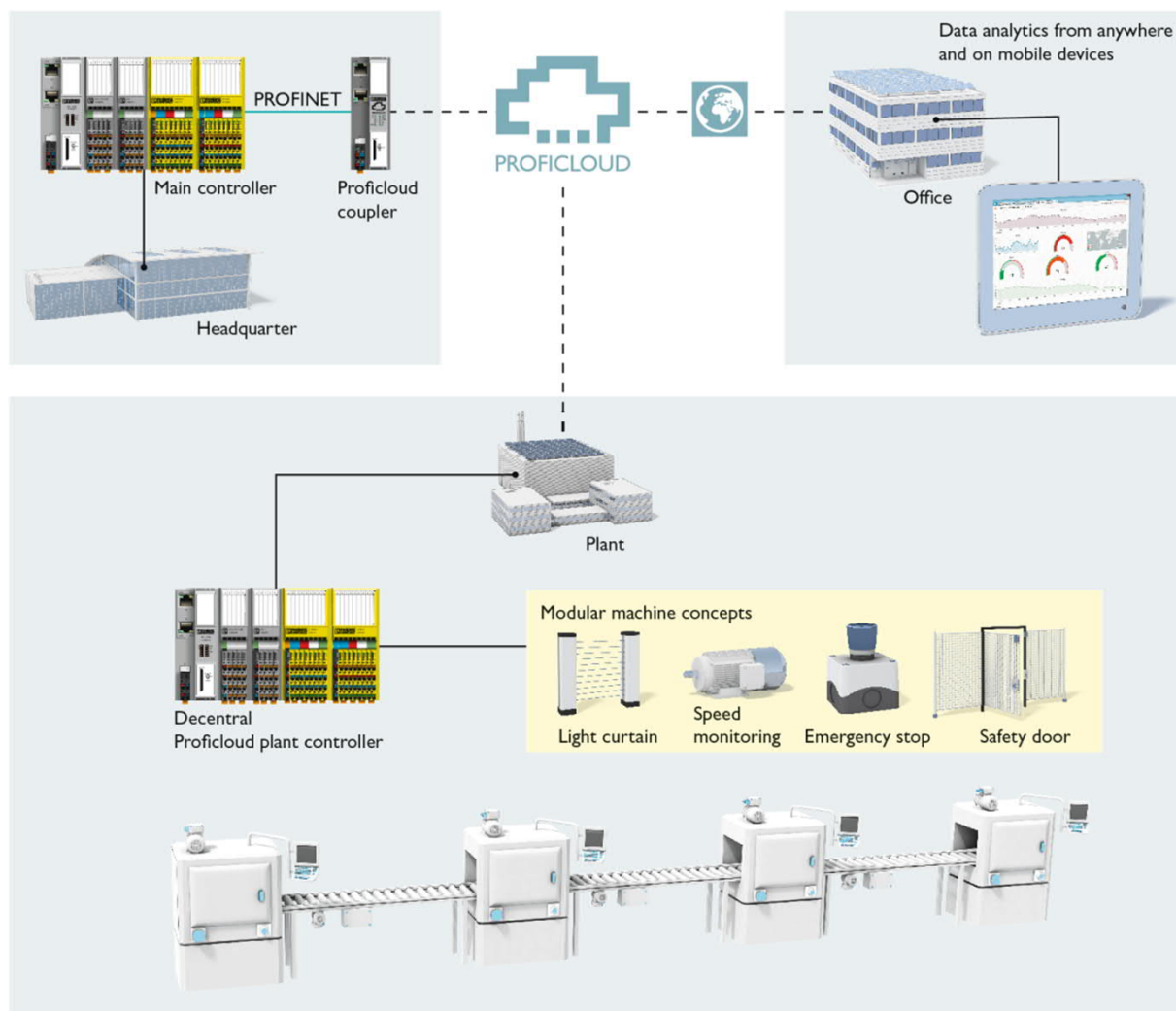


Relay Technology[®]
Designed by PHOENIX CONTACT



Safety trends

Safety in the cloud



Safety in the Cloud

Transmit safety-related data via the Internet to the PROFICLOUD to further increase your operational performance.

- Transfer safety-related data to the cloud with cloud devices
- Combine and monitor process and safety data in the cloud continuously
- Evaluate collected information on mobile end devices from anywhere and at any time

[Learn more](#)