

Welcome

Safety New Products 2021

- From E-stops to PROFIsafe controllers

Antonio Gordillo / 4 Mayo 2021 / IMA Marketing

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INSPIRING INNOVATIONS

Safety Product Line News

Review Safety

HIGHLIGHTS

Modular Safety Solutions

Safety Product Line News



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Modular Safety Solutions - From E-stops to PROFIsafe controllers

Agenda

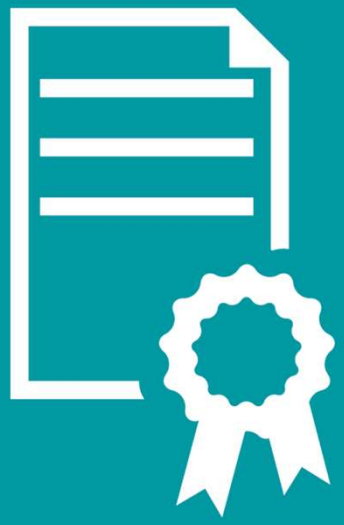
- Safety Product Line News
- SPLC1000 PROFIsafe extension for PLCnext Controls
- Axioline Smart Elements PROFIsafe and SafetyBridge Technology
- Axioline F Analog PROFIsafe
- PSR-ESS – Emergency Stop switches
- AIO 65 Push-button Box
- VIP I/O Safety Modules



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Safety Product Line News

Review 2020



IEC 61508



Certificate

Functional Safety Management

FS Managements (TÜV Rheinland)
IEC 61508 Parts 1-7:2010 - E/E/PE Safety Related System Realization (Phase 10)
FSM 103 - Centralized Group Certification

Certificate No. 968/FSM 103.16/20

Certified Company & Location: Phoenix Contact Electronics GmbH, Dringenauer Str. 30, 31812 Bad Pyrmont, Germany

Scope of Certification: Centralized Group Certification for IEC 61508 Parts 1-7:2010 considered following Safety Life-Cycle Phase

Phase 10 - Manufacturer - E/E/PE safety relaned Syseem Realization

Details and limitations regarding the Technical Scope and Local Scope of Certification of commited Business Units are listed in the attached Certificate Appendix 968/FSM103.16/20, which forms integral part of this certificate.

The certified company has successfully demonstrated during an audit process that a Functional Safety Management System has been implemented and applied accordingly.

Purpose of the audit is to obtain evidence of compliance with the organizational requirements related to the following aspects, Management of Functional Safety, Documentation, Functional Safety Assessment and Safety Lifecycle Phases according to the Technical Scope of Certification up to and including Safety Integrity Level 3 (SIL3) and Systematic Capability 3 (SC3).

It does not realace approval or certification for specific safety E/E/PE-safety related systems or product developments.

Validity: This certificate is valid until 2022-06-30

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln

Cologne, 2020-12-16

Dr.-Ing. Thorsten Gantevoort

TÜV Rheinland Industrie Service GmbH
Automation and Functional Safety
Am Grauen Stein
51105 Cologne - Germany

Certification Body Safety & Security for Automation & Grid
Further information referring to the scope of certification, see http://www.tuvasi.com

www.fs-products.com
www.tuv.com

TÜVRheinland®
Precisely Right.

Certified Functional Safety Management

Modular Safety Solutions - From E-stops to PROFIsafe controllers

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- ✓ Safety Product Line News
- ➢ **SPLC1000 PROFIsafe extension for PLCnext Controls**
- ➢ Axioline Smart Elements PROFIsafe and SafetyBridge Technology
- ➢ PSR-ESS – Emergency Stop switches
- ➢ AIO 65 Push-button Box



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Modular Safety Solutions - From E-stops to PROFIsafe controllers

SPLC1000 PROFIsafe extension for PLCnext Controls



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SPLC1000 PROFIsafe extension for PLCnext Controls

- PROFIsafe Portfolio of Safety PLCs
- AXC F XT SPLC 1000
- Product Combinations with PLCnext Axiocontrol
- Competition
- Use cases and applications
- Live Demo with Engineering



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PROFIsafe Portfolio of SPLCs

RFC 4072S – Highperformance Solution

- Highperformance for PLCnext and Safety
  - Intel i5 Skylake Dual Core 2 x 2.4 MHz
  - ARM A8/A9 for Safety with 600/800 MHz
  - 300 F-Devices



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SPLC 1000



AXC F XT SPLC 1000

Core	# of Profisafe devices	Temperature
2 x Cortex M4	32	-25°C - 60°C

Width	Approvals	C Functions
45mm	UL, CUL, etc	Reloadable

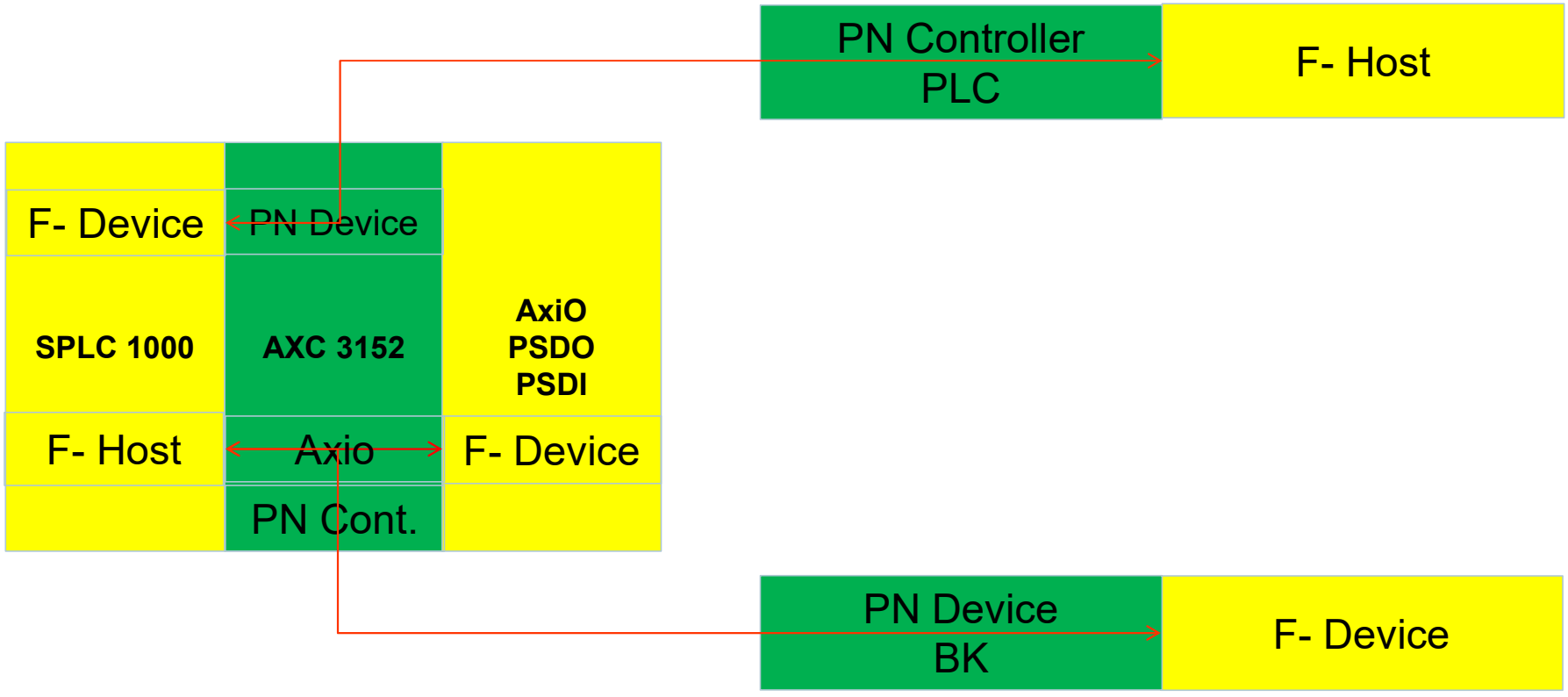
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Possibilities of left sided combination with AXC F 2152 & 3152

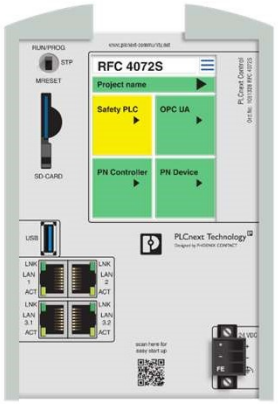


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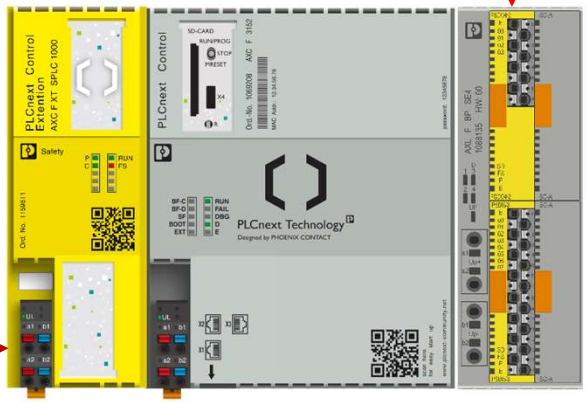
USE Case(s)



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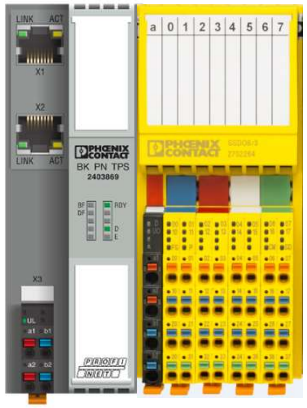


F-Host via Axiobus



F-Device via PROFINET

F-Host via PROFINET

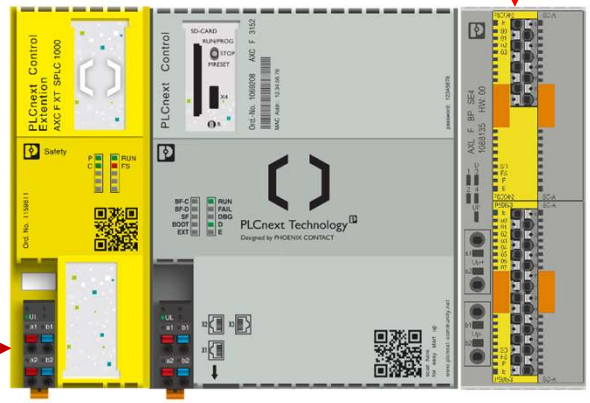


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PROFIsafe PLC
3rd Party

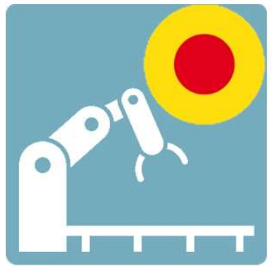


F-Host via Axiobus



F-Device via PROFINET

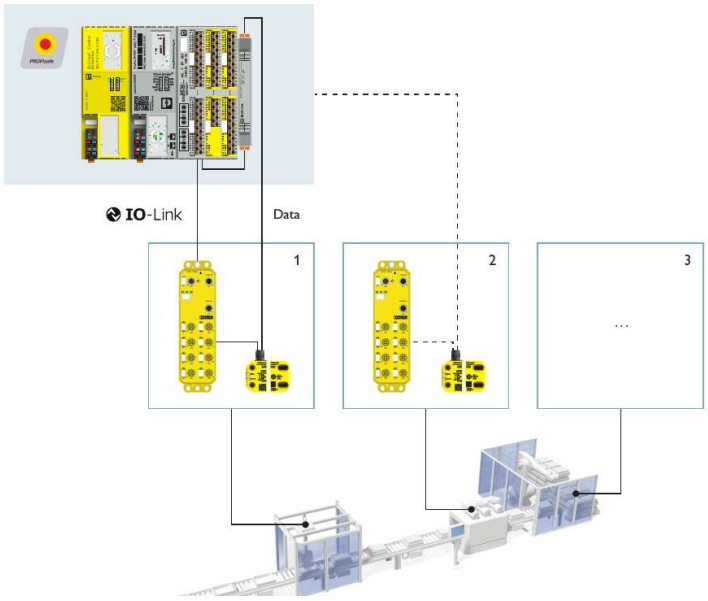
F-Host via PROFINET



PROFIsafe Device
3rd Party

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Applications



Modular Design



Compact Design

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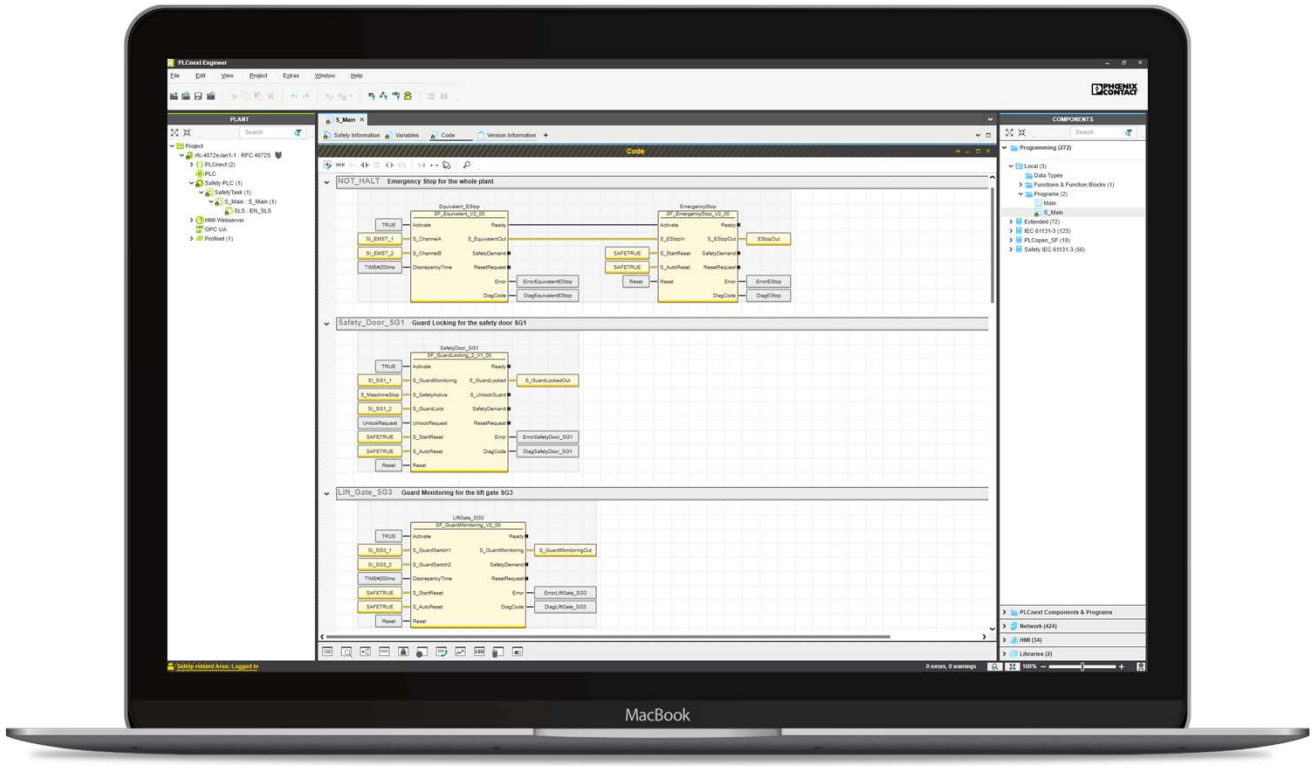
AXC XC SPLC 1000 Release Roadmap



Release date 30th September 2021

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Integration of standard and safety programming in PLCnext Engineer



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Modular Safety Solutions - From E-stops to PROFIsafe controllers

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- ➢ **Axioline Smart Elements PROFIsafe and SafetyBridge Technology**
- ➢ PSR-ESS – Emergency Stop switches
- ➢ AIO 65 Push-button Box



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Axioline Smart Elements



Axioline Smart Elements

MORE SPACE FOR
YOUR CREATIVITY

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Axioline Smart Elements

- AXC F XT SPLC 1000 and Safety IO‘s
- The SafetyBridge Smart Elements
- What is the difference between AXL F and AXL SE



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AXC F XT SPLC 1000 and Safety IO‘s

Remember: PROFIsafe Axioline Smart Elements

- PROFIsafe modules available from stock
- Slim solution together with SPLC 1000
- Space saving in the control cabinet



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What is new?

AXL SE SSDI8/3

- SafetyBridge Satellite module
- **Compatible with the AXL F Logicmodule AXL F LPSDO8/3 1F**
- Same parameters like Axioline F
- 8 inputs single channel use, 4 inputs two-channel use
- Connection method: 3-conductor
- Up to SILCL 3 and cat. 4/PL e

Available from stock



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What is new?

AXL SE SSDO4/2 2A

- SafetyBridge Satellite module
- **Compatible with the AXL F Logicmodule AXL F LPSDO8/3 1F**
- Same parameters like Axioline F
- 4 outputs single channel use, 2 outputs two-channel use
- Connection method: 2-conductor
- Up to SILCL 3 and cat. 4/PL e

Available from stock

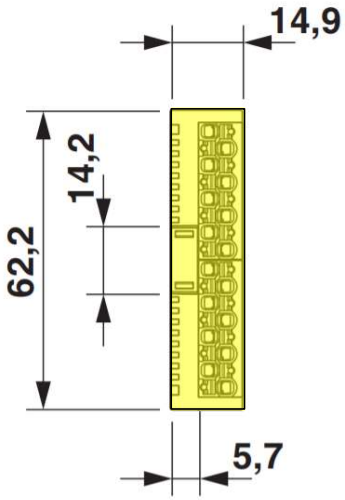


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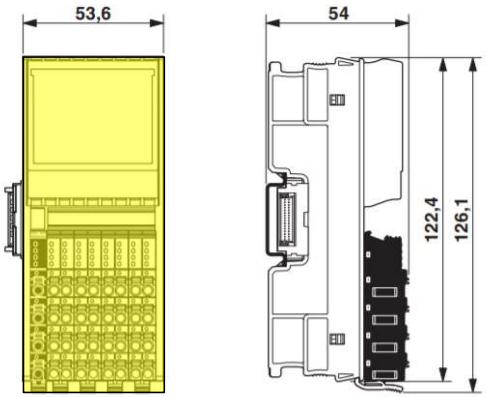
What is the difference?

The main difference

- Space requirement in the control cabinet (here for the PSDI8)



8 Signals on 927mm²



8 Signals on 6759mm²



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Axioline F PSAI



- ✓ Safe analog current signals directly in the Safety PLC
- ✓ 8 analog input channels for the connection of current signals using the PROFIsafe protocol.
- ✓ Can be used with safety controllers from Phoenix Contact and Siemens
- ✓ Fast connection of the sensors to the module, thanks to the Push-in Technology

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Agenda

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- ➢ AIO 65 Push-button Box



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PSR-ESS Emergency Stop Switches

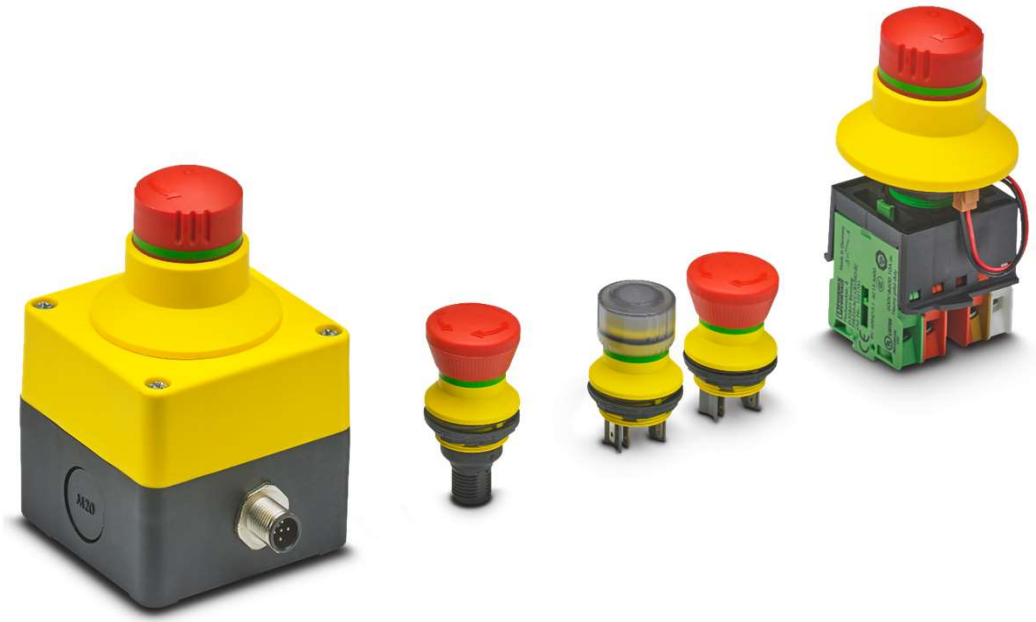
PSR-ESS Emergency Stop Switches



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PSR-ESS Emergency Stop Switches

Why we need a E-Stop in our Portfolio?



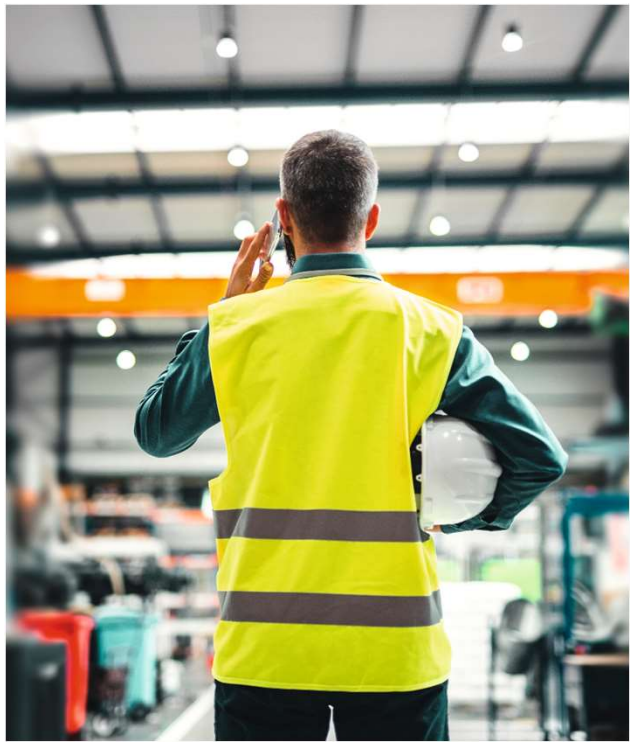
“An Emergency Stop in every machine”.”

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PSR-ESS Emergency Stop Switches

Agenda – PSR-ESS

- Product Overview
- Modular System Hands on
- Applications



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PSR-ESS Emergency Stop Switches

Portfolio Overview

Modular System



Surface Installation



Spade Connection

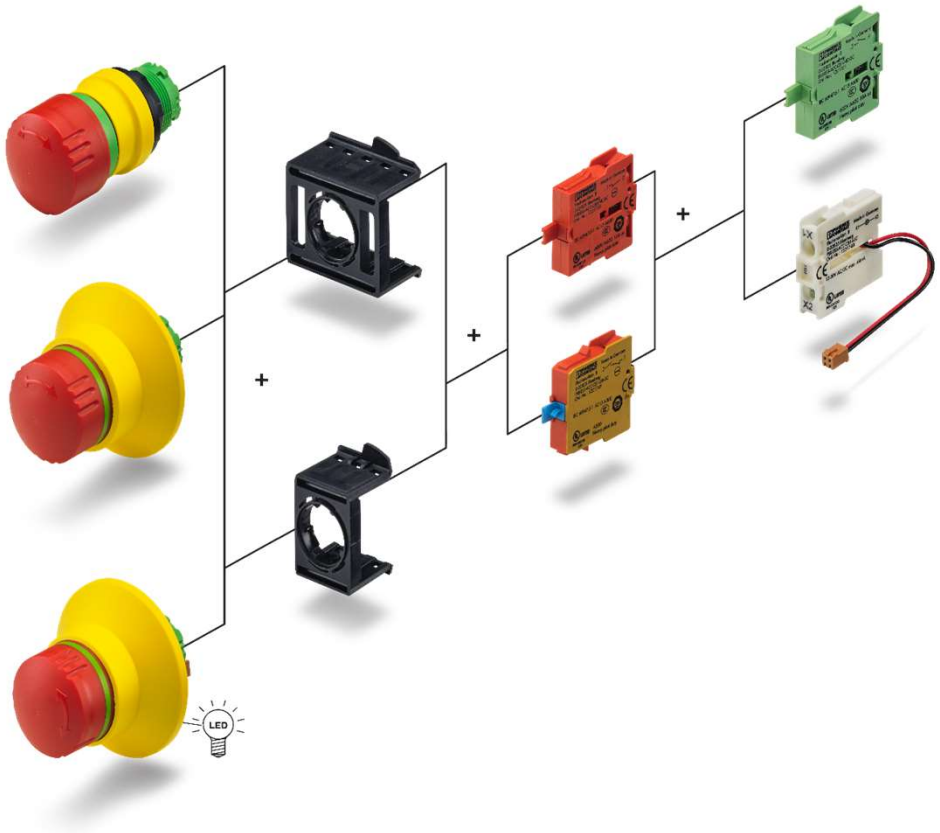


13 new articles

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PSR-ESS Emergency Stop Switches

Overview modular system



Find the right solution for your application

Choose between:

- 3 different actuators
- 2 module holders
- 2 different safety contact blocks for safe shutdown
- 2 optional contact blocks for feedback function or illumination

Supports 240V /3A

Approvals

TÜV SÜD

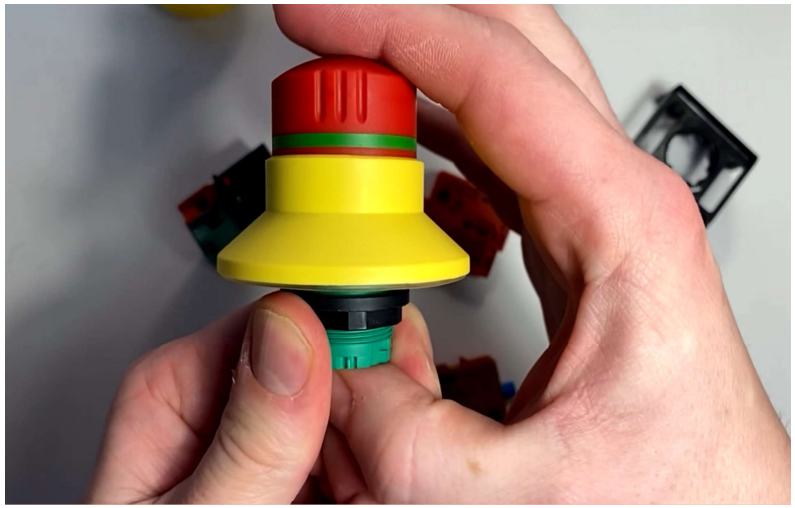
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PSR-ESS Emergency Stop Switches

Hands On



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PSR-ESS Emergency Stop Switches

Portfolio overview



- For surface installation in an IP65 housing with M12 connection
- 2 force guided contact (NC)



- For panel installation, IP65/IP67 protection with M12 connection
- 2 force guided contact (NC)



- For panel installation, IP65/IP67 protection with fast terminals
- 2 force guided contact (NC)

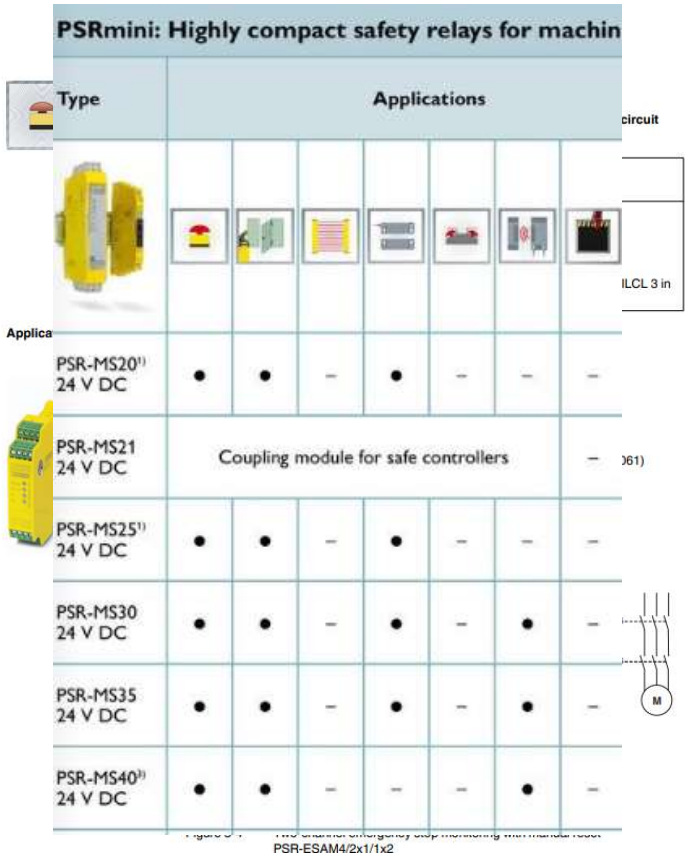


- For panel installation, IP65/IP67 protection with fast terminals
- 2 force guided contact (NC)
- Lighting to indicate the ready state

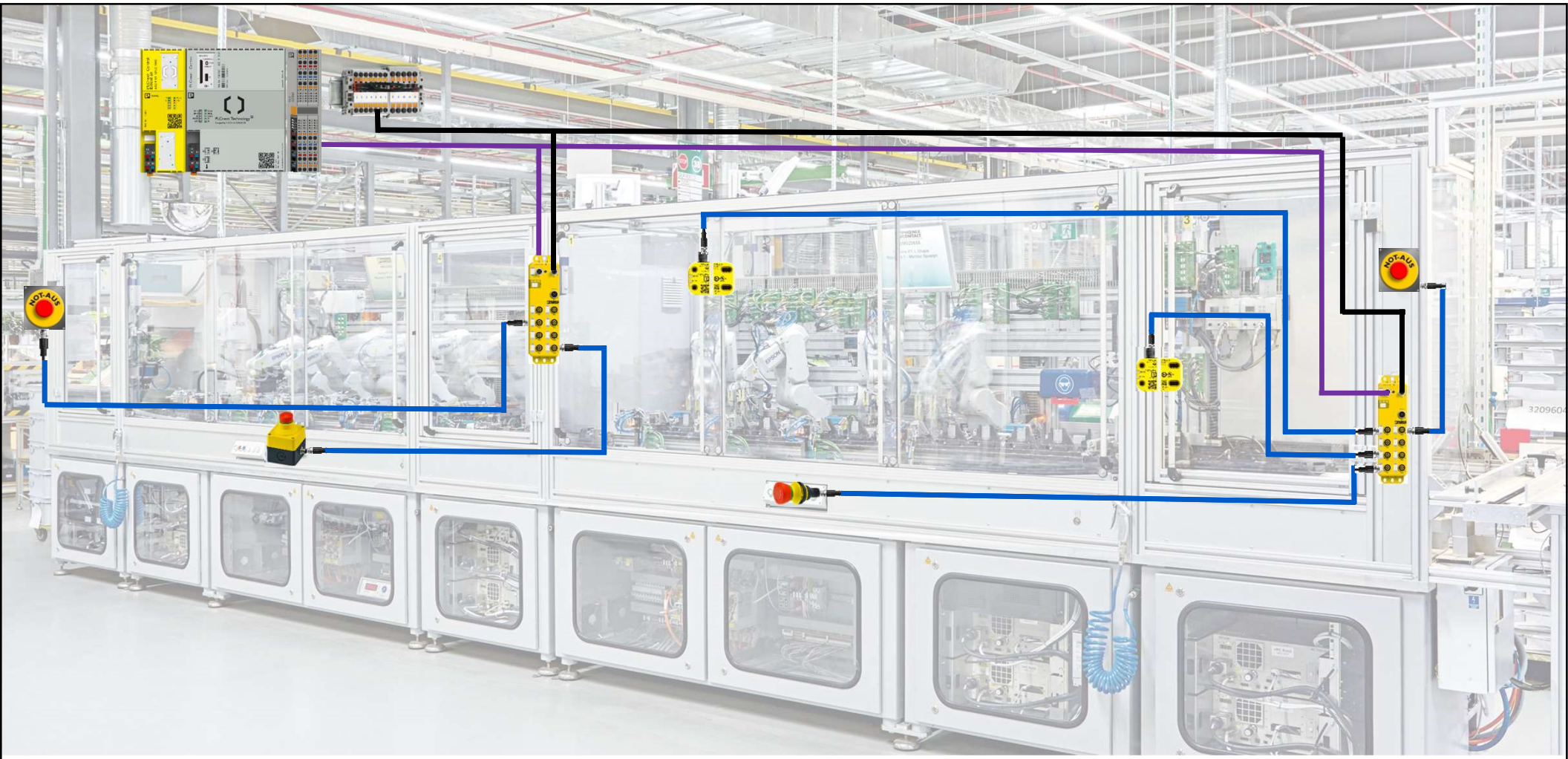
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Applications for Safety Relays

- Use our functional safety E-Paper (Link)
- You can also use the manual of a product



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M12 Connection | PROFINET | IO-Link | Supply voltage

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PSR-ESS Emergency Stop Switches

Portfolio Overview

Modular System



Surface Installation



Spade Connection



13 new articles

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PSR-ESS Emergency Stop Switches



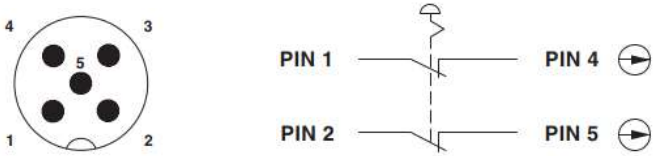
Confidential – For internal use only

Surface Instillation

Product overview

PSR-ESS-M2-H110-2000-A





Surface installation with M12

- Emergency Stop Switch in IP65 housing
- 2 positive opening contact
- M12 Connection 5-pos.
- 35V / 3A

Ambient temperature (operation)

- -25 °C ... 60 °C

Approvals

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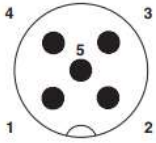
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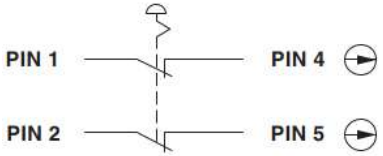
Surface Instillation

Product overview

PSR-ESS-M0-H210-2000-A







Front panel E-Stop via M12

- IP65/IP67
- 2 positive opening contact
- 35V / 3A

Ambient temperature (operation)

- -25 °C ... 70 °C

Approvals

TÜV SÜD

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Surface Instillation

Product overview

PSR-ESS-M0-H200-2000-C



E-Stop with Fast Terminals

- IP65/ IP67
- 2 positive opening contact
- 240V / 1.5A

Ambient temperature (operation)

- -25 °C ... 70 °C

Approvals

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Surface Instillation

Product overview

PSR-ESS-M2-H110-2000-A





Inactive / active

- IP65/ IP67
- 2 positive opening contact
- 35V / 3A

Ambient temperature (operation)

- -25 °C ...70 °C

Approvals

Confidential – For internal use only

Competitive

Pricing and availability soon

Article Nr.	Description	
1221758	PSR-ESS-M0-H100	
1221757	PSR-ESS-M0-H110	
1221753	PSR-ESS-M0-H120	
1221752	PSR-ESS-ACC-CB1-NC-SC	
1221751	PSR-ESS-ACC-CB1-NO-SC	
1221749	PSR-ESS-ACC-CB1-SM-SC	
1221748	PSR-ESS-ACC-CB1-I-SC	

Article Nr.	Description	
1221747	PSR-ESS-ACC-CB1-C3	
1221745	PSR-ESS-ACC-CB1-C5	
1221740	PSR-ESS-M0-H200-2000-C	
1221739	PSR-ESS-M0-H220-2001-C	
1221737	PSR-ESS-M0-H210-2000-A	
1221735	PSR-ESS-M2-H110-2000-A	

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Modular Safety Solutions - From E-stops to PROFIsafe controllers

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- ➢ VIP IO Safety Modules



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AIO65 Standalone Panel PCs

&

Push-button Box with SE Safety Module



Push-button Box for Modular Operator Station with SE Safety Module

Agenda

- Overview – Modular Operator Station
- Push-button Box - Options
- Push-button Box with SE Safety Module
- How to configure & order your Modular Operator Station



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Push-button Box for Modular Operator Station with SE Safety Module

Overview







BL2 AIO65 is a new customer configurable All-In-One panel PC family that comes in two performance classes and in screen sizes ranging from 15.6” to 21.5” (FULL HD). The BL2 AIO65 is available with different mounting options and can be expanded with push-button box and stack light.

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Push-button Box for Modular Operator Station with SE Safety Module

Push-button Box

- Ideal extension for the IPC
- It enables you to use more functions & more operating possibilities

- Available versions
  - Empty box
    (15,6” & 18,5”)
  - Parallel wired box
    (15,6” + 8 slots + E-STOP or 18,5” + 10 slots + E-STOP, individual configuration)
  - PROFINET box
    (18,5” + 10 slots + E-STOP, individual configuration)

Slots can be filled with functions like USB 3.0 Ports, buttons for various functions, key switches, …



Reduced downtime: IPC can be replaced quickly



More operating possibilities by physical buttons



Easy box maintenance by removable front & IPC replacement without downtime*



Front



Side

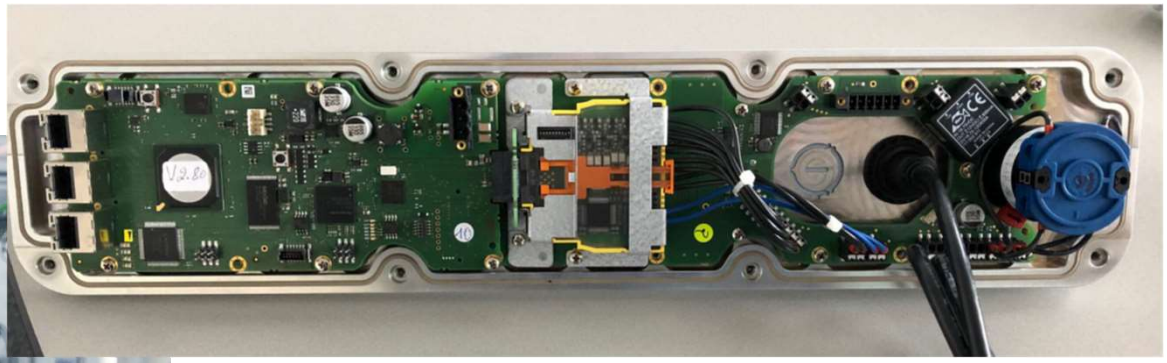


Back

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Push-button Box for Modular Operator Station with SE Safety Module

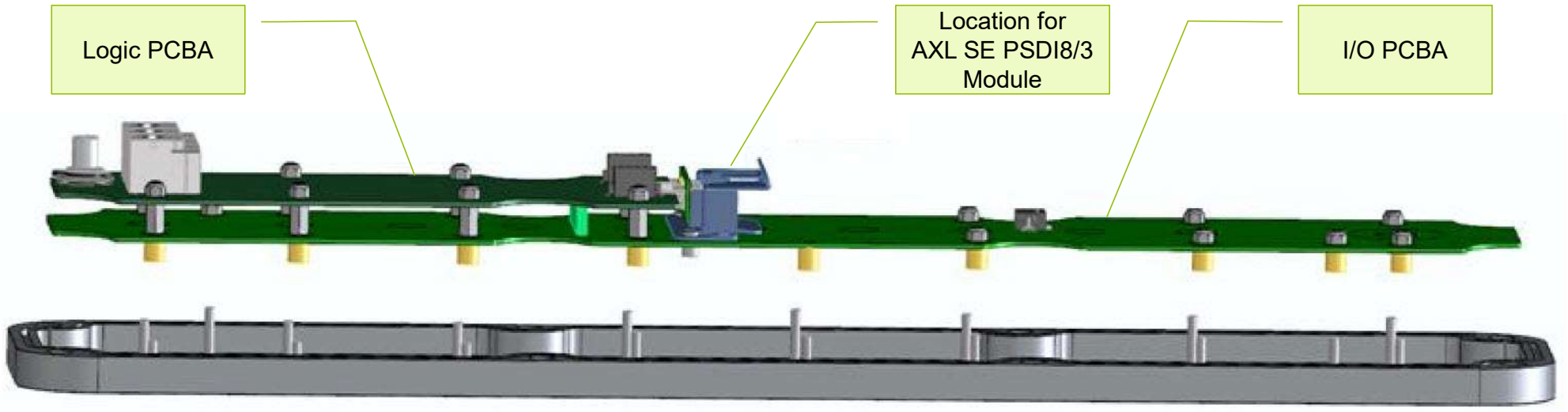
Push-button Box with SE Safety Module





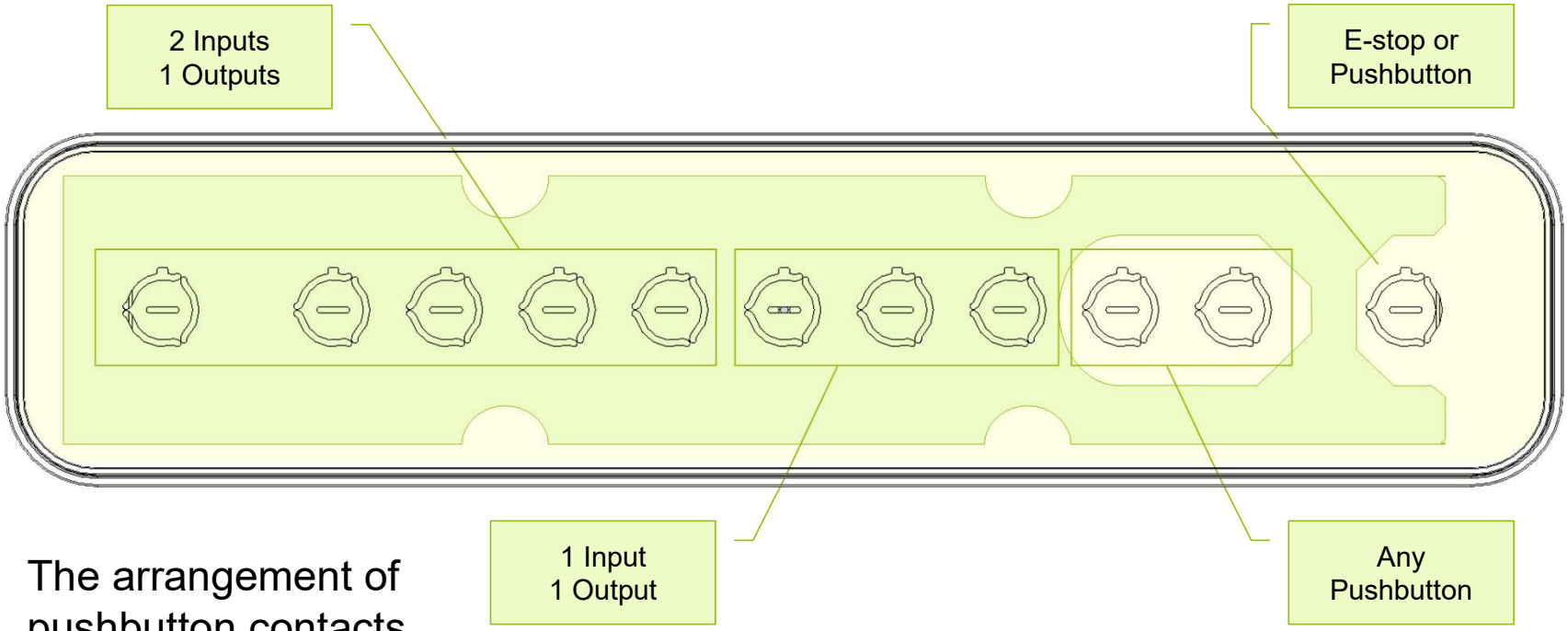
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Push-button Box with SE Safety Module



PCBA Arrangement

Push-button Box with SE Safety Module



The arrangement of pushbutton contacts are built into the PCBA

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Push-button Box with SE Safety Module

Options	No ProfiSafe & Changes only to pushbuttons	No ProfiSafe & Layout changes to the I/O PCBA	ProfiSafe & Changes to the mix of pushbuttons, but no PCBA layout change	ProfiSafe & Changes to the I/O PCBA layout
Minimum Order Quantity	30	200	200	400
Requires recertification	NO	NO	YES	YES

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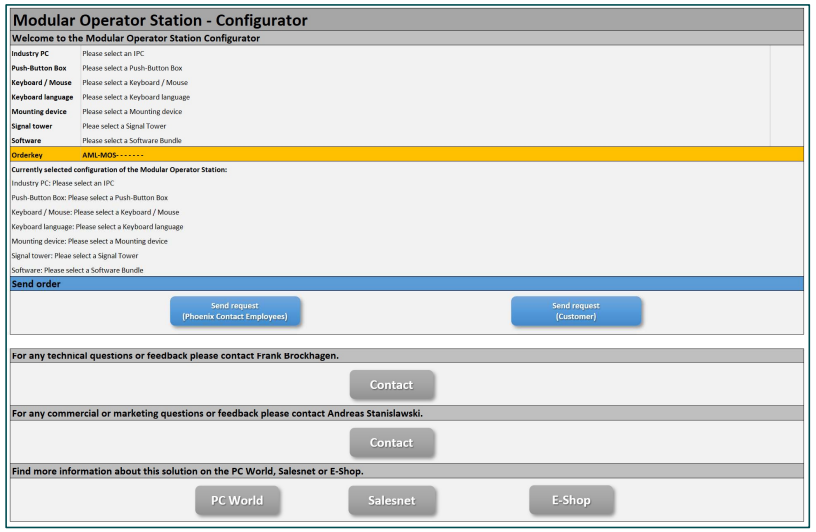
How to configure & order your Modular Operator Station

Push-button Box for Modular Operator Station with SE Safety Module

How to configure & order your Modular Operator Station

- Our brand-new configurator assists you in configuring your favorite solution quickly and easily

- Only 6 steps are necessary
  - Download & open the configurator
  - Select your favorite components
  - Check your configuration
  - Copy the order key & press "Send request"
  - Wait for your personal offer
  - Order your desired article



Welcome page at the Modular Operator Station – Configurator

If you need a Push-button Box that is not yet available, please contact the HMI/IPC team!

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BU Interface Components

VIP I/O-Marshalling



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VIP I/O-Marshalling

Traditional Process Automation Project

- Extremely unflexible when it comes to changes (e.g. signal types)
- High planning efforts neccessary
- Exact number and types of IOAs need to be known at a very early stage

Delays in project execution time very likely

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VIP I/O-Marshalling

Process Automation Project with Universal I/O

- High flexibility due to adaptable I/O channels
- Reduced planning effort
  - Only overall I/O number needed, not I/O types
- Reduce commissioning efforts
  - By using standard adaptable UIO cabinets

Approx. 30% savings in project execution times

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VIP I/O-Marshalling

Product Overview

Control level

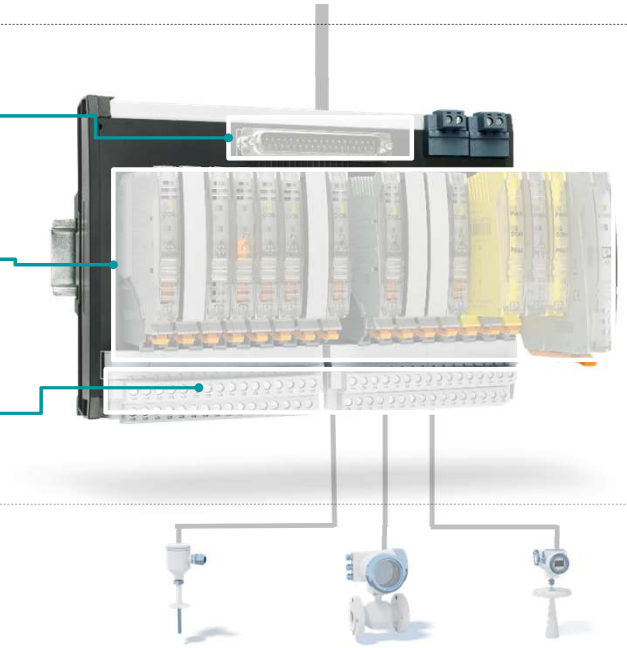
DCS (Universal I/O)

Interface + Marshalling level

System cabling

Interface / functionality

Marshalling



Field level

Sensors / actors

The most compact adaptive I/O marshalling system for Universal I/O, combining system cabling, interface and marshalling level in one single solution.

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Utilize the full potential of Universal I/O

Complex process automation projects contain many challenges in planning and implementation. Improvements have already been achieved with the universal I/O approach. However, planners and users also need an equally flexible solution at the marshalling and interface level.

VIP I/O Marshalling makes Universal I/O systems truly universal also on the marshalling and interface level.

Learn more about the Universal I/O approach and the VIP I/O Marshalling product portfolio in this webinar

Topics:

- What is Universal I/O?
- What role does VIP I/O Marshalling play for Universal I/O Systems?
- What does the product portfolio look like today?
- Which extensions are planned?
- What is the sales approach?

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Products VIP IO Safety

Pluggable SIL coupling relay as an input/output accessory for VIP base module, SIL 3 high and low-demand applications, safe-state-off, couples digital output signals to the periphery, 1 enabling current path, 1 confirmation current path, test pulse filter



IOA-PSR-PS22

Pluggable SIL coupling relay for use on a VIP base module

Data sheet
108235_en_02

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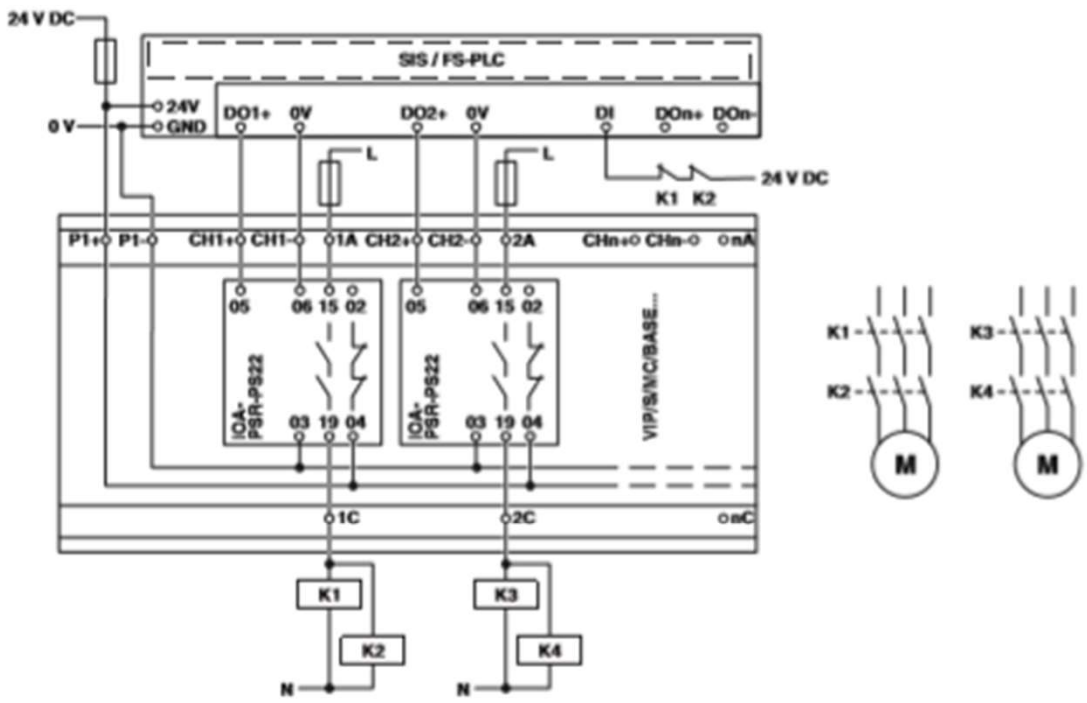
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VIP IO System

IOA-PSR-PS22

Application description:

The application example illustrates the safe switch-off of a load in high-demand operation. The safe coupling relay is controlled via a single channel using a failsafe controller. The device starts automatically.



High-demand application with failsafe controller

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VIP I/O-Marshalling



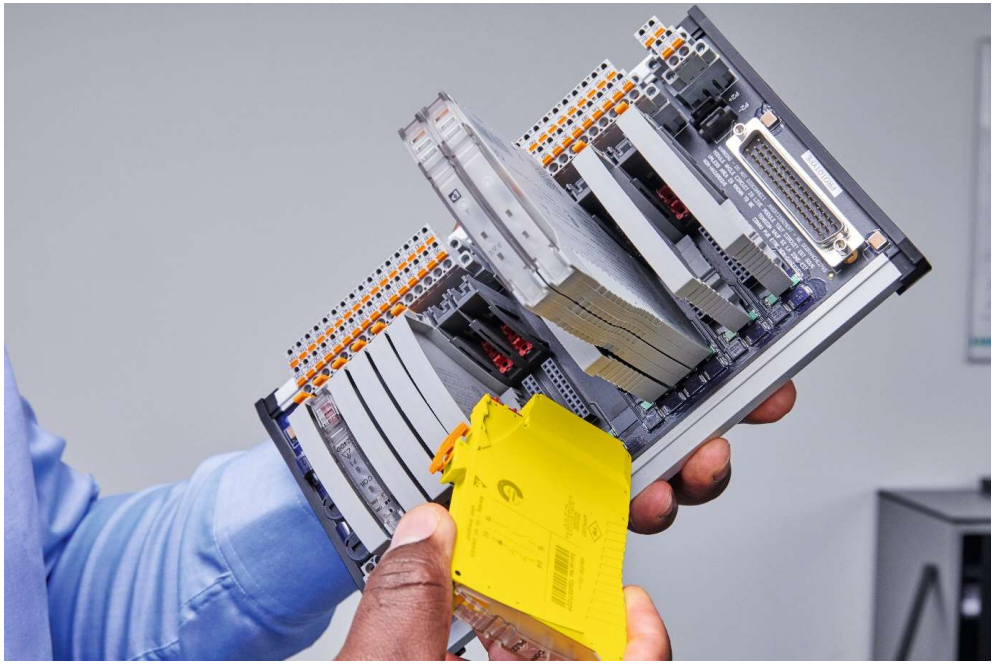


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Thanks for joining us!

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