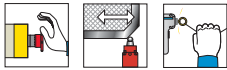


The image shows two men in a large industrial facility, likely a factory or warehouse. They are both wearing white hard hats and safety glasses. The man in the foreground is wearing a dark blue work jacket over a red shirt and is holding a large white sheet of paper, possibly a blueprint or technical drawing. He is looking off to the side with a focused expression. The man behind him is also wearing a dark blue work jacket and is looking in the same direction. The background features a complex network of yellow metal beams and structural elements, with some lights visible. The overall atmosphere is professional and industrial.

07. Preventa safety modules and Modicon safety controllers

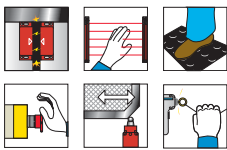
Preventa safety modules



Function: Emergency stop, switch monitoring, or protective guard applications

Preventa safety modules conforming to Cat. 3, PL e, SILCL3, STOP category 0

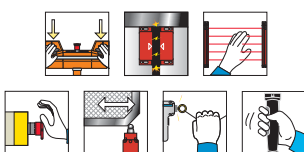
Terminal type	Captive screw clamp terminal		
Connections	Integrated in module	Removable from module	
Number of instantaneous safety circuits	3 NO	3 NO	
Number of additional outputs	1 solid state	1 solid state	
Reference	24 VAC/VDC	XPSAC5121	XPSAC5121P
	48 VAC	XPSAC1321	XPSAC1321P
	115 VAC	XPSAC3421	XPSAC3421P
	230 VAC	XPSAC3721	XPSAC3721P



Function: Emergency stop, switch monitoring, protective guard applications, coded magnetic switch monitoring, safety mats/edges, safety light curtain or RFID switch monitoring

Preventa safety modules conforming to Cat. 4, PL e, SILCL3, STOP category 0 (for XPSUAK) and STOP category 1 (for XPSUAT)

Terminal type	Captive screw clamp terminal		Spring clamp terminal			
Connections	Removable from module					
Number of instantaneous safety circuits	3 NO	2 NO + 1 NC	3 NO	2 NO + 1 NC		
Number of delayed or immediate contacts	3 NO + 1 NC	–	3 NO + 1 NC	–		
Number of additional outputs	1 solid state + 1 pulsed diagnostic output	1 pulsed diagnostic output	1 solid state + 1 pulsed diagnostic output	1 pulsed diagnostic output		
Reference	24 VAC/VDC	–	–	XPSUAK12AP	–	XPSUAK12AC
		0.1 s.....15 min	XPSUAT13A3AP	–	XPSUAT13A3AC	–
	48...240 VAC/VDC	–	–	XPSUAK32AP	–	XPSUAK32AC
		0.1 s.....15 min	XPSUAT33A3AP	–	XPSUAT33A3AC	–



Function: Emergency stop, protective guard, enabling switch or two-hand control monitoring, coded magnetic switch, SIL2 proximity switches, safety light curtain or RFID switch monitoring (1) (2)

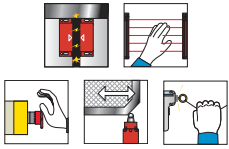
Preventa safety modules conforming to Cat. 4, PL e, SILCL3, STOP category 0

Terminal type	Captive screw clamp terminal		Spring clamp terminal
Connections	Removable from module		
Type conforming to standard EN5074	IIIA or IIIC		IIIA or IIIC
Number of instantaneous safety circuits	2 NO		2 NO
Maximum number of two-hand control or enabling switch monitoring (Cat. 4, PL e, SIL3)	1		1
Maximum number of safety light curtain or RFID switch monitoring (Cat. 4, PL e, SIL3)	2		2
Maximum number of safety coded magnetic switches or other safety devices (Cat. 4, PL e, SIL3)	2		2
Number of additional outputs	1 pulsed diagnostic output		1 pulsed diagnostic output
Reference	24 VAC/VDC	XPSUS12AP	XPSUS12AC
	48...240 VAC/VDC	XPSUS32AP	XPSUS32AC

(1) Enabling switch and two-hand control with automatic start only.

(2) Can also be used with XY2SB71 or XY2SB714 two-hand control stations.

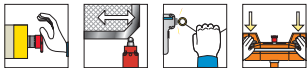
Preventa safety modules



Function: Emergency stop, switch monitoring, protective guard applications, coded magnetic switch monitoring, safety light curtain or RFID switch monitoring

Preventa safety modules conforming to Cat. 4, PL e, SILCL3, STOP category 0

Terminal type	Captive screw clamp terminal	Spring clamp terminal
Connections	Removable from module	
Number of instantaneous safety circuits	3 NO	3 NO
Number of additional outputs	1 pulsed diagnostic output	1 pulsed diagnostic output
Reference	24 VAC/VDC	XPSUAF13AP
	48...240 VAC/VDC	XPSUAF33AP
		XPSUAF13AC
		XPSUAF33AC

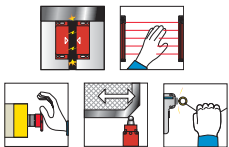


Function: Emergency stop, switch monitoring or two-hand control monitoring (1)

Preventa safety modules conforming to Cat. 1, PL c, SILCL1, STOP category 0

Terminal type	Captive screw clamp terminal	Spring clamp terminal
Connections	Removable from module	
Type conforming to standard EN5074	IIIA	IIIA
Number of instantaneous safety circuits	1 NO	1 NO
Number of additional outputs	1 NC + 1 pulsed diagnostic output	1 NC + 1 pulsed diagnostic output
Reference	24 VAC/VDC	XPSUAB11CP
	48...240 VAC/VDC	XPSUAB31CP
		XPSUAB11CC
		XPSUAB31CC

(1) Two-hand control with automatic start only.



Function: Emergency stop, switch monitoring, protective guard applications, coded magnetic switch monitoring, safety light curtain or RFID switch monitoring

Preventa safety modules conforming to Cat. 4, PL e, SILCL3, STOP category 0

Terminal type	Captive screw clamp terminal	Spring clamp terminal
Connections	Removable from module	
Number of instantaneous safety circuits	3 NO + 1 NC	3 NO + 1 NC
Maximum number of safety functions for Cat. 4, PL e, SIL3	6	6
Number of additional outputs	1 pulsed diagnostic output	1 pulsed diagnostic output
Reference	24 VAC/VDC	XPSUDN13AP
	48...240 VAC/VDC	XPSUDN33AP
		XPSUDN13AC
		XPSUDN33AC

Preventa safety modules



Function: Monitoring of photoelectric sensors			
Preventa safety modules conforming to Cat. 2, PL c, SILCL1, STOP category 0			
Terminal type	Captive screw clamp terminal		
Connections	Integrated in module		Removable from module
Number of instantaneous safety circuits	2 NO		2 NO
Number of additional solid state outputs	4		4
Reference	24 VDC	XPSCM1144	XPSCM1144P



Function: Zero speed detection of motors (1)				
Preventa safety modules conforming to Cat. 3, PL d, SILCL2, STOP category 0				
Terminal type	Captive screw clamp terminal			
Connections	Removable from module			
Number of safety circuits	1 NO		1 NO	
Number of additional outputs	2 solid state + 1 NC		2 solid state + 1 NC	
Frequency of motor power supply	≤ 60 Hz		> 60 Hz	
Reference	24 VDC	Inertia applications	XPSVNE1142P	XPSVNE1142HSP
		High inertia applications	XPSVNE1142LFP	–
		Low speed and high inertia applications	XPSVNE1142LSP	–
	115 VAC	Inertia applications	XPSVNE3442P	XPSVNE3442HSP
		High inertia applications	XPSVNE3442LFP	–
	230 VAC	Inertia applications	XPSVNE3742P	XPSVNE3742HSP



Function: Increasing the number of safety contacts (2)			
Preventa safety modules conforming to Cat. 4, PL e, SILCL3, STOP category 0			
Terminal type	Captive screw clamp terminal		Spring clamp terminal
Connections	Removable from module		
Number of instantaneous safety circuits	4 NO		4 NO
Number of additional outputs	2 NC		2 NC
Reference	24 VAC/VDC	XPSUEP14AP	XPSUEP14AC
	48...240 VAC/VDC	XPSUEP34AP	XPSUEP34AC

(1) This model has an extended synchronization time up to 2.2 s.

(2) This module can be used just with XPSU safety modules and is mounted via a side expansion connection included with the product, except for XPSUAB.

Modicon XPSMCM Modular Safety Controllers



Safety controllers CPU

Safety controllers conforming to Cat. 4, PL e, SIL3

Description	Safety controllers CPU	CPU + backplane connector	Safety controllers CPU	CPU + backplane connector	
Connections	Removable from controller				
Number and type of inputs	8 digital inputs + 2 for Start/Restart interlock		8 digital inputs + 4 for Start/Restart interlock		
Number and type of outputs	2 OSSD pairs + 4 test outputs + 2 status outputs		4 OSSD + 4 test outputs + 4 status outputs		
Terminal type	Screw (1)				
Reference	24 VDC	XPSMCMCP0802	XPSMCMCP0802BC	XPSMCMC10804	XPSMCMC10804BC



Safe expansion modules

Safe expansion I/O modules

Description	Safe mixed I/O expansion modules		Safe input expansion modules				
Number and type of inputs	8 digital inputs + 2 for Start/Restart interlock	8 digital inputs + 4 for Start/Restart interlock	8 digital inputs	16 digital inputs	12 digital inputs	4-channel analogic inputs 0...20 mA/0...10 V	
Number and type of outputs	2 OSSD pairs + 4 test outputs + 2 status outputs	4 single OSSD + 4 test outputs + 4 status outputs	4 test outputs	4 test outputs	8 test outputs for 4-wire safety mats	–	
Resolution	–					16 bits	
Terminal type	Screw (1)						
Reference	24 VDC	XPSMCMX0802	XPSMCMX0804 (2)	XPSMCMDI0800	XPSMCMDI1600	XPSMCMDI1200MT	XPSMCMAI0400 (2)



Safe output expansion modules

Description	Safe digital expansion modules		Safe relay output modules (without expansion bus connection, wired externally)		Safe relay output modules (with expansion bus connection)		
Number and type of inputs	2 for Start/Restart interlock	4 for Start/Restart interlock	1 for Start/Restart interlock	2 for Start/Restart interlock	4 for Start/Restart interlock		
Number and type of outputs	2 OSSD pairs + 2 status outputs	4 OSSD pairs + 4 status outputs	2 relays for 1 output (2 NO +1 NC)	4 relays for 2 independent outputs (4 NO + 2 NC)	4 relays	4 relays with 8 status outputs	
Terminal type	Screw (1)						
Reference	24 VDC	XPSMCMDO0002	XPSMCMDO0004	XPSMCMER0002	XPSMCMER0004	XPSMCMRO0004	XPSMCMRO0004D



Safe speed monitoring modules

Description	Safe speed monitoring modules					
Number and type of inputs	- 1 Sin/Cos encoder and 2 proximity sensor inputs	- 2 Sin/Cos encoders and 2 proximity sensor inputs	- 1 TTL encoder and 2 proximity sensor inputs	- 2 TTL encoders and 2 proximity sensor inputs	- 1 HTL encoder and 2 proximity sensor inputs	- 2 HTL encoders and 2 proximity sensor inputs
Connector type	- 1x RJ 45 (ENC1) - Proximity sensor connection via terminal blocks	- 2x RJ 45 (ENC1/ENC2) - Proximity sensor connection via terminal blocks	- 1x RJ 45 (ENC1) - Proximity sensor connection via terminal blocks	- 2x RJ 45 (ENC1/ENC2) - Proximity sensor connection via terminal blocks	- 1x RJ 45 (ENC1) - Proximity sensor connection via terminal blocks	- 2x RJ 45 (ENC1/ENC2) - Proximity sensor connection via terminal blocks
Terminal type	Screw (1)					
Reference	XPSMCMEN0100SC	XPSMCMEN0200SC (3)	XPSMCMEN0100TT	XPSMCMEN0200TT	XPSMCMEN0100HT	XPSMCMEN0200HT

(1) References are given for products with a screw connector. For equivalent references with a spring clamp connector, add a "G" at the end of the reference.
For example, XPSMCMX0802 becomes XPSMCMX0802G.

(2) Modules can be used just with CPU XPSMCMC10804 or XPSMCMC10804BC (screw or spring terminal type)

(3) When monitoring of only 2 proximity sensors is required, order an XPSMCMEN0200.

Modicon XPSMCM Modular Safety Controllers



Safe expansion modules (continued)

Safe communication expansion modules

Description	Safe RS 485 bus expansion module for remote extension	
Characteristics	1 connection interface: single channel transmitter/receiver network connection	2 connections interface: dual channel transmitter/receiver network connection
Terminal type	Screw (1)	
Reference	XPSMCMCO0000S1	XPSMCMCO0000S2



Non-Safe communication modules

Description	Non-Safe communication modules					
Fieldbus/network type	CANopen	Ethernet IP	EtherCAT	Modbus Serial (RTU)	Modbus TCP	Profibus DP
Fieldbus connector type	SUB-D 9-way (female)	1x RJ 45 (in/out)	2x RJ 45 (in/out)	1x RJ 45	1x RJ 45 (in/out)	SUB-D 9-way (male)
Terminal type	Screw (1)					
Reference	XPSMCMCO0000CO	XPSMCMCO0000EI	XPSMCMCO0000EC	XPSMCMCO0000MB	XPSMCMCO0000EM	XPSMCMCO0000PB

Software

Description	SoSafe configurable software
Application	To configure a logic connection between the inputs and outputs of the XPSMCMCP0802 and XPSMCMC10804 safety controllers CPU (4) and the components of the application being developed
PC hardware requirements	RAM: 256 MB, Hard disk ≥ 300 MB of free space USB connector: 1.1 or 2.0, CD-ROM drive
PC software requirements	Windows XP with Service Pack 3 installed or Windows Vista, 32-bit, or Windows 7 or 8.1, 32-bit and 64-bit Microsoft Framework 3.5 installed on the PC
Reference	Free software available to download from www.se.com



Accessories

Description	Backplane expansion connector (2)	Memory card
Application	To connect the various expansion modules to the safety controller CPU	To save configuration data for subsequent transfer to a new device without using a PC
Reference	XPSMCMCN0000SG	XPSMCMME0000



Description	Configuration cable	RS 485 shielded cables			Encoder splitter cables	
Use	For software configuration, between a PC, the safety controller CPU, and the fieldbus communication modules. Equipped with 2x USB connectors: USB A and USB mini B	Between two Safe communication expansion modules			Between SIN/ COS safe speed monitoring module and PacDrive M drives and the associated servo motors	Between SIN/ COS safe speed monitoring modules and Lexium 62 (PacDrive 3), Lexium 32 servo drives and the associated servo motors
Reference	TCSXCNAMUM3P	TSXSXCMCN010	TSXSXCMCN025	TSXSXCMCN050	TSXESPPM001 (3)	TSXESPP3001 (3)

(1) References are given for products with a screw terminal. For equivalent references with a spring clamp connector, add a "G" at the end of the reference. For example, XPSMCMCO0000S1 becomes XPSMCMCO0000S1G.

(2) This connector only needs to be ordered for the XPSMCMCP0802 or XPSMCMC10804 safety controllers when it is connected to expansion modules.

(3) With 1 m cable. For other cable lengths, replace the last number of the reference with 3 for a 3 m cable or 5 for a 5 m cable.

(4) Consider all CPUs with screw and spring clamp terminals.