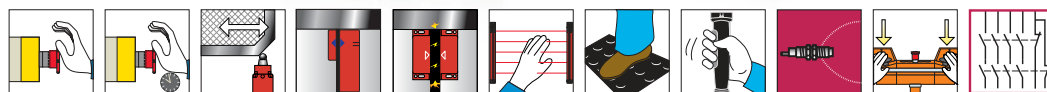


# Preventa XPS Universal

## Safety modules

Catalog

July 2019



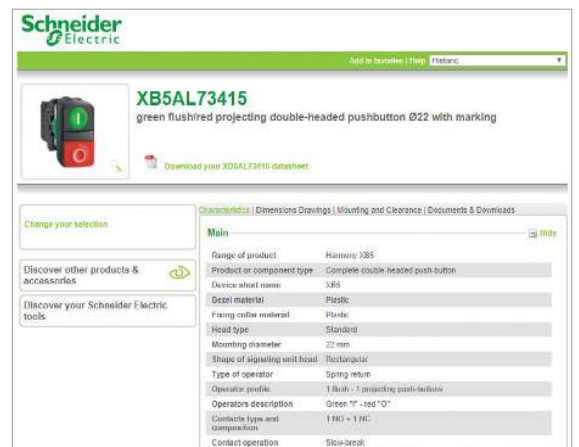
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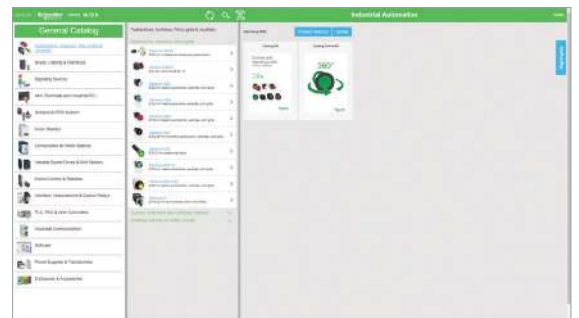
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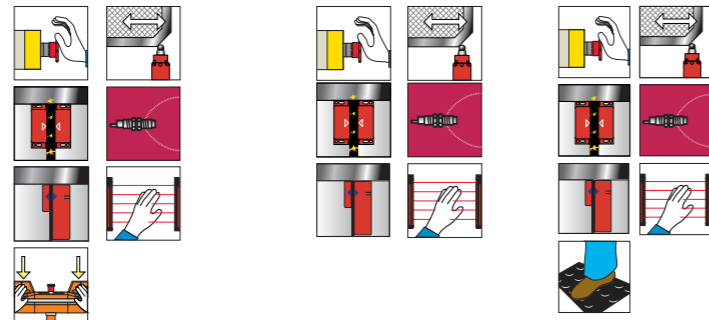
# General content

## Preventa XPS Universal

### Safety modules

<b>Selection guide</b> .....	<i>page 2</i>
■ <b>Type XPSUAB</b>	
- Operating principles, selection.....	<i>page 4</i>
- Main features, references .....	<i>page 5</i>
■ <b>Type XPSUAF</b>	
- Operating principles.....	<i>page 6</i>
- Main features, references .....	<i>page 6</i>
■ <b>Type XPSUAK</b>	
- Operating principles.....	<i>page 7</i>
- Main features, references .....	<i>page 7</i>
■ <b>Type XPSUAT</b>	
- Operating principles.....	<i>page 8</i>
- Main features, references .....	<i>page 8</i>
■ <b>Type XPSUDN</b>	
- Operating principles.....	<i>page 9</i>
- Main features, references .....	<i>page 9</i>
■ <b>Type XPSUS</b>	
- Operating principles, selection.....	<i>page 10</i>
- Main features, references .....	<i>page 11</i>
■ <b>Type XPSUEP</b>	
- Operating principles.....	<i>page 12</i>
- Main features, references .....	<i>page 12</i>
■ <b>Accessories for Preventa XPS Universal safety modules</b> .....	<i>page 13</i>
■ <b>Substitution table</b> .....	<i>page 14</i>
■ <b>Product reference index</b> .....	<i>page 15</i>

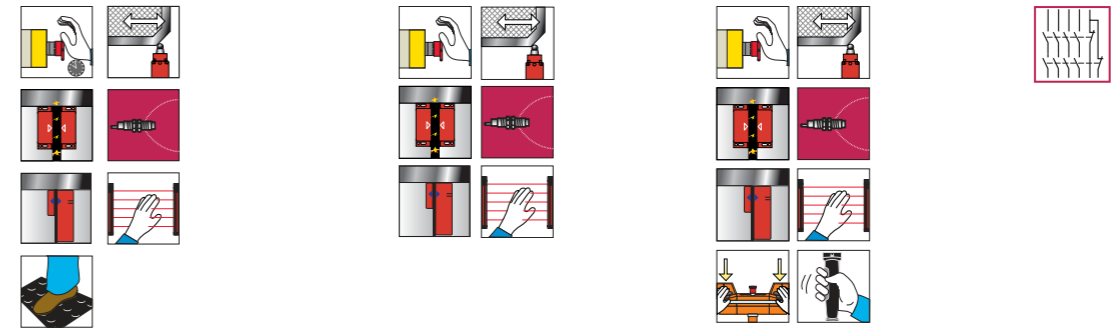
Safety Functions



<b>Safety modules for monitoring</b>	<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Antivalent contacts</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> <li>- Two-hand control stations</li> </ul>	<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> </ul>	<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP &amp; NPN sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> <li>- Sensing mat/edges</li> </ul>
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<b>Maximum achievable safety level</b>	<ul style="list-style-type: none"> <li>■ PL e/Category 1 conforming to ISO 13849-1</li> <li>■ SILCL 1 conforming to IEC 62061</li> <li>■ SIL 1 conforming to IEC 61508</li> </ul>	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>		
<b>Conformity to standards</b>	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>			
<b>Product certifications</b>	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>			
<b>Number of outputs</b>	Safety	1 single changeover output	3 NO	2 NO + 1 NC
	Diagnostic	1 solid state	1 solid state	1 solid state
<b>Display</b>		6 LEDs	6 LEDs	6 LEDs
<b>Supply voltage</b>		24 V AC/DC and 48-240 V AC/DC		
<b>Synchronization time between inputs</b>		Selectable	Selectable	Selectable
<b>Inputs channels</b>	Number	2	2	2
<b>Module type</b>		<b>XPSUAB</b>	<b>XPSUAF</b>	<b>XPSUAK</b>
<b>Page</b>		4	6	7
<b>Accessory type</b>		<b>XPSEC, XPSES</b>	<b>XPSEC, XPSES</b>	<b>XPSEC, XPSES</b>
<b>Page</b>		13	13	13



<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP &amp; NPN sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> <li>- Sensing mat/edges</li> </ul>	<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> </ul>	<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> <li>- Two-hand control station</li> <li>- Enabling switch</li> </ul>	<ul style="list-style-type: none"> <li>- For extending the number of safety contacts</li> </ul>
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<b>Maximum achievable safety level</b>	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>				
<b>Conformity to standards</b>	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>				
<b>Product certifications</b>	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>				
<b>Number of outputs</b>	Safety	3 NO immediate + 3 NO configurable + 1 NC configurable	3 NO + 1 NC	2 NO	4 NO + 2 single NC
	Diagnostic	2 solid state	1 solid state	1 solid state	1 solid state
<b>Display</b>		8 LEDs	16 LEDs	8 LEDs	3 LEDs
<b>Supply voltage</b>		24 V AC/DC and 48-240 V AC/DC			
<b>Synchronization time between inputs</b>		Selectable	Selectable	Selectable	-
<b>Inputs channels</b>	Number	3	12	4	-
<b>Module type</b>		<b>XPSUAT</b>	<b>XPSUDN</b>	<b>XPSUS</b>	<b>XPSUEP</b>
<b>Page</b>		8	9	10	12
<b>Accessory type</b>		<b>XPSEC, XPSES</b>	<b>XPSEC, XPSES</b>	<b>XPSEC, XPSES</b>	<b>XPSEC, XPSES</b>
<b>Page</b>		13	13	13	13

# Preventa XPS Universal Safety modules

Type **XPSUAB**, for monitoring Emergency stop, Antivalent contacts, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch, Safety light curtain or Two-hand control stations

## Operating principle

**XPSUAB** safety modules are designed to monitor two hand control stations IIIA which must comply with International standard ISO 13851. The control stations must be designed and installed so that they cannot be activated involuntarily or easily rendered inoperative. Depending on the application, the requirements of type C standards specific to the machinery involved must be met (additional personal protection methods may have to be considered).

To initiate a dangerous movement, both operators (two-hand control pushbuttons) must be activated within an interval of 0.5 s (synchronous activation). If one of the two pushbuttons is released during a dangerous operation, the control sequence is cancelled. Resuming the dangerous operation is possible only if both pushbuttons are returned to their initial position and reactivated within the required time interval. The safety distance between the control units and the hazardous zone must be enough to ensure that when only one operator is released, the hazardous zone cannot be reached before the dangerous movement has been completed or stopped.

■ With automatic, manual & monitored start, **XPSUAB** safety modules are used for monitoring:

- A single contact Emergency stop conforming to standard ISO 13850
- Switches activated by protection devices conforming to standard ISO 14119:
  - Antivalent contacts pair
  - Mechanical guard switch
  - Magnetic switch with antivalent contacts
  - Proximity safety switch with antivalent contacts
  - PNP sensor
  - RFID safety switch

□ Type 4 light curtains conforming to IEC 61496-1 which have solid-state safety outputs with test function

■ With automatic start only, **XPSUAB** safety modules are used for monitoring two-hand control IIIA.

- These functions are selected and the start function can be configured by selector switches on the front face.
- A solid-state diagnostic output with complete status information facilitates maintenance.
- 6 LEDs on the front face provide information on the monitoring circuit status.



## Selection

Requirements of standard ISO 13851		Type I	Type II	Type III		
				A	B	C
Standard ISO 13851 defines the selection of two-hand controls according to its behavior.  This table details the 3 types of two-hand control conforming to ISO 13851.  For each type, it lists the operating characteristics and minimum requirements.	Use of both hands (simultaneous action)					
	Link between input and output signals					
	Prevention of accidental operation					
	Tamper-proof					
	Output signal reinitialised					
	Synchronous action (specified time limit)					
	Use of proven components (Category 1 conforming to ISO 13849-1)			XPSUAB		
	Redundancy with partial error detection (Category 3 conforming to ISO 13849-1)				XPSUS	
	Redundancy + Self-monitoring (Category 4 conforming to ISO 13849-1)					XPSUS
	Two-hand control station	XY2SB●●	XY2SB●●	XY2SB●●	XY2SB●●	XY2SB●●

Conforming to ISO 13849-1

Conforming to ISO 13851

# Preventa XPS Universal Safety modules

Type **XPSUAB**, for monitoring Emergency stop, Antivalent contacts, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch, Safety light curtain or Two-hand control stations

## Main features

Start input	Automatic, manual & monitored start
Safety input	1
Control outputs	2 ON/OFF configurable pulsed outputs
Safety outputs	1 single changeover output
Diagnostic outputs	1 solid state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	No
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL c/Category 1 conforming to ISO 13849-1</li> <li>■ SILCL 1 conforming to IEC 62061</li> <li>■ SIL 1 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
<b>Type XPSUAB</b> for monitoring: - Emergency stop - Antivalent contacts - Guard switch - Magnetic switch - Proximity safety switch - PNP sensor - RFID safety switch - Safety light curtain - Two-hand control stations	24 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUAB11CC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAB11CP</a>	0.200/0.440
	48-240 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUAB31CC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAB31CP</a>	0.200/0.440



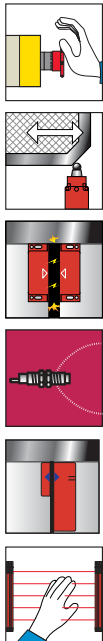
XPSUAB11CC



XPSUAB11CP

# Preventa XPS Universal Safety modules

Type **XPSUAF**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch or Safety light curtain



## Operating principle

**XPSUAF** safety modules are used for providing protection for both the machine operator and the machine by immediately stopping the dangerous movement on receipt of a stop instruction from the operator or on detection of an issue in the safety circuit itself.

**XPSUAF** safety modules are used for monitoring:

- Emergency stop circuits conforming to standard ISO 13850
- Switches activated by protection devices conforming to standard ISO 14119:
  - Mechanical guard switches
  - Magnetic switch with antivalent or 2 NC contacts
  - Proximity safety switch with antivalent contacts
  - PNP sensor
  - RFID safety switch
- Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function
  - These functions are selected and the start function can be configured by selector switches on the front face.
  - A solid-state diagnostic output with complete status information facilitates maintenance.
  - To monitor a higher number of antivalent contacts using this safety module, the antivalent contacts can be connected with a NC in series and NO in parallel.
  - 6 LEDs on the front face provide information on the monitoring circuit status.

## Main features

Start input	Automatic, manual & monitored start
Safety inputs	2
Control outputs	3 ON/OFF configurable pulsed outputs
Safety outputs	3 NO
Diagnostic outputs	1 solid state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	16
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILC L 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type <b>XPSUAF</b> for monitoring: - Emergency stop - Guard switch - Magnetic switch - Proximity safety switch - PNP sensor - RFID safety switch - Safety light curtain	24 V ~/∩	Spring 5.08/0.20	<a href="#">XPSUAF13AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAF13AP</a>	0.200/0.440
	48-240 V ~/∩	Spring 5.08/0.20	<a href="#">XPSUAF33AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAF33AP</a>	0.200/0.440



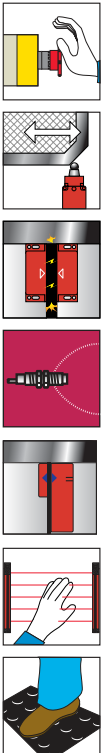
XPSUAF3AC



XPSUAF3AP

# Preventa XPS Universal Safety modules

Type **XPSUAK**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP & NPN sensors, RFID safety switch, Safety light curtain or Sensing mat/edges



## Operating principle

**XPSUAK** safety modules provide protection for both the machine operator and the machine by immediately stopping the dangerous movement on receipt of a stop instruction from the operator or on detection of an issue in the safety circuit itself.

**XPSUAK** safety modules are used for monitoring:

- Emergency stop circuits conforming to standard ISO 13850
  - Switches activated by protection devices conforming to standard ISO 14119:
    - Mechanical guard switches
    - Magnetic switch with antivalent or 2 NC contacts
    - Proximity safety switch with antivalent contacts
    - Sensor pair
    - 1 PNP + 1 NPN sensor
    - RFID safety switch
  - Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function
  - 4-wire sensing mats or edges conforming to ISO 13856
- These functions are selected and the start function can be configured by selector switches on the front face.
  - A solid-state diagnostic output with complete status information facilitates maintenance.
  - To monitor a higher number of antivalent contacts using this safety module, the antivalent contacts can be connected with a NC in series and NO in parallel.
  - 6 LEDs on the front face provide information on the monitoring circuit status.

## Main features

Start input	Automatic, manual & monitored start
Safety inputs	2
Control outputs	3 ON/OFF configurable pulsed outputs
Safety outputs	2 NO + 1 NC
Diagnostic outputs	1 solid state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	20
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILC L 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
<b>Type XPSUAK</b> for monitoring: - Emergency stop - Guard switch - Magnetic switch - Proximity safety switch	24 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUAK12AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAK12AP</a>	0.200/0.440
- PNP & NPN sensor - RFID safety switch - Safety light curtain - Sensing mat/edges	48-240 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUAK32AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUAK32AP</a>	0.200/0.440



XPSUAK●2AC

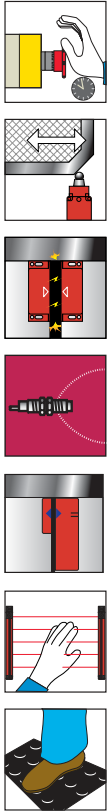


XPSUAK●2AP



# Preventa XPS Universal Safety modules

Type **XPSUAT**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP & NPN sensor, RFID safety switch, Safety light curtain or Sensing mat/edges



## Operating principle

**XPSUAT** safety modules provide protection for both the operator and the machine by immediately stopping the dangerous movement on receipt of a stop instruction from the operator, or on detection of an issue in the safety circuit itself.

**XPSUAT** safety modules are used for monitoring:

- Emergency stop circuits conforming to standard ISO 13850
- Switches activated by protection devices conforming to standard ISO 14119:
  - Mechanical guard switches
  - Magnetic switch with antivalent or 2 NC contacts
  - Proximity safety switch with antivalent contacts
  - PNP Sensor
  - 1 PNP + 1 NPN Sensor
  - RFID safety switch
- Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function
- 4-wire sensing mats or edges conforming to ISO 13856
- In addition to the stop category 0 instantaneous opening safety outputs, the **XPSUAT** safety modules incorporate stop category 1 time delay outputs which allow controlled deceleration of the motor to a complete stop (for example, motor braking by variable speed drive). At the end of the preset delay, the supply is disconnected by opening the time delayed output circuits. Also the time delay from 0.1 s to 15 min can be selected by selector switches on the front face.

- These functions are selected and the start function can be configured by selector switches on the front face.
- A solid-state diagnostic output with complete status information facilitates maintenance.
- To monitor a higher number of antivalent contacts using this safety module, the antivalent contacts can be connected with a NC in series and NO in parallel.
- 8 LEDs on the front face provide information on the monitoring circuit status.

## Main features

Start input	Automatic, manual & monitored start
Safety inputs	2 positive safety inputs 24 VDC, 1 negative safety input
Control outputs	4 ON/OFF configurable pulsed outputs
Safety outputs	3 NO immediate + 3 NO configurable + 1 NC configurable
Diagnostic outputs	<ul style="list-style-type: none"> <li>■ 1 solid state diagnostic output for time delay ending</li> <li>■ 1 solid state diagnostic output with complete status information</li> </ul>
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	27
Module width	45 mm/1.77 in.
Time delay setting	0.1 s to 15 min by 10 steps of 0.1 s which can be multiplied by 1, 10, 100 and 1000
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type <b>XPSUAT</b> for monitoring	24 V ~/DC	Spring	<a href="#">XPSUAT13A3AC</a>	0.350/0.770
		Screw	<a href="#">XPSUAT13A3AP</a>	
- Emergency stop - Guard switch - Magnetic switch - Proximity safety switch - PNP & NPN sensor - RFID safety switch - Safety light curtain - Sensing mat/edges	48-240 V ~/DC	Spring	<a href="#">XPSUAT33A3AC</a>	0.350/0.770
		Screw	<a href="#">XPSUAT33A3AP</a>	



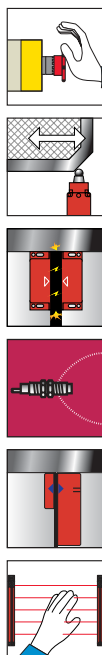
XPSUAT-3A3AC

XPSUAT-3A3AP

## Operating principle, main features, references

# Preventa XPS Universal Safety modules

Type **XPSUDN**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch or safety light curtain



### Operating principle

**XPSUDN** safety modules are used for monitoring:

- Emergency stop circuits conforming to standard ISO 13850
  - Switches activated by protection devices conforming to standard ISO 14119:
    - Mechanical guard switches
    - Magnetic switch with antivalent or 2 NC contacts
    - Proximity safety switch with antivalent contacts
    - PNP Sensor
    - RFID safety switch
  - Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function
- These functions are selected and the start function can be configured by selector switches on the front face.
  - A solid-state diagnostic output with complete status information facilitates maintenance.
  - To monitor a higher number of antivalent contacts using this safety module, the antivalent contacts can be connected with a NC in series and NO in parallel.
  - 16 LEDs on the front face provide information on the monitoring circuit status.

### Main features

Start input	Automatic, manual & monitored start
Safety inputs	6
Control outputs	7 ON/OFF configurable pulsed outputs
Safety outputs	3 NO + 1 NC
Diagnostic outputs	1 solid-state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	32
Module width	45 mm / 1.77 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

### References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
<b>Type XPSUDN</b> for monitoring	24 V ~/∞	Spring	<a href="#">XPSUDN13AC</a>	0.350/0.770
		Screw	<a href="#">XPSUDN13AP</a>	0.350/0.770
<ul style="list-style-type: none"> <li>- Emergency stop</li> <li>- Guard switch</li> <li>- Magnetic switch</li> <li>- Proximity safety switch</li> <li>- PNP sensor</li> <li>- RFID safety switch</li> <li>- Safety light curtain</li> </ul>	48-240 V ~/∞	Spring	<a href="#">XPSUDN33AC</a>	0.350/0.770
		Screw	<a href="#">XPSUDN33AP</a>	0.350/0.770



XPSUDN3AC



XPSUDN3AP

# Preventa XPS Universal

## Safety modules

**Type XPSUS**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch, Safety light curtain, Two-hand control station or Enabling switch

### Operating principle

**XPSUS** safety modules are designed to monitor two hand control stations IIIA or IIIC which must comply with International standard ISO 13851. The control stations must be designed and installed so that they cannot be activated involuntarily or easily rendered inoperative. Depending on the application, the requirements of type C standards specific to the machinery involved must be met (additional personal protection methods may have to be considered).

To initiate a dangerous movement, both operators (two-hand control pushbuttons) must be activated within an interval of 0.5 s (synchronous activation). If one of the two pushbuttons is released during a dangerous operation, the control sequence is cancelled. Resuming the dangerous operation is possible only if both pushbuttons are returned to their initial position and reactivated within the required time interval. The safety distance between the control units and the hazardous zone must be enough to ensure that when only one operator is released, the hazardous zone cannot be reached before the dangerous movement has been completed or stopped.

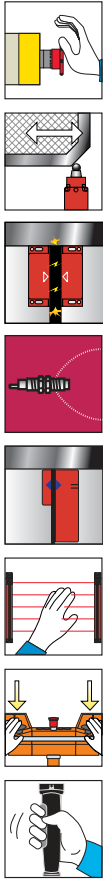
■ With automatic, manual & monitored start, **XPSUS** safety modules are used for monitoring:

- 2 Emergency stop circuits conforming to standard ISO 13850
- Switches activated by protection devices conforming to standard ISO 14119:
  - 2 mechanical guard switches
  - 2 magnetic switches with antivalent or 2 NC contacts
  - 2 proximity safety switches with antivalent contacts
  - 2 independent PNP sensors
  - 2 RFID safety switches

□ Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function

■ With automatic start only, **XPSUS** safety modules are used for monitoring one two-hand control IIIA, IIIC or enabling switch.

- These functions are selected and the start function can be configured by selector switches on the front face.
- A solid-state diagnostic output with complete status information facilitates maintenance.
- To monitor a higher number of antivalent contacts using these safety modules, the antivalent contacts can be connected with a NC in series and NO in parallel.
- 8 LEDs on the front face provide information on the monitoring circuit status.



### Selection

Requirements of standard ISO 13851		Type I	Type II	Type III		
				A	B	C
Standard ISO 13851 defines the selection of two-hand controls according to its behavior. This table details the 3 types of two-hand control conforming to ISO 13851. For each type, it lists the operating characteristics and minimum requirements.	Use of both hands (simultaneous action)					
	Link between input and output signals					
	Prevention of accidental operation					
	Tamper-proof					
	Output signal reinitialised					
	Synchronous action (specified time limit)					
	Use of proven components (Category 1 conforming to ISO 13849-1)			XPSUAB		
	Redundancy with partial error detection (Category 3 conforming to ISO 13849-1)				XPSUS	
	Redundancy + Self-monitoring (Category 4 conforming to ISO 13849-1)					XPSUS
	Two-hand control station	XY2SB●●	XY2SB●●	XY2SB●●	XY2SB●●	XY2SB●●

Conforming to ISO 13849-1

Conforming to ISO 13851

# Preventa XPS Universal Safety modules

Type **XPSUS**, for monitoring Emergency stop, Guard switch, Magnetic switch, Proximity safety switch, PNP sensor, RFID safety switch, Safety light curtain, Two-hand control station or Enabling switch

## Main features

Start input	Automatic, manual & monitored start
Safety inputs	2
Control outputs	3 ON/OFF configurable pulsed outputs
Safety outputs	2 NO
Diagnostic outputs	1 solid-state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	16
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
<b>Type XPSUS</b> for monitoring: - Emergency stop - Guard switch - Magnetic switch - Proximity safety switch - PNP sensor - RFID safety switch - Safety light curtain - Two-hand control station - Enabling switch	24 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUS12AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUS12AP</a>	0.200/0.440
	48-240 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUS32AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUS32AP</a>	0.200/0.440



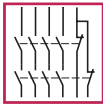
XPSUS12AC



XPSUS12AP

# Preventa XPS Universal Safety modules

Type **XPSUEP**, for extending the number of safety contacts



## Operating principle

**XPSUEP** safety modules are used for extending the number of safety output contacts of XPS Universal safety modules.

They are available as additions to base modules (Emergency stop, limit switch, two-hand control, etc.). When **XPSUAT** is the base module, its configuration is used to choose whether the XPSUEP's outputs follow XPSUAT's immediate or time delayed outputs.

- 3 LEDs on the front face provide information on the monitoring circuit status.

## Main features

Start input	Follows the host module
Safety inputs	0, Extension bus
Safety outputs	4 NO + 2 single NC
Connection	Connection to base module by connector
Diagnostic outputs	1 solid-state diagnostic output with complete status information
Connection type	Removable terminal blocks
Terminals	16
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> <li>■ PL e/Category 4 conforming to ISO 13849-1</li> <li>■ SILCL 3 conforming to IEC 62061</li> <li>■ SIL 3 conforming to IEC 61508</li> </ul>
Product certifications	<ul style="list-style-type: none"> <li>■ cULus</li> <li>■ TÜV</li> </ul>
Conformity to standards	<ul style="list-style-type: none"> <li>■ IEC 60947-5-1</li> <li>■ IEC 61508-1 (functional safety standard)</li> <li>■ IEC 61508-2 (functional safety standard)</li> <li>■ IEC 61508-3 (functional safety standard)</li> <li>■ ISO 13849-1 (functional safety standard)</li> <li>■ IEC 62061 (functional safety standard)</li> </ul>

## References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type <b>XPSUEP</b> For extending the number of safety contacts	24 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUEP14AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUEP14AP</a>	0.200/0.440
	48-240 V ~/∞	Spring 5.08/0.20	<a href="#">XPSUEP34AC</a>	0.200/0.440
		Screw 5.08/0.20	<a href="#">XPSUEP34AP</a>	0.200/0.440



XPSUEP-4AC



XPSUEP-4AP



XPSEC

### Presentation

**XPSEC** is a set of plastic coding elements for terminal blocks

### References

Description	Use for	Unit reference	Weight kg/lb
Terminal block coding bit	For coding the terminal block	<b>XPSEC</b> Sold in lot of 30	0.010/ 0.020

### Presentation

**XPSES** is a set of uniquely numbered sealing strips used to seal the transparent front cover flap of any XPS Universal module to prevent operator or maintenance to change the configuration.



XPSES

### References

Description	Use for	Unit reference	Weight kg/lb
Sealing strips	Preventa XPS Universal safety modules	<b>XPSES</b> Sold in lot of 10	0.030/ 0.066

# Preventa XPS Universal

## Safety modules

Substitution table

XPS Safety modules (end of commercialization)			XPS Universal safety modules (new)				
Reference	Quantity	Group	Reference	Quantity	Group	Comment	Additional comment
XPSAF5130	1	-	XPSUAF13AP	1	-	Direct replacement	-
XPSAF5130P	1	-	XPSUAF13AP	1	-	Direct replacement	-
XPSAFL5130	1	-	XPSUAF13AP	1	-	Direct replacement	-
XPSAFL5130P	1	-	XPSUAF13AP	1	-	Direct replacement	-
XPSAK311144	1	-	XPSUAK12AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK311144P	1	-	XPSUAK12AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK331144P	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK351144	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK351144P	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK361144	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK361144P	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK371144	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAK371144P	1	-	XPSUAK32AP	1	-	Direct replacement	XPSUAK have 1 NO less than XPSAK
XPSAR311144	1	Global group 1	XPSUAT13A3AP	1	1	OR	If max. 6 NO are used
XPSAR311144	1	Global group 1	XPSUAF13AP	1	1	AND	If all 7 NO are used
XPSAR311144	1	Global group 1	XPSUEP14AP	1	1		
XPSAR311144P	1	Global group 2	XPSUAT13A3AP	1	2	OR	If max. 6 NO are used
XPSAR311144P	1	Global group 2	XPSUAF13AP	1	2	AND	If all 7 NO are used
XPSAR311144P	1	Global group 2	XPSUEP14AP	1	2		
XPSAR351144	1	Global group 3	XPSUAT33A3AP	1	3	OR	If max. 6 NO are used
XPSAR351144	1	Global group 3	XPSUAF33AP	1	3	AND	If all 7 NO are used
XPSAR351144	1	Global group 3	XPSUEP14AP	1	3		
XPSAR351144P	1	Global group 4	XPSUAT33A3AP	1	4	OR	If max. 6 NO are used
XPSAR351144P	1	Global group 4	XPSUAF33AP	1	4	AND	If all 7 NO are used
XPSAR351144P	1	Global group 4	XPSUEP14AP	1	4		
XPSAR371144	1	Global group 5	XPSUAT33A3AP	1	5	OR	If max. 6 NO are used
XPSAR371144	1	Global group 5	XPSUAF33AP	1	5	AND	If all 7 NO are used
XPSAR371144	1	Global group 5	XPSUEP14AP	1	5		
XPSAR371144P	1	Global group 6	XPSUAT33A3AP	1	6	OR	If max. 6 NO are used
XPSAR371144P	1	Global group 6	XPSUAF33AP	1	6	AND	If all 7 NO are used
XPSAR371144P	1	Global group 6	XPSUEP14AP	1	6		
XPSATE3410	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSATE3410P	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSATE3710	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSATE3710P	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSATE5110	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSATE5110P	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSATR11530C	1	-	XPSUAT13A3AC	1	-	Direct replacement	-
XPSATR11530P	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSATR1153C	1	-	XPSUAT13A3AC	1	-	Direct replacement	-
XPSATR1153P	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSATR39530C	1	-	XPSUAT33A3AC	1	-	Direct replacement	-
XPSATR39530P	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSATR3953C	1	-	XPSUAT33A3AC	1	-	Direct replacement	-
XPSATR3953P	1	-	XPSUAT33A3AP	1	-	Direct replacement	-
XPSAV11113	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSAV11113P	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSAV11113T050	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSAV11113Z002	1	-	XPSUAT13A3AP	1	-	Direct replacement	-
XPSBAE3920C	1	-	XPSUAB31CC	1	-	Direct replacement	-
XPSBAE3920P	1	-	XPSUAB31CP	1	-	Direct replacement	-
XPSBAE5120C	1	-	XPSUAB11CC	1	-	Direct replacement	-
XPSBAE5120P	1	-	XPSUAB11CP	1	-	Direct replacement	-
XPSBCE3110C	1	-	XPSUS12AC	1	-	Direct replacement	-
XPSBCE3110P	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSBCE3410C	1	-	XPSUS32AC	1	-	Direct replacement	-
XPSBCE3410P	1	-	XPSUS32AP	1	-	Direct replacement	-
XPSBCE3710C	1	-	XPSUS32AC	1	-	Direct replacement	-
XPSBCE3710P	1	-	XPSUS32AP	1	-	Direct replacement	-
XPSBF1132	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSBF1132P	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSDMB1132	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSDMB1132P	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSDME1132	1	-	XPSUDN13AP	1	-	Direct replacement	-
XPSDME1132P	1	-	XPSUDN13AP	1	-	Direct replacement	-
XPSDME1132TS220	1	-	XPSUDN13AP	1	-	Direct replacement	-
XPSECM5120C	1	-	XPSUEP14AC	1	-	Indirect replacement	Only in combination with XPSU host
XPSECM5120P	1	-	XPSUEP14AP	1	-	Indirect replacement	Only in combination with XPSU host
XPSECM5131C	1	-	XPSUEP14AC	1	-	Indirect replacement	Only in combination with XPSU host
XPSECM5131P	1	-	XPSUEP14AP	1	-	Indirect replacement	Only in combination with XPSU host
XPSFB3411	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSFB3711	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSFB5111	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSVC1132	1	-	XPSUS12AP	1	-	Direct replacement	-
XPSVC1132P	1	-	XPSUS12AP	1	-	Direct replacement	-

X	
XPSUAB11CC	5
XPSUAB11CP	5
XPSUAB31CC	5
XPSUAB31CP	5
XPSUAF13AC	6
XPSUAF13AP	6
XPSUAF33AC	6
XPSUAF33AP	6
XPSUAK12AC	7
XPSUAK12AP	7
XPSUAK32AC	7
XPSUAK32AP	7
XPSUAT13A3AC	8
XPSUAT13A3AP	8
XPSUAT33A3AC	8
XPSUAT33A3AP	8
XPSUDN13AC	9
XPSUDN13AP	9
XPSUDN33AC	9
XPSUDN33AP	9
XPSUS12AC	11
XPSUS12AP	11
XPSUS32AC	11
XPSUS32AP	11
XPSUEP14AC	12
XPSUEP14AP	12
XPSUEP34AC	12
XPSUEP34AP	12
XPSEC	13
XPSES	13





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