



Harmony XPS

Basic & Universal Safety Modules



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References

Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

References	Number and type of channels	Input range	Output range	Resolution	Appl. terminal (internal product)	Reference	Weight (kg)
TM3A01	2 voltage/current inputs	-15...+15 VDC 0...25 mA A, 25 mA	15.00 V 0...25 mA A, 25 mA	15.00 V 15.00 A	15.00 V 15.00 A	TM3A01	0.110
TM3A02	4 voltage/current inputs	-15...+15 VDC 0...25 mA A, 25 mA	15.00 V 0...25 mA A, 25 mA	15.00 V 15.00 A	15.00 V 15.00 A	TM3A02	0.110
TM3A03	4 voltage/current inputs	-15...+15 VDC 0...25 mA A, 25 mA	15.00 V 0...25 mA A, 25 mA	15.00 V 15.00 A	15.00 V 15.00 A	TM3A03	0.110
TM3A04	4 differential temperature inputs	-15...+15 VDC 0...25 mA A, 25 mA	15.00 V 0...25 mA A, 25 mA	15.00 V 15.00 A	15.00 V 15.00 A	TM3A04	0.110

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
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TM3A12H

Modicon TM3, module 2 entrées ana haute résolution, -10.0-10V, 0.4-20mA, vis

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* Tarif HT France Janvier 2019, hors éco-contribution

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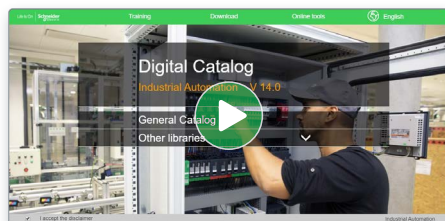
Principales

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General content

Harmony™ XPS

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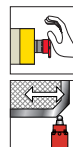
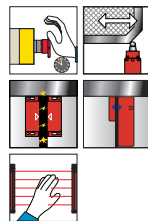
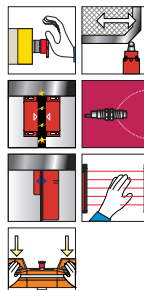
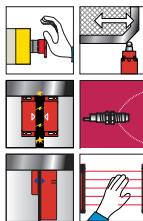
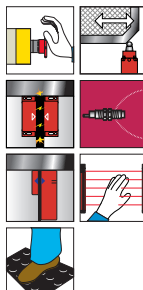
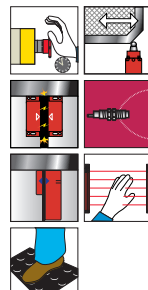
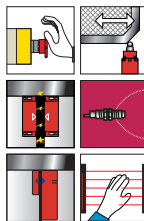
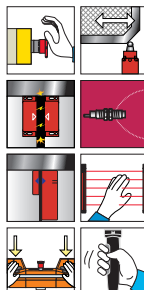

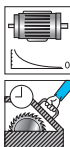










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












Safety module type		Basic safety modules with pre-defined safety function		Universal safety modules with pre-defined safety function, or Selectable safety functions via rotary selectors								
Safety functions												
		<ul style="list-style-type: none">- Emergency stop- Guard switch	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- RFID safety switch- Safety light curtain	<ul style="list-style-type: none">- Emergency stop- Antivalent contact- Guard switch- Magnetic switch- Proximity safety switch- PNP sensor- RFID safety switch- Safety light curtain- Two-hand control station	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- Proximity safety switch- PNP sensor- RFID safety switch- Safety light curtain	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- Proximity safety switch- PNP & NPN sensor- RFID safety switch- Safety light curtain- Sensing mat/edge	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- Proximity safety switch- PNP & NPN sensor- RFID safety switch- Safety light curtain- Sensing mat/edge	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- Proximity safety switch- PNP sensor- RFID safety switch- Safety light curtain	<ul style="list-style-type: none">- Emergency stop- Guard switch- Magnetic switch- Proximity safety switch- PNP sensor- RFID safety switch- Safety light curtain- Two-hand control station- Enabling switch	<ul style="list-style-type: none">- For Extending the number of safety contacts	<ul style="list-style-type: none">- Zero speed monitoring with delayed access to dangerous area	
												
Maximum achievable safety level		<ul style="list-style-type: none">■ PL e/Category 4 conforming to ISO 13849-1■ SILC L 3 conforming to IEC 62061■ SIL 3 conforming to IEC 61508		<ul style="list-style-type: none">■ PL c/Category 1 conforming to ISO 13849-1■ SILCL 1 conforming to IEC 62061■ SIL 1 conforming to IEC 61508		<ul style="list-style-type: none">■ PL e/Category 4 conforming to ISO 13849-1■ SILC L 3 conforming to IEC 62061■ SIL 3 conforming to IEC 61508					<ul style="list-style-type: none">■ PL e/Category 3 conforming to ISO 13849-1■ SILC L 3 conforming to IEC 62061■ SIL 3 conforming to IEC 61508	
Conformity to standards		<ul style="list-style-type: none">■ IEC 60947-5-1■ IEC 61508-1 (functional safety standard)■ IEC 61508-2 (functional safety standard)■ IEC 61508-3 (functional safety standard)■ ISO 13849-1 (functional safety standard)■ IEC 62061 (functional safety standard)										
Product certifications		<ul style="list-style-type: none">■ cULus■ TÜV■ EAC (in progress)■ CCC (in progress)■ KC marking (in progress)		<ul style="list-style-type: none">■ cULus■ TÜV■ EAC■ CCC■ KC marking							<ul style="list-style-type: none">■ cULus■ TÜV■ EAC (in progress)■ CCC (in progress)■ KC marking (in progress)	
Number of outputs		Safety immediate	4 NO	2 NO	1 single changeover output	3 NO	2 NO + 1 NC	3 NO	3 NO + 1 NC	2 NO	4 NO	-
		Safety delayed (time delay)	-	1 NO (configurable) 0...900 s	-	-	-	3 NO + 1 NC (configurable) 0...900 s	-	-	-	1 NO (configurable) 0,5...60 s
		Diagnostic	2 NC	1 solid state	1 pulsed solid state	1 pulsed solid state	1 pulsed solid state	1 pulsed solid state 1 solid state	1 pulsed solid state	1 pulsed solid state	2 NC	1 pulsed solid state 1 solid state
Display			5 LEDs	8 LEDs	6 LEDs	6 LEDs	6 LEDs	8 LEDs	16 LEDs	8 LEDs	3 LEDs	5 LEDs
Supply voltage			24 V AC/DC and 48-240 V AC/DC	24 V AC/DC	24 V AC/DC and 48-240 V AC/DC							
Synchronization time between inputs			Fixed	Fixed	Selectable	Selectable	Selectable	Selectable	Selectable	Selectable	-	Fixed
Number of inputs channels			2	2	2	2	2	3	12	4	-	3
Safety module type			XPSBAC	XPSBAT	XPSUAB	XPSUAF	XPSUAK	XPSUAT	XPSUDN	XPSUS	XPSUEP	XPSUVN
Page			5	6	7	9	10	11	12	13	15	16
Accessory type			XPSEC, XPSES									
Page			17		17							

Harmony XPS

Basic safety modules

Safety functions: selection of safety modules

This selection table indicates which safety module to select, according to the required safety functions.

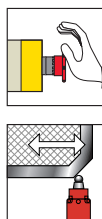
Safety functions			Safety modules		
			PL c/Category 1	PL e/Category 3	PL e/Category 4
			SILCL 1	SILCL 3	SILCL 3
			SIL 1	SIL 3	SIL 3
Emergency stop	Stop category 0		XPSUAB	-	XPSBAC XPSUAF XPSUAK XPSUDN XPSUS
	Stop category 0+1		-	-	XPSBAT XPSUAT
Control of access to hazardous zones	Interlocking guard with and without guard locking		XPSUAB	-	XPSBAC XPSBAT XPSUAF XPSUAK XPSUAT XPSUDN XPSUS
	Magnetic switch		XPSUAB	-	XPSBAT XPSUAF XPSUAK XPSUAT XPSUDN XPSUS
	RFID safety switch		XPSUAB	-	XPSBAT XPSUAF XPSUAK XPSUAT XPSUDN XPSUS
	Light curtains		XPSUAB	-	XPSBAT XPSUAF XPSUAK XPSUAT XPSUDN XPSUS
	Safety mats		-	-	XPSUAK XPSUAT
Starting and enabling of dangerous movements	Two-hand control station		XPSUAB	-	XPSUS
	Enabling switch (grip switch)		-	-	XPSUS
	Proximity safety switch		XPSUAB	-	XPSUAF XPSUAK XPSUAT XPSUDN XPSUS
Safety monitoring functions	Zero speed detection (remanent voltage)		-	XPSUVN	-
	Safety timer		-	XPSUVN	-
	Increasing the number of safety contacts (1)		-	-	XPSUEP

(1) More information in the [page 16](#).

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Basic safety modules

Type **XPSBAC** For E-stop and Guard switch



Operating principle

XPSBAC safety modules are used for monitoring Emergency stop circuits conforming to standards EN/ISO 13850 and EN/IEC 60204-1 and also meet the safety requirements for the electrical monitoring of switches in protective devices conforming to standard EN/ISO 14119.

■ They 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 a fault in the safety circuit itself.

■ **XPSBAC** module have 4 NO safety outputs and a serial or parallel hardwire configurable NC output for signalling to the PLC.

- The safety functions are fixed.
- To aid diagnostics, **XPSBAC** modules have a serial or parallel hardwire configurable NC output to provide information on the status of the zero speed detection circuit.
- 5 LEDs on the front face provide information on the monitoring circuit status.

Main features

Start inputs	Automatic, manual & monitored start
Safety inputs	-
Control outputs	1
Safety outputs	4 NO
Diagnostic outputs	2 NC
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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC (in progress) ■ CCC (in progress) ■ KC marking (in progress)
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

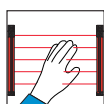
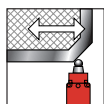
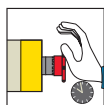
Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSBAC For monitoring E-stop and Guard switch	24 V ~/-	Spring 5.08/0.20	XPSBAC14AC	0.200 0.440
		Screw 5.08/0.20	XPSBAC14AP	0.200 0.440
	48-240 V ~/-	Spring 5.08/0.20	XPSBAC34AC	0.200 0.440
		Screw 5.08/0.20	XPSBAC34AP	0.200 0.440



Harmony XPS

Basic safety modules

Type **XPSBAT** for monitoring Emergency stop, Guard switch, Magnetic switch, RFID safety switch and Safety light curtain



Operating principle

XPSBAT safety modules are used for monitoring Emergency stop circuits conforming to standards EN/ISO 13850 and EN/IEC 60204-1 and also meet the safety requirements for the electrical monitoring of switches in protection devices conforming to standard EN/ISO 14119.

- They provide protective 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 a fault in the safety circuit itself.
 - In addition to the stop category 0 instantaneous opening safety outputs, the modules incorporate 1 stop category 1 time delay output which allows for controlled deceleration of the motor components until a complete stop is achieved (for example, motor braking by variable speed drive). At the end of the preset delay, the supply is disconnected by opening the time delay output circuits.
 - The time delay of the 3 output circuits is adjustable between 0 and 15 min (900 s),
- The safety functions and the time delay are selectable and can be configured by selector switches on the front face, while the start function can be wiring configured.
 - The Start button monitoring function is configurable depending on the wiring.
 - 8 LEDs on the front face provide information on the monitoring circuit status, and aid diagnostics.

Main features

Start inputs	Automatic, manual & monitored start
Safety inputs	2
Control outputs	3
Safety outputs	2 NO immediate, 1 NO (configurable) 0...900 s
Diagnostic outputs	1
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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC (in progress) ■ CCC (in progress) ■ KC marking (in progress)
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Number of safety circuits	Setting range of time delay	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSBAT for monitoring: - Emergency stop - Guard switch - Magnetic switch - RFID safety switch - Safety light curtain	3 NO (1 NO time delay)	0...900 s	24 V ~/DC	Spring 5.08/0.20	XPSBAT12A1AC	0.200 0.440
				Screw 5.08/0.20	XPSBAT12A1AP	0.200 0.440

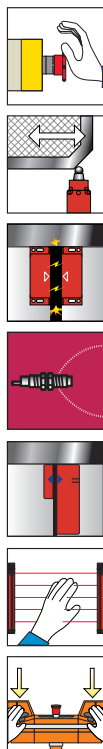


XPSBAT12A1AC



XPSBAT12A1AP

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



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 contact pair
 - Mechanical guard switch
 - Magnetic switch with Antivalent contact
 - Proximity safety switch with Antivalent contact
 - 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.

- The safety functions and the start function are selectable and 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, and aid diagnostics.

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 (1)				

Conforming to ISO 13849-1

Conforming to ISO 13851

(1) Please consult "Two-hand ergonomic control stations XY2SB" Catalog.

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Universal safety modules

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

Main features

Start inputs	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
Terminals	16
Module width	22.5 mm/0.886 in.
Maximum achievable safety level	<ul style="list-style-type: none"> ■ PL c/Category 1 conforming to ISO 13849-1 ■ SILCL 1 conforming to IEC 62061 ■ SIL 1 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUAB for monitoring:	24 V ~/—	Spring 5.08/0.20	XPSUAB11CC	0.200 0.440
- Emergency stop				
- Antivalent contact				
- Guard switch		Screw 5.08/0.20	XPSUAB11CP	0.200 0.440
- Magnetic switch				
- Proximity safety switch				
- PNP sensor				
- RFID safety switch				
- Safety light curtain	48-240 V ~/—	Spring 5.08/0.20	XPSUAB31CC	0.200 0.440
- Two-hand control station				
		Screw 5.08/0.20	XPSUAB31CP	0.200 0.440



XPSUAB11CC

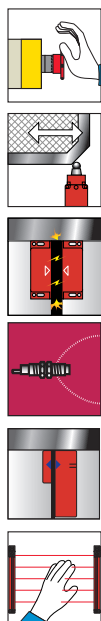


XPSUAB11CP

Harmony 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 contact
 - PNP sensor
 - RFID safety switch
- Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function

- The safety functions and the start function are selectable and 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 contact 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, and aid diagnostics.

Main features

Start inputs	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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILC L 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUAF 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	XPSUAF13AC	0.200 0.440
		Screw 5.08/0.20	XPSUAF13AP	0.200 0.440
	48-240 V ~/-	Spring 5.08/0.20	XPSUAF33AC	0.200 0.440
		Screw 5.08/0.20	XPSUAF33AP	0.200 0.440



XPSUAF13AC

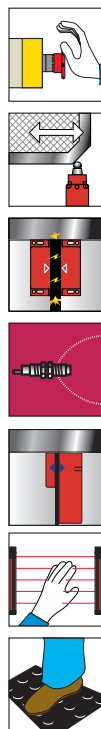


XPSUAF33AP

Harmony 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/edge



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 contact
 - 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

- The safety functions and the start function are selectable and 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 contact 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, and aid diagnostics.

Main features

Start inputs	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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILC L 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUAK for monitoring:	24 V ~/—	Spring 5.08/0.20	XPSUAK12AC	0.200 0.440
		Screw 5.08/0.20	XPSUAK12AP	0.200 0.440
	48-240 V ~/—	Spring 5.08/0.20	XPSUAK32AC	0.200 0.440
		Screw 5.08/0.20	XPSUAK32AP	0.200 0.440



XPSUAK12AC

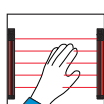
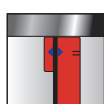
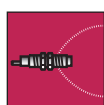
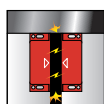
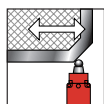
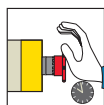


XPSUAK32AP

Harmony 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/edge



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 contact
 - 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 s to 15 min (900 s) can be selected by selector switches on the front face.
- The safety functions and the start function are selectable and 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 contact 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, and aid diagnostics.

Main features

Start inputs	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"> ■ 1 solid state diagnostic output for time delay ending ■ 1 solid state diagnostic output with complete status information
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	27
Module width	45 mm/1.77 in.
Time delay setting	0 s to 15 min. The delay is configured with the delay base selector and the delay factor selector
Maximum achievable safety level	<ul style="list-style-type: none"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Setting range of Voltage		Terminals	References	Weight
	time delay		mm/in.		kg/lb
Type XPSUAT for monitoring <div><div>- Emergency stop</div><div>- Guard switch</div><div>- Magnetic switch</div><div>- Proximity safety switch</div><div>- PNP & NPN sensor</div><div>- RFID safety switch</div><div>- Safety light curtain</div><div>- Sensing mat/edge</div></div>	0...900 s	24 V ~/∞	Spring	XPSUAT13A3AC	0.350
			5.08/0.20		0.770
	48-240 V ~/∞	Screw	5.08/0.20	XPSUAT13A3AP	0.350
			0.770		
		Spring	5.08/0.20	XPSUAT33A3AC	0.350
			0.770		
	Screw	5.08/0.20	XPSUAT33A3AP	0.350	
		0.770			



XPSUAT13A3AC

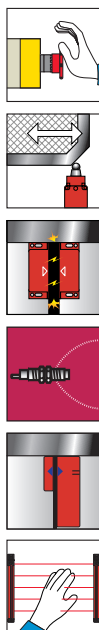


XPSUAT13A3AP

Harmony 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 contact
 - PNP Sensor
 - RFID safety switch
- Type 4 light curtains conforming to IEC 61496-1 having solid-state safety outputs with test function

- The safety functions and the start function are selectable and 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 contact 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, and aid diagnostics.

Main features

Start inputs	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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUDN for monitoring	24 V ~/-	Spring 5.08/0.20	XPSUDN13AC	0.350 0.770
		Screw 5.08/0.20	XPSUDN13AP	0.350 0.770
	48-240 V ~/-	Spring 5.08/0.20	XPSUDN33AC	0.350 0.770
		Screw 5.08/0.20	XPSUDN33AP	0.350 0.770



XPSUDN33AC

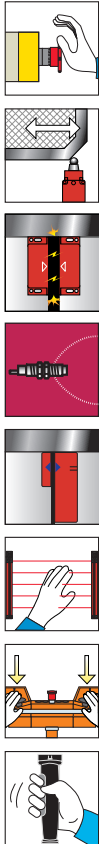


XPSUDN33AP

Harmony 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 contact or 2 NC contacts
 - 2 proximity safety switches with Antivalent contact
 - 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.

- The safety functions and the start function are selectable and 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 contact 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, and aid diagnostics.

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 (1)				

Conforming to ISO 13849-1

Conforming to ISO 13851

(1) Please consult ["Two-hand ergonomic control stations XY2SB" Catalog](#).

Harmony 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 inputs	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	<div><div></div>■ PL e/Category 4 conforming to ISO 13849-1</div> <div><div></div>■ SILCL 3 conforming to IEC 62061</div> <div><div></div>■ SIL 3 conforming to IEC 61508</div>
Product certifications	<div><div></div>■ cULus</div> <div><div></div>■ TÜV</div> <div><div></div>■ EAC</div> <div><div></div>■ CCC</div> <div><div></div>■ KC marking</div>
Conformity to standards	<div><div></div>■ IEC 60947-5-1</div> <div><div></div>■ IEC 61508-1 (functional safety standard)</div> <div><div></div>■ IEC 61508-2 (functional safety standard)</div> <div><div></div>■ IEC 61508-3 (functional safety standard)</div> <div><div></div>■ ISO 13849-1 (functional safety standard)</div> <div><div></div>■ IEC 62061 (functional safety standard)</div>

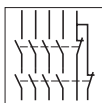
References				
Description	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUS for monitoring: - Emergency stop - Guard switch - Magnetic switch - Proximity safety switch - PNP sensor - RFID safety switch - Safety light curtain - Two-hand control station - Enabling switch	24 V ~/—	Spring 5.08/0.20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



XPSUS12AC



XPSUS12AP



Operating principle

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

XPSUEP are available as additions to base modules (Emergency stop, limit switch, two-hand control, etc.).

XPSUEP can be only used with **XPSUAF**, **XPSUAK**, **XPSUAT**, **XPSUDN** and **XPSUS** safety modules. When **XPSUAT** is the base module for instance, 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, and aid diagnostics.

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"> ■ PL e/Category 4 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC ■ CCC ■ KC marking
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Compatible with	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUEP For Extending the number of safety contacts	XPSUAF XPSUAK XPSUAT XPSUDN XPSUS	24 V ~/ \square	Spring 5.08/0.20	XPSUEP14AC	0.200 0.440
			Screw 5.08/0.20	XPSUEP14AP	0.200 0.440
			Spring 5.08/0.20	XPSUEP34AC	0.200 0.440
			Screw 5.08/0.20	XPSUEP34AP	0.200 0.440
		48-240 V ~/ \square	Spring 5.08/0.20	XPSUEP34AC	0.200 0.440
			Screw 5.08/0.20	XPSUEP34AP	0.200 0.440



XPSUEP-4AC

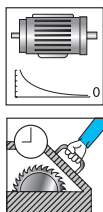


XPSUEP-4AP

Harmony XPS

Universal safety modules

Type **XPSUVN**, for Zero speed monitoring with delayed access to dangerous area



Operating principle

XPSUVN is a safety module for interruption of safety-related electrical circuits. **XPSUVN** provides for sensorless standstill monitoring of a motor, and measures the residual voltage that is generated by remanent magnetization after power to the motor is removed and while it coasts down. The voltage is measured via an analog voltage measuring input to determine when standstill has actually been reached. This can be used to implement a safety related function such as controlling an interlocking device with guard locking.

The following types of motors which generate a measurable residual voltage when coasting down after power supply has been removed can be connected to the safety-related input of the device:

- ☐ Three-phase AC motors
- ☐ Single-phase AC motors
- ☐ DC motors
- ☐ Three-phase AC motors with star-delta wiring

XPSUVN safety module can monitor motors that are operated via mains as well as motors that are controlled by electronic motor control equipment such as frequency inverters.

In addition, **XPSUVN** safety module uses an adjustable activation delay. The activation delay is the period between the point in time at which the measured voltage drops below the adjusted voltage threshold and the point in time at which activation of the safety-related outputs is triggered;

- The Voltage threshold and the Activation delay can be configured by selector switches on front face.
- To aid diagnostics, **XPSUVN** modules have 2 solid-state outputs to provide information on the status of the zero speed detection circuit
- 5 LEDs on the front face provide information on the monitoring circuit status, and aid diagnostics.

Main features

Start input	Automatic
Safety inputs	3
Control outputs	-
Safety outputs	1 NO (configurable) 0,5...60 s
Diagnostic outputs	2
Connection type	Removable terminal blocks
Safe expansion connection	Yes
Terminals	16
Module width	22.5 mm/0.886 in.
Time delay setting	0.5 s, 1 s, 2 s, 3 s, 5 s, 8 s, 12 s, 20 s, 35 s, 60 s
Voltage threshold selector:	50...500 mV
Maximum achievable safety level	<ul style="list-style-type: none"> ■ PL e/Category 3 conforming to ISO 13849-1 ■ SILCL 3 conforming to IEC 62061 ■ SIL 3 conforming to IEC 61508
Product certifications	<ul style="list-style-type: none"> ■ cULus ■ TÜV ■ EAC (in progress) ■ CCC (in progress) ■ KC marking (in progress)
Conformity to standards	<ul style="list-style-type: none"> ■ IEC 60947-5-1 ■ IEC 61508-1 (functional safety standard) ■ IEC 61508-2 (functional safety standard) ■ IEC 61508-3 (functional safety standard) ■ ISO 13849-1 (functional safety standard) ■ IEC 62061 (functional safety standard)

References

Description	Setting range of time delay	Voltage	Terminals mm/in.	References	Weight kg/lb
Type XPSUVN For zero speed monitoring with delayed access to dangerous area	0.5...60 s	24 V ~/—	Spring 5.08/0.20	XPSUVN11AC	0.200 0.440
			Screw 5.08/0.20	XPSUVN11AP	0.200 0.440
		48-240 V ~/—	Spring 5.08/0.20	XPSUVN31AC	0.200 0.440
			Screw 5.08/0.20	XPSUVN31AP	0.200 0.440



XPSUVN-1AC



XPSUVN-1AP



XPSEC



XPSES

Presentation

XPSEC is a set of plastic coding elements for terminal blocks

References

Description	Use for	Unit reference	Weight kg//b
Terminal block coding bit	XPS Basic & Universal Safety Modules	XPSEC 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 and Basic safety module to prevent operator or maintenance to change the configuration.

References

Description	Use for	Unit reference	Weight kg//b
Sealing strips	XPS Basic & Universal Safety Modules	XPSES Sold in lot of 10	0.030/ 0.066

Preventa XPS Safety modules (end of commercialization)		Harmony XPS Basic safety modules (new)		
Reference		Reference	Comment	Additional comment
XPSABV11330C	1.5...30 sec delay, only potential free inputs	XPSBAT12A1AC	-	Direct replacement
XPSABV11330P		XPSBAT12A1AP	-	Direct replacement
XPSABV1133C	0.15...3 sec delay, only potential free inputs	XPSBAT12A1AC	-	Direct replacement
XPSABV1133P		XPSBAT12A1AP	-	Direct replacement
XPSAC1321	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC1321P	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC3421	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC3421P	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC3721	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC3721P	3 NO output	XPSBAC34AP	-	Direct replacement
XPSAC5121	3 NO output	XPSBAC14AP	-	Direct replacement
XPSAC5121P	3 NO output	XPSBAC14AP	-	Direct replacement
XPSAXE5120C	3 NO + 1 NC output	XPSBAC14AC	-	Direct replacement
XPSAXE5120P	3 NO + 1 NC output	XPSBAC14AP	-	Direct replacement
XPSAFL5130	-	XPSUAF13AP	-	-
XPSAFL5130P	-	XPSUAF13AP	-	-
XPSAK311144	-	XPSUAK12AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK311144P	-	XPSUAK12AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK331144P	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK351144	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK351144P	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK361144	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK361144P	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK371144	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAK371144P	-	XPSUAK32AP	-	XPSUAK have 1 NO less than XPSAK
XPSAR311144	Global group 1	XPSUAT13A3AP	1	OR
XPSAR311144	Global group 1	XPSUAF13AP	1	AND
XPSAR311144	Global group 1	XPSUEP14AP	1	
XPSAR311144P	Global group 2	XPSUAT13A3AP	2	OR
XPSAR311144P	Global group 2	XPSUAF13AP	2	AND
XPSAR311144P	Global group 2	XPSUEP14AP	2	
XPSAR351144	Global group 3	XPSUAT33A3AP	3	OR
XPSAR351144	Global group 3	XPSUAF33AP	3	AND
XPSAR351144	Global group 3	XPSUEP14AP	3	
XPSAR351144P	Global group 4	XPSUAT33A3AP	4	OR
XPSAR351144P	Global group 4	XPSUAF33AP	4	AND
XPSAR351144P	Global group 4	XPSUEP14AP	4	
XPSAR371144	Global group 5	XPSUAT33A3AP	5	OR
XPSAR371144	Global group 5	XPSUAF33AP	5	AND
XPSAR371144	Global group 5	XPSUEP14AP	5	
XPSAR371144P	Global group 6	XPSUAT33A3AP	6	OR
XPSAR371144P	Global group 6	XPSUAF33AP	6	AND
XPSAR371144P	Global group 6	XPSUEP14AP	6	

Preventa XPS Safety modules (end of commercialization)		Harmony XPS Universal safety modules (new)			
Reference		Reference	Group	Comment	Additional comment
XPSATE3410		XPSUAT33A3AP	-	Direct replacement	-
XPSATE3410P		XPSUAT33A3AP	-	Direct replacement	-
XPSATE3710		XPSUAT33A3AP	-	Direct replacement	-
XPSATE3710P		XPSUAT33A3AP	-	Direct replacement	-
XPSATE5110		XPSUAT13A3AP	-	Direct replacement	-
XPSATE5110P		XPSUAT13A3AP	-	Direct replacement	-
XPSATR11530C		XPSUAT13A3AC	-	Direct replacement	-
XPSATR11530P		XPSUAT13A3AP	-	Direct replacement	-
XPSATR1153C		XPSUAT13A3AC	-	Direct replacement	-
XPSATR1153P		XPSUAT13A3AP	-	Direct replacement	-
XPSATR39530C		XPSUAT33A3AC	-	Direct replacement	-
XPSATR39530P		XPSUAT33A3AP	-	Direct replacement	-
XPSATR3953C		XPSUAT33A3AC	-	Direct replacement	-
XPSATR3953P		XPSUAT33A3AP	-	Direct replacement	-
XPSAV11113		XPSUAT13A3AP	-	Direct replacement	-
XPSAV11113P		XPSUAT13A3AP	-	Direct replacement	-
XPSAV11113T050		XPSUAT13A3AP	-	Direct replacement	-
XPSAV11113Z002		XPSUAT13A3AP	-	Direct replacement	-
XPSBAE3920C		XPSUAB31CC	-	Direct replacement	-
XPSBAE3920P		XPSUAB31CP	-	Direct replacement	-
XPSBAE5120C		XPSUAB11CC	-	Direct replacement	-
XPSBAE5120P		XPSUAB11CP	-	Direct replacement	-
XPSBCE3110C		XPSUS12AC	-	Direct replacement	-
XPSBCE3110P		XPSUS12AP	-	Direct replacement	-
XPSBCE3410C		XPSUS32AC	-	Direct replacement	-
XPSBCE3410P		XPSUS32AP	-	Direct replacement	-
XPSBCE3710C		XPSUS32AC	-	Direct replacement	-
XPSBCE3710P		XPSUS32AP	-	Direct replacement	-
XPSBF1132		XPSUS12AP	-	Direct replacement	-
XPSBF1132P		XPSUS12AP	-	Direct replacement	-
XPSDMB1132		XPSUS12AP	-	Direct replacement	-
XPSDMB1132P		XPSUS12AP	-	Direct replacement	-
XPSDME1132		XPSUDN13AP	-	Direct replacement	-
XPSDME1132P		XPSUDN13AP	-	Direct replacement	-
XPSDME1132TS220		XPSUDN13AP	-	Direct replacement	-
XPSECME5120C		XPSUEP14AC	-	Indirect replacement	Only in combination with XPSU host
XPSECME5120P		XPSUEP14AP	-	Indirect replacement	Only in combination with XPSU host
XPSECME5131C		XPSUEP14AC	-	Indirect replacement	Only in combination with XPSU host
XPSECME5131P		XPSUEP14AP	-	Indirect replacement	Only in combination with XPSU host
XPSVC1132		XPSUS12AP	-	Direct replacement	-
XPSVC1132P		XPSUS12AP	-	Direct replacement	-
XPSVNE1142HSP	No time delay included (must be implemented with another device) + 3 variants for different supply voltages + 3 variants for different frequency ranges	XPSUVN11AP	-	Time delay included + 2 variants for different supply voltages, no variants for different frequency ranges	
XPSVNE1142LFP		XPSUVN11AP	-		
XPSVNE1142P		XPSUVN11AP	-		
XPSVNE3442HSP		XPSUVN31AP	-		
XPSVNE3442LFP		XPSUVN31AP	-		
XPSVNE3442P		XPSUVN31AP	-		
XPSVNE3742HSP		XPSUVN31AP	-		
XPSVNE3742P		XPSUVN31AP	-		

X		XPSBAT12A1AP	6	XPSUS32AP	14
XPSABV1133C	18		18		19
XPSABV1133P	18	XPSBCE3110C	19	XPSUVN11AC	16
XPSABV11330C	18	XPSBCE3110P	19	XPSUVN11AP	16
XPSABV11330P	18	XPSBCE3410C	19		19
XPSAC1321	18	XPSBCE3410P	19	XPSUVN31AC	16
XPSAC1321P	18	XPSBCE3710C	19	XPSUVN31AP	16
XPSAC3421	18	XPSBCE3710P	19		19
XPSAC3421P	18	XPSBF1132	19	XPSVC1132	19
XPSAC3721	18	XPSBF1132P	19	XPSVC1132P	19
XPSAC3721P	18	XPSDMB1132	19	XPSVNE1142HSP	19
XPSAC5121	18	XPSDMB1132P	19	XPSVNE1142LFP	19
XPSAC5121P	18	XPSDME1132	19	XPSVNE1142P	19
XPSAFL5130	18	XPSDME1132P	19	XPSVNE3442HSP	19
XPSAFL5130P	18	XPSDME1132TS220	19	XPSVNE3442LFP	19
XPSAK311144	18	XPSEC	17	XPSVNE3442P	19
XPSAK311144P	18	XPSECME5120C	19	XPSVNE3742HSP	19
XPSAK331144P	18	XPSECME5120P	19	XPSVNE3742P	19
XPSAK351144	18	XPSECME5131C	19		
XPSAK351144P	18	XPSECME5131P	19		
XPSAK361144	18	XPSSES	17		
XPSAK361144P	18	XPSUAB11CC	8		
XPSAK371144	18		19		
XPSAK371144P	18	XPSUAB11CP	8		
XPSAR311144	18		19		
XPSAR311144P	18	XPSUAB31CC	8		
XPSAR351144	18		19		
XPSAR351144P	18	XPSUAB31CP	8		
XPSAR371144	18		19		
XPSAR371144P	18	XPSUAF13AC	9		
XPSATE3410	19	XPSUAF13AP	9		
XPSATE3410P	19		18		
XPSATE3710	19	XPSUAF33AC	9		
XPSATE3710P	19	XPSUAF33AP	9		
XPSATE5110	19		18		
XPSATE5110P	19	XPSUAK12AC	10		
XPSATR1153C	19	XPSUAK12AP	10		
XPSATR1153P	19		18		
XPSATR3953C	19	XPSUAK32AC	10		
XPSATR3953P	19	XPSUAK32AP	10		
XPSATR11530C	19		18		
XPSATR11530P	19	XPSUAT13A3AC	11		
XPSATR39530C	19		19		
XPSATR39530P	19	XPSUAT13A3AP	11		
XPSAV11113	19		18		
XPSAV11113P	19		19		
XPSAV11113T050	19				
XPSAV11113Z002	19	XPSUDN13AC	12		
XPSAXE5120C	18	XPSUDN13AP	12		
XPSAXE5120P	18		19		
XPSBAC14AC	5	XPSUDN33AC	12		
	18	XPSUDN33AP	12		
XPSBAC14AP	5	XPSUEP14AC	15		
	18		19		
XPSBAC34AC	5	XPSUEP14AP	15		
XPSBAC34AP	5		18		
	18		19		
XPSBAE3920C	19	XPSUEP34AC	15		
XPSBAE3920P	19	XPSUEP34AP	15		
XPSBAE5120C	19	XPSUS12AC	14		
XPSBAE5120P	19		19		
XPSBAT12A1AC	6	XPSUS12AP	14		
	18		19		
		XPSUS32AC	14		
			19		