

# Product data sheet

Specifications



safety module, Harmony XPS, time delayed output, for Estop, guard, OSSD, 24V AC or DC, screw

XPSBAT12A1AP

## Main

Range of product	Harmony Safety Automation
Product or component type	Safety module
Safety module name	XPSBAT
Safety module application	For emergency stop and protective guard applications For OSSD monitoring
Function of module	Emergency stop button with 2 NC contacts Guard monitoring with 1 or 2 limit switches Light curtain monitoring RFID switch Monitoring of electro-sensitive protection equipment (ESPE)
Safety level	Can reach PL e/category 4 for normally open relay contact ISO 13849-1 Can reach SILCL 3 for normally open relay contact IEC 62061 Can reach SIL 3 for normally open relay contact IEC 61508 Can reach PL c/category 1 for normally closed relay contact ISO 13849-1 Can reach SILCL 1 for normally closed relay contact IEC 62061 Can reach SIL 1 for normally closed relay contact IEC 61508
Safety reliability data	MTTFd > 30 years ISO 13849-1 Dcavg >= 99 % ISO 13849-1 PFHd = 0.98E-09 for SS0 ISO 13849-1 PFHd = 0.96E-09 for SS1 ISO 13849-1 HFT = 1 IEC 62061 PFHd = 0.98E-09 for SS0 IEC 62061 PFHd = 0.96E-09 for SS1 IEC 62061 SFF > 99% IEC 62061 HFT = 1 IEC 61508-1 PFHd = 0.98E-09 for SS0 IEC 61508-1 PFHd = 0.96E-09 for SS1 IEC 61508-1 SFF > 99% IEC 61508-1 Type = B IEC 61508-1
Electrical circuit type	NC pair OSSD pair
Connections - terminals	Removable screw terminal block, 0.2...2.5 mm <sup>2</sup> solid or flexible Removable screw terminal block, 0.25...2.5 mm <sup>2</sup> flexible with ferrule single conductor Removable screw terminal block, 0.2...1.5 mm <sup>2</sup> solid or flexible twin conductor Removable screw terminal block, 2 x 0.25...1 mm <sup>2</sup> flexible with ferrule without cable end, with bezel Removable screw terminal block, 2 x 0.5...1.5 mm <sup>2</sup> flexible with ferrule with cable end, with bezel
[Us] rated supply voltage	24 V AC - 15...10 % 24 V DC - 20...20 %

## Complementary

Synchronisation time between inputs	0.5 s 2 s
Type of start	Automatic/manual/monitored
Power consumption in W	2 W 24 V DC
Power consumption in VA	5 VA 24 V AC 50/60 Hz

<b>Input protection type</b>	Internal, electronic
<b>Safety outputs</b>	2 NO immediate 1 NO configurable
<b>Safety inputs</b>	2 positive safety input 24 V DC 5 mA
<b>Maximum wire resistance</b>	500 Ohm
<b>Time delay range</b>	0...900 s off
<b>Input compatibility</b>	Normally closed circuit ISO 14119 Mechanical contact ISO 14119 OSSD pair IEC 61496-1-2 Normally closed circuit ISO 13850 3-wire proximity sensors PNP
<b>[Ie] rated operational current</b>	5 A AC-1 for normally open relay contact 3 A AC-15 for normally open relay contact 5 A DC-1 for normally open relay contact 3 A DC-13 for normally open relay contact
<b>Control outputs</b>	3 on/off configurable pulsed output
<b>Input/Output type</b>	Semiconductor output 24 V DC, 20 mA Z1, not safety-related
<b>[Ith] conventional free air thermal current</b>	12 A
<b>Associated fuse rating</b>	6 A gG NO relay output circuit IEC 60947-1
<b>Minimum output current</b>	20 mA relay output
<b>Minimum output voltage</b>	24 V relay output
<b>Maximum response time on input open</b>	20 ms
<b>[Ui] rated insulation voltage</b>	250 V 2)EN/IEC 60947-1
<b>[Uimp] rated impulse withstand voltage</b>	4 kV II EN/IEC 60947-1
<b>Local signalling</b>	LED green power power ON LED red error error LED yellow state 1 safety output instantaneous LED yellow state 2 safety output delayed LED yellow start 1 start LED yellow start 2 start LED yellow S12 safety input S12 LED yellow S22 safety input S22
<b>Mounting support</b>	35 mm symmetrical DIN rail
<b>Depth</b>	4.72 in (120 mm)
<b>Height</b>	3.94 in (100 mm)
<b>Width</b>	0.89 in (22.5 mm)
<b>Product weight</b>	0.77 lb(US) (0.350 kg)

## Environment

<b>Standards</b>	IEC 60947-5-1 IEC 61508-1 functional safety standard IEC 61508-2 functional safety standard IEC 61508-3 functional safety standard IEC 61508-4 functional safety standard IEC 61508-5 functional safety standard IEC 61508-6 functional safety standard IEC 61508-7 functional safety standard ISO 13849-1 functional safety standard IEC 62061 functional safety standard
<b>Product certifications</b>	TÜV cULus
<b>IP degree of protection</b>	IP20 terminals)EN/IEC 60529 IP40 housing)EN/IEC 60529 IP54 mounting area)EN/IEC 60529
<b>Ambient air temperature for operation</b>	-13...131 °F (-25...55 °C)

---

<b>Ambient air temperature for storage</b>	-13...185 °F (-25...85 °C)
--	----------------------------

---

<b>Relative humidity</b>	5...95 % non-condensing
--------------------------	-------------------------

---

## Packing Units

---

<b>Unit Type of Package 1</b>	PCE
-------------------------------	-----

---

<b>Number of Units in Package 1</b>	1
-------------------------------------	---

---

<b>Package 1 Height</b>	2.68 in (6.8 cm)
-------------------------	------------------

---

<b>Package 1 Width</b>	5.43 in (13.8 cm)
------------------------	-------------------

---

<b>Package 1 Length</b>	6.10 in (15.5 cm)
-------------------------	-------------------

---

<b>Package 1 Weight</b>	10.12 oz (287.0 g)
-------------------------	--------------------

---

<b>Unit Type of Package 2</b>	S03
-------------------------------	-----

---

<b>Number of Units in Package 2</b>	16
-------------------------------------	----

---

<b>Package 2 Height</b>	11.81 in (30 cm)
-------------------------	------------------

---

<b>Package 2 Width</b>	11.81 in (30 cm)
------------------------	------------------

---

<b>Package 2 Length</b>	15.75 in (40 cm)
-------------------------	------------------

---

<b>Package 2 Weight</b>	11.71 lb(US) (5.312 kg)
-------------------------	-------------------------

---

## Offer Sustainability

---

<b>Sustainable offer status</b>	Green Premium product
---------------------------------	-----------------------

---

<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
-------------------------	-----------------------------------

---

<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
--------------------------	---

---

<b>Mercury free</b>	Yes
---------------------	-----

---

<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
------------------------------	--

---

<b>RoHS exemption information</b>	<a href="#">Yes</a>
-----------------------------------	---------------------

---

<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
---------------------------------	---

---

<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
----------------------------	---

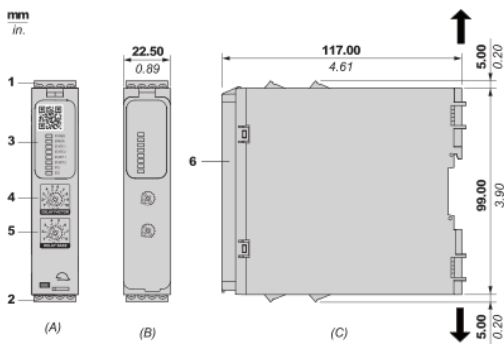
---

<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
-------------	---






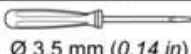

---

**Dimensions**

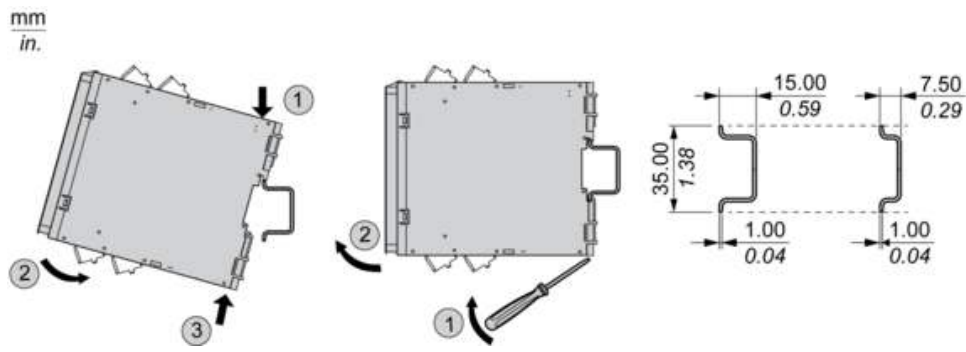
**Front and Side Views**



- (A) : Product drawing
- (B) : Screw clamp terminal
- (C) : Side view
- (1) : Removable terminal blocks, top
- (2) : Removable terminal blocks, bottom
- (3) : LED indicators
- (4) : Delay factor selector
- (5) : Delay base selector
- (6) : Sealable transparent cover

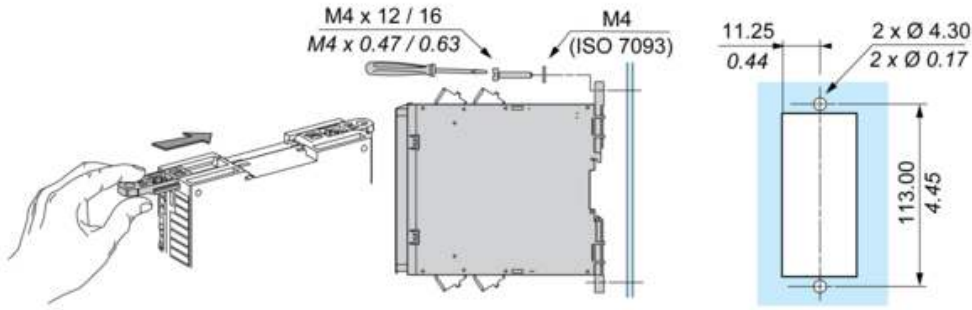
mm in.	7.0–8.0 0.28–0.31					
mm <sup>2</sup>	0.2... 2.5	0.25...2.5	0.2... 1.5	0.25...1	0.5...1.5	
AWG	24... 12	24...12	24...16	24...18	20...16	
 Ø 3,5 mm (0.14 in)					Nm	0.5... 0.6
					lb-in	4.4... 5.3

Mounting to DIN rail



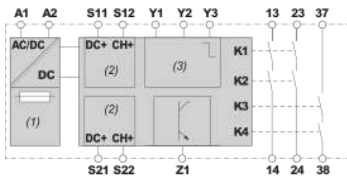
Screw-mounting

mm  
in.



**Wiring Diagram**

---



(1) : A1-A2 (Power supply)

(2) : S11–S21 (Control outputs (DC+) of safety-related inputs), S12-S22 (Input channels (CH+) of safety-related inputs)

(3) : Y1 (Control output of Start/Restart input), Y2 (Input channel for automatic/manual start), Y3 (Input channel for monitored start with falling edge)

13-14-23-24 : Terminals of the safety-related outputs (instantaneous)

37-38 : Terminals of the safety-related outputs (delayed)

Z1 : Solid state output, not safety-related

**Recommended replacement(s)**