

# XPSBAT12A1AP

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



## 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<br>For OSSD monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Function of module        | Emergency stop button with 2 NC contacts<br>Guard monitoring with 1 or 2 limit switches<br>Light curtain monitoring<br>RFID switch<br>Monitoring of electro-sensitive protection equipment (ESPE)                                                                                                                                                                                                                                                                                                                                                                                                         |
| Safety level              | Can reach PL e/category 4 for normally open relay contact conforming to ISO 13849-1<br>Can reach SILCL 3 for normally open relay contact conforming to IEC 62061<br>Can reach SIL 3 for normally open relay contact conforming to IEC 61508<br>Can reach PL c/category 1 for normally closed relay contact conforming to ISO 13849-1<br>Can reach SILCL 1 for normally closed relay contact conforming to IEC 62061<br>Can reach SIL 1 for normally closed relay contact conforming to IEC 61508                                                                                                          |
| Safety reliability data   | MTTFd > 30 years conforming to ISO 13849-1<br>Dcavg >= 99 % conforming to ISO 13849-1<br>PFHd = 0.98E-09 conforming to ISO 13849-1 for SS0<br>PFHd = 0.96E-09 conforming to ISO 13849-1 for SS1<br>HFT = 1 conforming to IEC 62061<br>PFHd = 0.98E-09 conforming to IEC 62061 for SS0<br>PFHd = 0.96E-09 conforming to IEC 62061 for SS1<br>SFF > 99% conforming to IEC 62061<br>HFT = 1 conforming to IEC 61508-1<br>PFHd = 0.98E-09 conforming to IEC 61508-1 for SS0<br>PFHd = 0.96E-09 conforming to IEC 61508-1 for SS1<br>SFF > 99% conforming to IEC 61508-1<br>Type = B conforming to IEC 61508-1 |
| Electrical circuit type   | NC pair<br>OSSD pair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Connections - terminals   | Removable screw terminal block, 0.2...2.5 mm <sup>2</sup> solid or flexible<br>Removable screw terminal block, 0.25...2.5 mm <sup>2</sup> flexible with ferrule single conductor<br>Removable screw terminal block, 0.2...1.5 mm <sup>2</sup> solid or flexible twin conductor<br>Removable screw terminal block, 2 x 0.25...1 mm <sup>2</sup> flexible with ferrule without cable end, with bezel<br>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 %<br>24 V DC - 20...20 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Synchronisation time between inputs         | 0.5 s<br>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                                                                                                                                                                                                                                                                                                                                                                                               |
| Input protection type                       | Internal, electronic                                                                                                                                                                                                                                                                                                                                                                                                |
| Safety outputs                              | 2 NO immediate<br>1 NO configurable                                                                                                                                                                                                                                                                                                                                                                                 |
| Safety inputs                               | 2 positive safety input 24 V DC 5 mA                                                                                                                                                                                                                                                                                                                                                                                |
| Maximum wire resistance                     | 500 Ohm                                                                                                                                                                                                                                                                                                                                                                                                             |
| Time delay range                            | 0...900 s off delay                                                                                                                                                                                                                                                                                                                                                                                                 |
| Input compatibility                         | Normally closed circuit conforming to ISO 14119<br>Mechanical contact conforming to ISO 14119<br>OSSD pair conforming to IEC 61496-1-2<br>Normally closed circuit conforming to ISO 13850<br>3-wire proximity sensors PNP                                                                                                                                                                                           |
| [Ie] rated operational current              | 5 A AC-1 for normally open relay contact<br>3 A AC-15 for normally open relay contact<br>5 A DC-1 for normally open relay contact<br>3 A DC-13 for normally open relay contact                                                                                                                                                                                                                                      |
| Control outputs                             | 3 on/off configurable pulsed output                                                                                                                                                                                                                                                                                                                                                                                 |
| Input/output type                           | Semiconductor output 24 V DC, 20 mA Z1, not safety-related                                                                                                                                                                                                                                                                                                                                                          |
| [Ith] conventional free air thermal current | 12 A                                                                                                                                                                                                                                                                                                                                                                                                                |
| Associated fuse rating                      | 6 A gG for NO relay output circuit conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                        |
| Minimum output current                      | 20 mA for relay output                                                                                                                                                                                                                                                                                                                                                                                              |
| Minimum output voltage                      | 24 V for relay output                                                                                                                                                                                                                                                                                                                                                                                               |
| Maximum response time on input open         | 20 ms                                                                                                                                                                                                                                                                                                                                                                                                               |
| [Ui] rated insulation voltage               | 250 V (pollution degree 2) conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                |
| [Uimp] rated impulse withstand voltage      | 4 kV overvoltage category II conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                              |
| Local signalling                            | LED green with power marking for power ON<br>LED red with error marking for error<br>LED yellow with state 1 marking for safety output instantaneous<br>LED yellow with state 2 marking for safety output delayed<br>LED yellow with start 1 marking for start<br>LED yellow with start 2 marking for start<br>LED yellow with S12 marking for safety input S12<br>LED yellow with S22 marking for safety input S22 |
| Mounting support                            | 35 mm symmetrical DIN rail                                                                                                                                                                                                                                                                                                                                                                                          |
| Depth                                       | 120 mm                                                                                                                                                                                                                                                                                                                                                                                                              |
| Height                                      | 100 mm                                                                                                                                                                                                                                                                                                                                                                                                              |
| Width                                       | 22.5 mm                                                                                                                                                                                                                                                                                                                                                                                                             |
| Net weight                                  | 0.350 kg                                                                                                                                                                                                                                                                                                                                                                                                            |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | IEC 60947-5-1<br>IEC 61508-1 functional safety standard<br>IEC 61508-2 functional safety standard<br>IEC 61508-3 functional safety standard<br>IEC 61508-4 functional safety standard<br>IEC 61508-5 functional safety standard<br>IEC 61508-6 functional safety standard<br>IEC 61508-7 functional safety standard<br>ISO 13849-1 functional safety standard<br>IEC 62061 functional safety standard |
| Product certifications                | TÜV[RETURN]cULus                                                                                                                                                                                                                                                                                                                                                                                      |
| IP degree of protection               | IP20 (terminals) conforming to IEC 60529<br>IP40 (housing) conforming to IEC 60529<br>IP54 (mounting area) conforming to IEC 60529                                                                                                                                                                                                                                                                    |
| Ambient air temperature for operation | -25...55 °C                                                                                                                                                                                                                                                                                                                                                                                           |
| Ambient air temperature for storage   | -25...85 °C                                                                                                                                                                                                                                                                                                                                                                                           |
| Relative humidity                     | 5...95 % non-condensing                                                                                                                                                                                                                                                                                                                                                                               |

## Packing Units

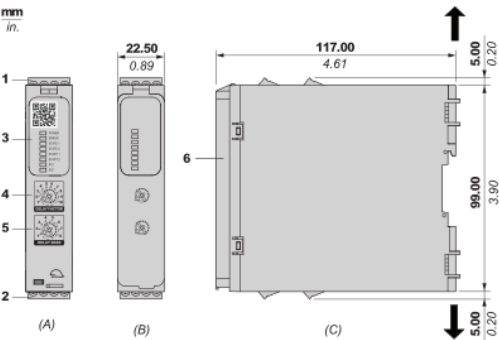
|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 6.800 cm  |
| Package 1 Width              | 13.800 cm |
| Package 1 Length             | 15.500 cm |
| Package 1 Weight             | 285.000 g |
| Unit Type of Package 2       | S03       |
| Number of Units in Package 2 | 16        |
| Package 2 Height             | 30.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |
| Package 2 Weight             | 5.292 kg  |

## Offer Sustainability

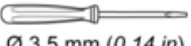
|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                  |
| Mercury free               | Yes                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                      |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                               |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                     |
| WEEE                       | 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

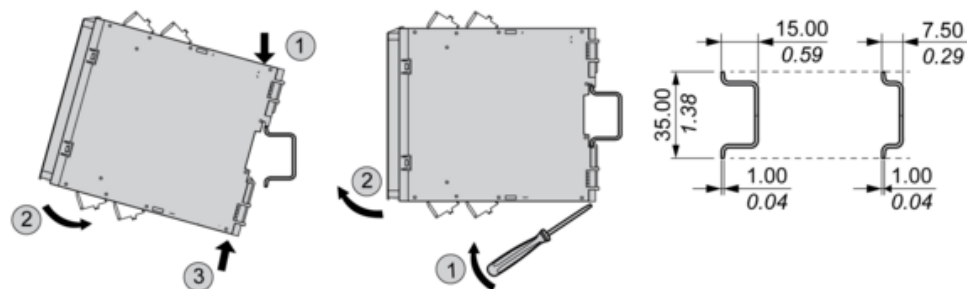


- (A) : Product drawing  
(B) : Screw clamp terminal  
(C) : Side view  
(1) : Removable terminal blocks, top  
(2) : Removable terminal blocks, bottom  
(3) : LED indicators  
(4) : Delay factor selector  
(5) : Delay base selector  
(6) : Sealable transparent cover

|                                                                                                           |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| mm<br>in.                                                                                                 | 7.0–8.0<br>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                                                                             |                                                                                     |
| <br>Ø 3,5 mm (0.14 in) |  |                                                                                     |                                                                                     | Nm                                                                                  | 0.5... 0.6                                                                          |                                                                                     |
|                                                                                                           |                                                                                     |                                                                                     |                                                                                     | lb-in                                                                               | 4,4... 5,3                                                                          |                                                                                     |

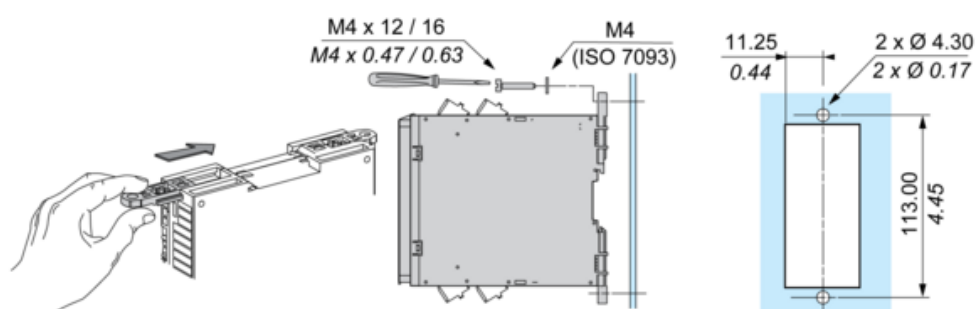
## Mounting to DIN rail

mm  
in.

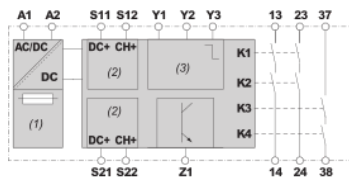


## Screw-mounting

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