Product data sheet

Specifications

Time delayed output, Harmony XPS, for Estop, guard, OSSD, 24 V AC/ DC, spring

XPSBAT12A1AC

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 conforming to ISO 13849-1 Can reach SILCL 3 for normally open relay contact conforming to IEC 62061 Can reach SIL 3 for normally open relay contact conforming to IEC 61508 Can reach PL c/category 1 for normally closed relay contact conforming to ISO 13849-1 Can reach SILCL 1 for normally closed relay contact conforming to IEC 62061 Can reach SIL 1 for normally closed relay contact conforming to IEC 61508
Safety reliability data	MTTFd > 30 years conforming to ISO 13849-1 Dcavg >= 99 % conforming to ISO 13849-1 PFHd = 0.98E-09 conforming to ISO 13849-1 for SS0 PFHd = 0.96E-09 conforming to ISO 13849-1 for SS1 HFT = 1 conforming to IEC 62061 PFHd = 0.98E-09 conforming to IEC 62061 for SS0 PFHd = 0.96E-09 conforming to IEC 62061 for SS1 SFF > 99% conforming to IEC 62061 HFT = 1 conforming to IEC 61508-1 PFHd = 0.98E-09 conforming to IEC 61508-1 for SS0 PFHd = 0.96E-09 conforming to IEC 61508-1 for SS1 SFF > 99% conforming to IEC 61508-1 Type = B conforming to IEC 61508-1
Electrical circuit type	NC pair OSSD pair
Connections - terminals	Removable spring terminal block, 0.2...2.5 mm² solid or flexible Removable spring terminal block, 0.25...2.5 mm² flexible with ferrule single conductor Removable spring terminal block, 0.2...1.5 mm² solid or flexible twin conductor Removable spring terminal block, 2 x 0.25...1 mm² flexible with ferrule without cable end, with bezel Removable spring terminal block, 2 x 0.5...1.5 mm² 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

Input protection type	Internal, electronic
Safety outputs	2 NO immediate 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
Input compatibility	Normally closed circuit conforming to ISO 14119 Mechanical contact conforming to ISO 14119 OSSD pair conforming to IEC 61496-1-2 Normally closed circuit conforming to ISO 13850 3-wire proximity sensors PNP
[Ie] rated operational current	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
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 EN/IEC 60947-1
[Uimp] rated impulse withstand voltage	4 kV overvoltage category II conforming to EN/IEC 60947-1
Local signalling	LED green with power marking for power ON LED red with error marking for error LED yellow with state 1 marking for safety output instantaneous LED yellow with state 2 marking for safety output delayed LED yellow with start 1 marking for start LED yellow with start 2 marking for start LED yellow with S12 marking for safety input S12 LED yellow with S22 marking for safety input S22
Mounting support	35 mm symmetrical DIN rail
Depth	120 mm
Height	100 mm
Width	45 mm
Net weight	0.350 kg

Environment

Standards	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
Product certifications	TÜV cULus
IP degree of protection	IP20 (terminals) conforming to EN/IEC 60529 IP40 (housing) conforming to EN/IEC 60529 IP54 (mounting area) conforming to EN/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 Weight	302 g
Package 1 Height	6.4 cm
Package 1 width	13.3 cm
Package 1 Length	15.3 cm
Unit Type of Package 2	S03
Number of Units in Package 2	16
Package 2 Weight	5.409 kg
Package 2 Height	30 cm
Package 2 width	30 cm
Package 2 Length	40 cm
Package 3 Height	30 cm

Offer Sustainability

Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

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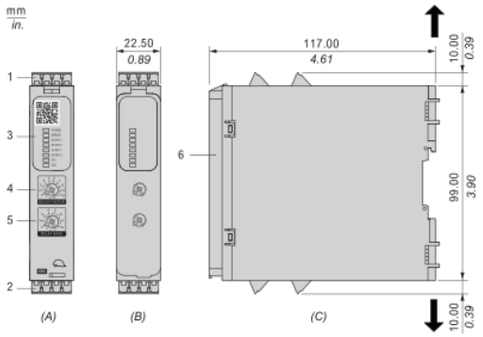
Dimensions Drawings

Dimensions

Front and Side Views



(A) : Product drawing

(B) : Spring terminal

(C) : Side view

(1) : Removable terminal blocks, top

(2) : Removable terminal blocks, bottom

(3) : LED indicators

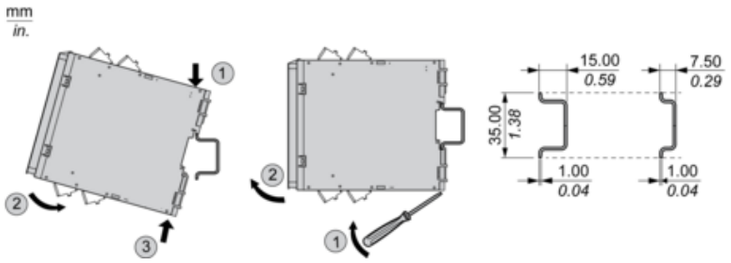
(4) : Delay factor selector

(5) : Delay base selector

(6) : Sealable transparent cover

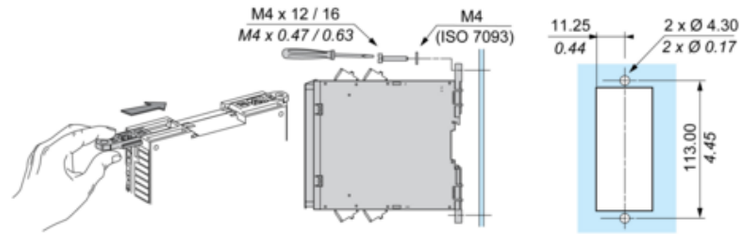
mm / in. 12.0 / 0.47					
mm^2	0,2...2,5	0,25...2,5	0,2...1,5	0,25...1	0,5...1,5
AWG	*24...12*	*24...12*	*24...16*	*24...18*	*20...16*

Mounting to DIN rail

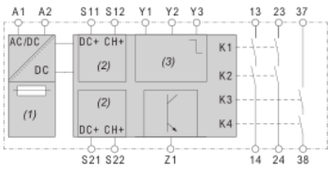


Screw-mounting

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