

# Product data sheet

Specifications



**safety module, Harmony XPSU, Cat 4, features XPSUAF with PNP or NPN, safety mat, 24V AC or DC, screw**

XPSUAK12AP

## Main

Range of product	Harmony Safety Automation
Product or component type	Safety module
Safety module name	XPSUAK
Safety module application	Monitoring antivalent contacts For emergency stop, guard and light curtain monitoring Monitoring of pressure-sensitive 4-wire protective devices
Function of module	Emergency stop button with 2 NC contacts Guard monitoring with 1 or 2 limit switches Monitoring 2 PNP sensors Magnetic switch monitoring Light curtain monitoring RFID switch Monitoring of electro-sensitive protection equipment (ESPE) Sensing mat/edges Proximity sensor monitoring Monitoring 1 PNP + 1 NPN sensor
Safety level	Can reach PL e/category 4 for normally open relay contact conforming to ISO 13849-1 Can reach SIL 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 SIL CL 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 = 1.13E-09 conforming to ISO 13849-1 HFT = 1 conforming to IEC 62061 PFHd = 1.13E-09 conforming to IEC 62061 SFF > 99% conforming to IEC 62061 HFT = 1 conforming to IEC 61508-1 PFHd = 1.13E-09 conforming to IEC 61508-1 SFF > 99% conforming to IEC 61508-1 Type = B conforming to IEC 61508-1
Electrical circuit type	NC pair PNP pair Antivalent 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 4 s
Type of start	Automatic/manual/monitored
Power consumption in W	2.0 W 24 V DC
Power consumption in VA	5.0 VA 24 V AC 50/60 Hz
Input protection type	Internal, electronic
safety outputs	2 NO + 1 NC
safety inputs	2 safety input 24 V DC 5 mA
maximum wire resistance	500 Ohm
Input compatibility	Normally closed circuit conforming to ISO 14119 XC limit switch conforming to ISO 14119 Mechanical contact conforming to ISO 14119 Normally closed circuit conforming to ISO 13850 Antivalent pair conforming to ISO 14119 OSSD pair conforming to IEC 61496-1-2 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 3 A AC-1 for normally closed relay contact 1 A AC-15 for normally closed relay contact 3 A DC-1 for normally closed relay contact 1 A DC-13 for normally closed relay contact
control outputs	3 on/off configurable pulsed output
Input/output type	Semiconductor pulsed diagnostic output 24 V DC, 20 mA Z1, not safety-related
[Ith] conventional free air thermal current	8 A
Associated fuse rating	10 A gG for NO relay output circuit conforming to IEC 60947-1
Minimum output current	10 mA for relay output
Minimum output voltage	12 V for relay output
[Ui] rated insulation voltage	250 V (pollution degree 2) conforming to IEC 60947-1
[Uiimp] rated impulse withstand voltage	4 kV overvoltage category II conforming to IEC 60947-1
Mounting support	35 mm symmetrical DIN rail
Depth	120 mm
Height	100 mm
Width	22.5 mm
Net weight	0.200 kg

## Environment

Ambient air temperature for operation	-25...55 °C
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 IEC 60529 IP40 (housing) conforming to IEC 60529 IP54 (mounting area) conforming to IEC 60529
Relative humidity	5...95 % non-condensing

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	6.500 cm
Package 1 Width	13.500 cm
Package 1 Length	15.500 cm
Package 1 Weight	280.000 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	5.186 kg
Unit Type of Package 3	P06
Number of Units in Package 3	128
Package 3 Height	75.000 cm
Package 3 Width	60.000 cm
Package 3 Length	80.000 cm
Package 3 Weight	50.324 kg



Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

### Environmental footprint

Carbon footprint (kg.eq.CO2 per CR, Total Life cycle) **70**

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

[EU RoHS Directive](#) Pro-active compliance (Product out of EU RoHS legal scope)

REACH Regulation [REACH Declaration](#)

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](#)

PVC free **Yes**

## Use Again

### Repack and remanufacture

Circularity Profile [End of Life Information](#)

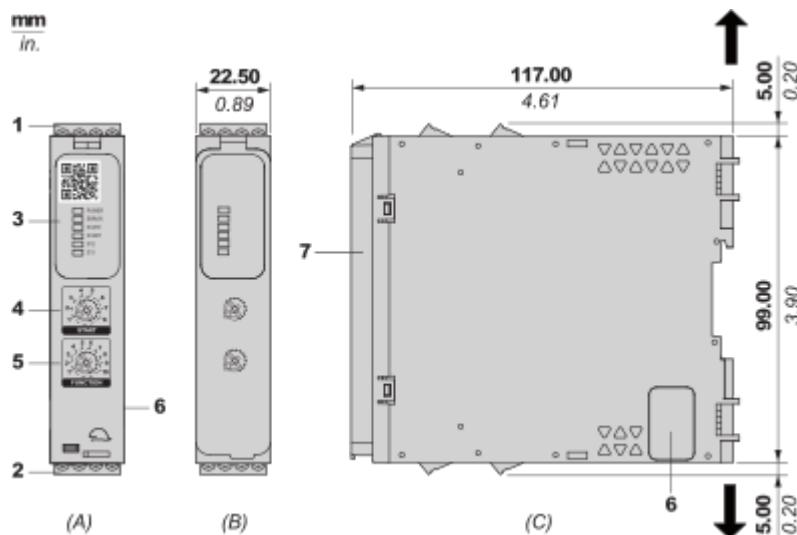
WEEE The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Take-back **No**

## Dimensions Drawings

## 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) : Start function selector

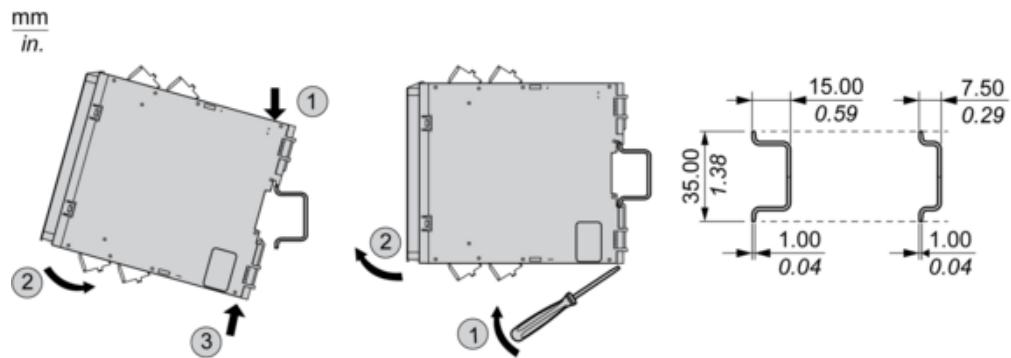
(5) : Function selector

(6) : Connector for optional output extension module (lateral)

(7) : Sealable transparent cover

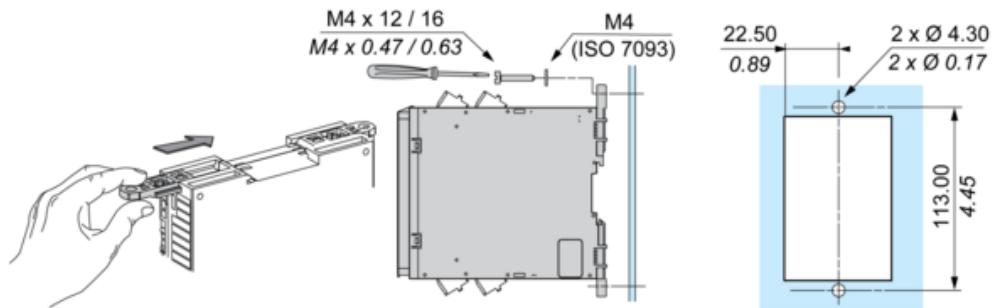
mm in.	7.0–8.0 0.28–0.31					
mm <sup>2</sup> AWG	0,2...2,5 24...12	0,25...2,5 24...12	0,2...1,5 24...16	0,25...1 24...18	0,5...1,5 20...16	
				Nm lb-in	0.5...0.6 4,4...5,3	
Ø 3,5 mm (0.14 in)						

## Mounting and Clearance

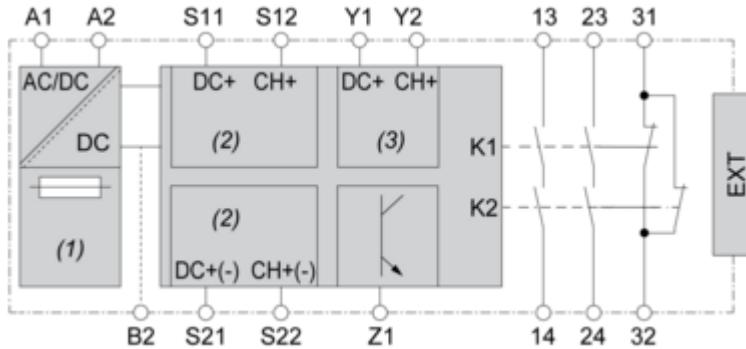
Mounting to DIN rail

Screw-mounting

mm  
in.



## Connections and Schema

Wiring Drawing

(1) : A1-A2 (Power supply)

(2) : S11-S12-S21-S22 (Single-channel safety input)

(3) : Y1-Y2 (Start)

13-23-31-14-24-32 : Output

EXT : Connector for optional extension module

B2 : Common ground terminal

Z1 : Pulsed output for diagnostics, not safety-related