Product data sheet

Specifications

Green Premium[™]



safety module, Harmony XPS, zero speed monitoring with time delay, 48 to 240V AC or DC, screw

XPSUVN31AP

Main

Range of product	Harmony Safety Automation		
product or component type	Safety module		
safety module name	XPSUVN		
safety module application	For zero speed detection		
Function of module	Monitoring 3-phase motor		
	Monitoring 3-phase motor with star-delta starting		
	Monitoring 3-phase motor with variable number of poles		
	Monitoring 3-phase motor with variable number of poles and star-delta starting		
	Monitoring dc motor		
	Monitoring servo motor		
	Monitoring 3-phase motor supplied by variable speed drive		
	Monitoring 3-phase motor supplied by servo drive		
	Controlling enegization to open of guard switch type XCSE, XCSLE, XCSLF, XCST		
Safety level	Can reach PL e/category 3 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		
Safety reliability data	MTTFd > 30 years ISO 13849-1		
	Dcavg = 98.9 % ISO 13849-1		
	PFHd = 2.44E-9 1/h ISO 13849-1		
	HFT = 1 IEC 62061		
	PFHd = 2.44E-9 1/h IEC 62061		
	SFF > 99% IEC 62061		
	HFT = 1 IEC 61508-1		
	PFHd = 2.44E-9 1/h IEC 61508-1		
	SFF > 99% IEC 61508-1		
	Type = B IEC 61508-1		
Product certifications	TÜV		
	cULus		
[Us] rated supply voltage	48240 V AC/DC - 1010 %		
Output type	Relay, 1 NO, volt-free		
Number of additional circuits	2 solid state outputs		

Complementary

maximum power consumption in W	2.5 W
Power consumption in VA	5.5 VA
Input voltage	690 V

Input detection threshold	50 mV			
	65 mV			
	85 mV			
	110 mV			
	140 mV			
	180 mV			
	230 mV			
	300 mV			
	400 mV 500 mV			
Time delay	0.5 s			
	1s			
	2 s			
	3s			
	5 s			
	85			
	12 s			
	20 s			
	35 s			
	60 s			
[le] 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			
[Ith] conventional free air thermal current	6 A NO relay output circuit			
Associated fuse rating	6 A gG relay output IEC 60947-1			
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			
Minimum output current	10 mA relay output			
Minimum output voltage	5 V relay output			
[Ui] rated insulation voltage	690 V phase to phase 2)IEC 60947-1 400 V phase to earth 2)IEC 60947-1			
[Uimp] rated impulse withstand voltage	4 kV II IEC 60947-1			
Local signalling	LED green power power ON			
	LED red error error			
	LED yellow state status			
	LED yellow L12 input line comparison			
	LED yellow L32 input line comparison			
Connections - terminals	Removable screw terminal block solid or flexible 0.22.5 mm ²			
	Removable screw terminal block solid of nextbe 0.252.5 mm ² single conductor			
	Removable screw terminal block nextbe with terrate 0.202.0 mm ² twin conductor			
	Removable screw terminal block flexible with ferrule 2 x 0.251 mm ² without cable			
	end, with bezel			
	Removable screw terminal block flexible with ferrule 2 x 0.51.5 mm ² with cable end,			
	with bezel			
mounting support	35 mm symmetrical DIN rail			
Depth	4.7 in (120 mm)			
Height	3.9 in (100 mm)			
Width	0.9 in (22.5 mm)			
net weight	0.4 lb(US) (0.2 kg)			

Environment

IP degree of protection	IP20 terminals)IEC 60529 IP40 housing)IEC 60529 IP54 mounting area)IEC 60529	
Ambient air temperature for operation	-13131 °F (-2555 °C)	
Ambient air temperature for storage	-40158 °F (-4070 °C)	
Relative humidity	595 % non-condensing	

Packing Units

Unit Type of Package 1	PCE			
Number of Units in Package 1	1			
Package 1 Height	2.6 in (6.5 cm)			
Package 1 Width	5.3 in (13.5 cm)			
Package 1 Length	6.1 in (15.5 cm)			
Package 1 Weight	9.6 oz (272.0 g)			
Unit Type of Package 2	S03			
Number of Units in Package 2	16			
Package 2 Height	11.8 in (30 cm)			
Package 2 Width	11.8 in (30 cm)			
Package 2 Length	15.7 in (40 cm)			
Package 2 Weight	11.188 lb(US) (5.075 kg)			

Sustainability Screen Premium

Green PremiumTM label is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Yes

Learn more about Green Premium >

Guide to assess a product's sustainability >



Transparency RoHS/REACh

Well-being performance



Rohs Exemption Information

Certifications & Standards

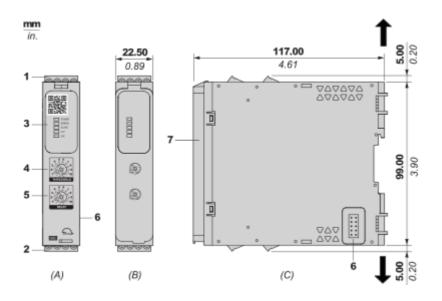
Reach Regulation	REACh Declaration			
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)			
China Rohs Regulation	China RoHS declaration			
Environmental Disclosure	Product Environmental Profile			
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins			
Circularity Profile	End of Life Information			

Product data sheet

Dimensions Drawings

Dimensions

Front and Side Views

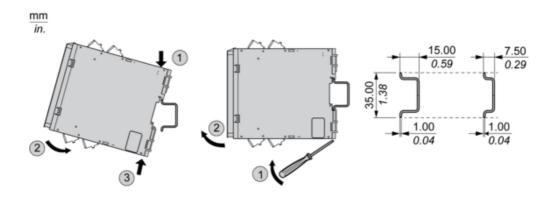


- (A) : Product drawing
- (B) : Screw clamp terminal
- (C) : Side view
- (1): Removable terminal blocks, top
- (2) : Removable terminal blocks, bottom
- (3): LED indicators
- (4) : Voltage threshold selector
- (5) : Activation delay selector
- (6) : Connector for optional output extension module XPSUEP (lateral)
- (7) : Sealable transparent cover

mm in.	7.0–8.0 0.28–0.31				ŝ	
	mm ²	0,2 2,5	0,252,5	0,21,5	0,251	0,51,5
	AWG	24 12	2412	2416	2418	2016
		()c@		Nm	0.5 0.6	
Ø 3,5 mm (0.14 in)				lb-in	4,4 5,3	

Mounting and Clearance

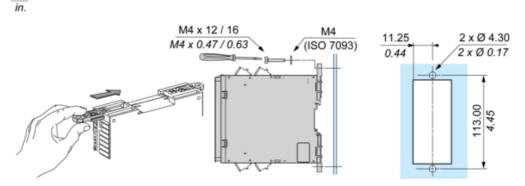
Mounting to DIN rail



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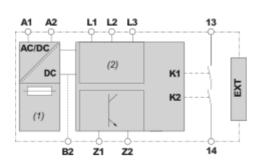
Screw-mounting

mm



Connections and Schema

Wiring Diagram



(1): A1-A2 (Power supply)

(2): L1-L2-L3 (Input channels of safety-related analog input)

13-14 : Terminals of the safety-related outputs

B2: Terminal for common reference potential for 24 Vdc signals. The power supplies of the connected equipment must have a common reference potential to be connected to this terminal. In the case of XPSUVN31A•, terminal B2 must be grounded. In the case of XPSUVN11A•, the safety module is already grounded via the PELV power supply unit connected to terminals A1 and A2.

Z1 : Pulsed output for diagnostics, not safety-related

Z2 : Solid state output, not safety-related

EXIT : Connector for output extension module XPSUEP