Product data sheet

Specifications

Safety module, Harmony Safety Automation, Zero speed monitoring with time delay, 48-240 V AC/DC, spring

XPSUVN31AC

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 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
Safety reliability data	MTTFd > 30 years conforming to ISO 13849-1 Dcavg = 98.9 % conforming to ISO 13849-1 PFHd = 2.44E-9 1/h conforming to ISO 13849-1 HFT = 1 conforming to IEC 62061 PFHd = 2.44E-9 1/h conforming to IEC 62061 SFF > 99% conforming to IEC 62061 HFT = 1 conforming to IEC 61508-1 PFHd = 2.44E-9 1/h conforming to IEC 61508-1 SFF > 99% conforming to IEC 61508-1 Type = B conforming to IEC 61508-1
Product certifications	TÜV cULus
[Us] rated supply voltage	48...240 V AC/DC - 10...10 %
Output type	Relay, 1 NO circuit(s), volt-free
Number of additional circuits	2 solid state outputs

Complementary

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 1 s 2 s 3 s 5 s 8 s 12 s 20 s 35 s 60 s
[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
[Ith] conventional free air thermal current	6 A for NO relay output circuit
Associated fuse rating	6 A gG for relay output conforming to 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 for relay output
Minimum output voltage	5 V for relay output
[Ui] rated insulation voltage	690 V phase to phase (pollution degree 2) conforming to IEC 60947-1 400 V phase to earth (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 LED red with error marking for error LED yellow with state marking for status LED yellow with L12 marking for input line comparison LED yellow with L32 marking for input line comparison
Connections - terminals	Removable spring terminal block solid or flexible cable: 0.2...2.5 mm² Removable spring terminal block flexible with ferrule cable: 0.25...2.5 mm² single conductor Removable spring terminal block solid or flexible cable: 0.2...1.5 mm² twin conductor Removable spring terminal block flexible with ferrule cable: 2 x 0.25...1 mm² without cable end, with bezel Removable spring terminal block flexible with ferrule cable: 2 x 0.5...1.5 mm² with cable end, with bezel
Mounting support	35 mm symmetrical DIN rail
Depth	120 mm
Height	100 mm
Width	22.5 mm
Product weight	0.2 kg

Environment

IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP54 (mounting area) conforming to IEC 60529
Ambient air temperature for operation	-25…55 °C
Ambient air temperature for storage	-40…70 °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	6.8 cm
Package 1 Width	13.8 cm
Package 1 Length	15.8 cm
Package 1 Weight	277.0 g
Unit Type of Package 2	S03
Number of Units in Package 2	16
Package 2 Height	30 cm
Package 2 Width	30 cm
Package 2 Length	40 cm
Package 2 Weight	5.158 kg

Environmental Data

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

Total lifecycle Carbon footprint	86
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	152cf799-1df7-4892-81b4-4c890187f1d1
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

Use Again

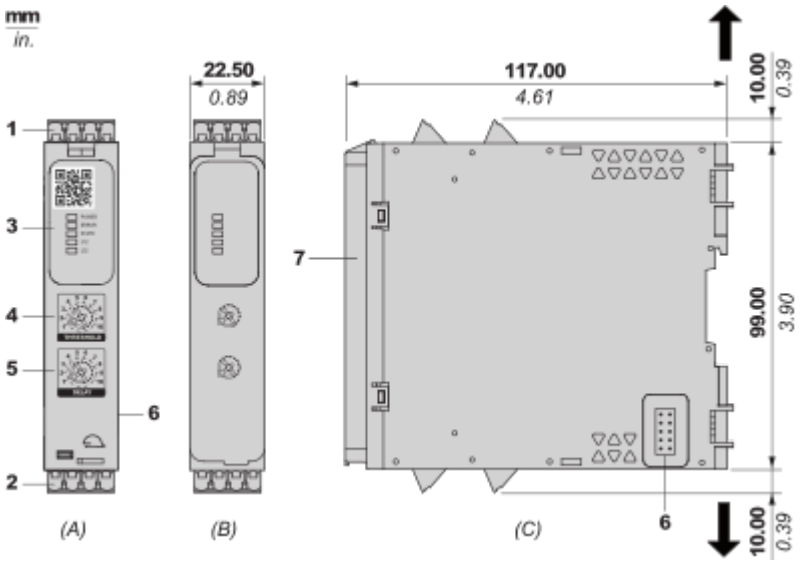
Repack and remanufacture

End of life manual availability	End of Life Information
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

Dimensions

Front and Side Views

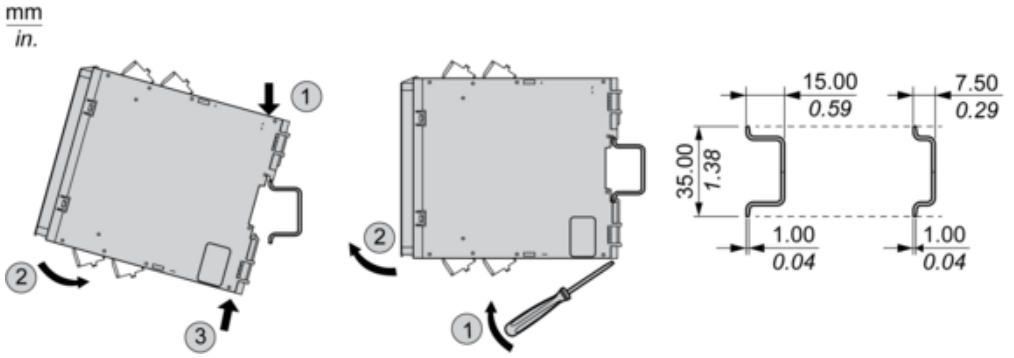


(A) : Product drawing
(B) : Spring terminal
(C) : Side view
(1) : Removable terminal blocks, top
(2) : Removable terminal blocks, bottom
(3) : LED indicators
(4) : Voltage threshold selector
(5) : Activation delay selector
(6) : Connector for optional output extension module XPSUEP (lateral)
(7) : Sealable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

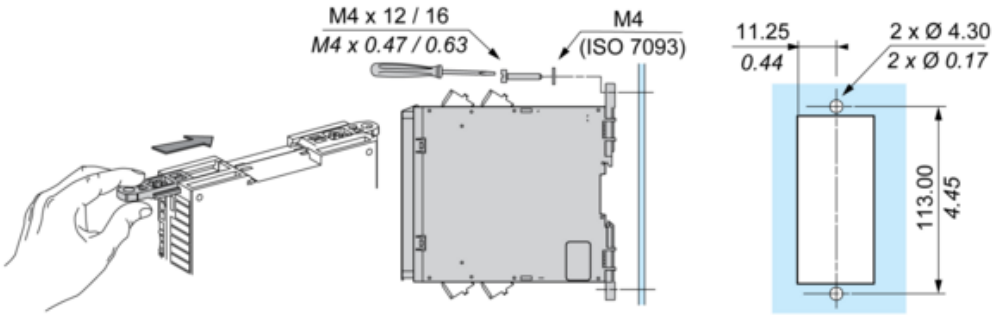
Mounting and Clearance

Mounting to DIN rail



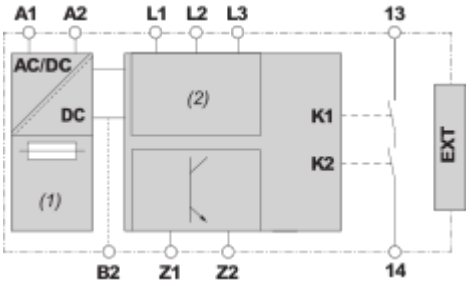
Screw-mounting

mm
in.



Connections and Schema

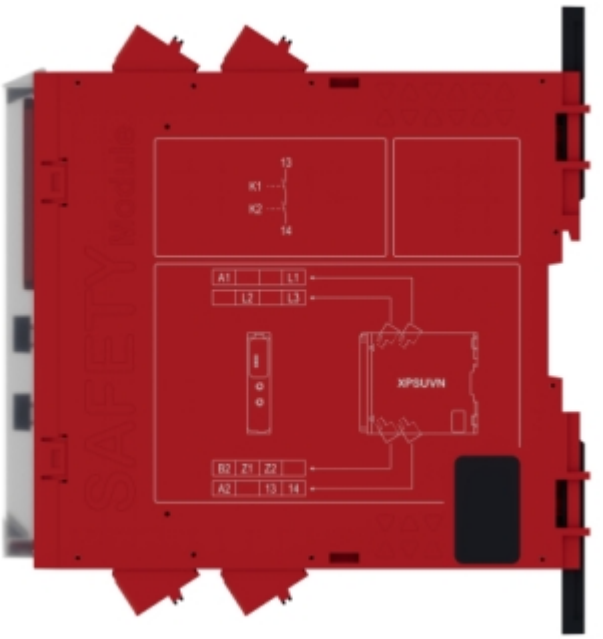
Wiring Diagram



(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

Image of product / Alternate images

Alternative




A1
L1
L2
L3


14
13
A2
Z2
Z1
Z2


Harmony
POWER
ERROR
STATE
L12
L32
THRESHOLD
DELAY
Schneider Electric
XPSUVN