

Contactless safety door switch



Product introduction

Safety door switch is a device for monitor open/close status of movable mechanisms such as safety fence doors, and protective covers. SSRNS21 series with RFID technology for higher security & confidentiality. Sensor & actuator can be matched with universal or unique coding Small size for easy installation.

Product features

- Self-diagnose and cross-diagnose: Periodic dual mutual-diagnose to improve safety.
- Independent redundant dual output: In case potential safety hazards caused by single loop failure.

Technical parameter

Standard	ISO 13849-1 (Cat. 2/PL c) ;IEC/EN60947-5-3
Power supply	DC24V±15%
Capacity	<1W
Response time	50ms
Output current	150mA
Safety output (OSSD)	PNP/ NPN transistor Load current below 200mA, residual less than 1V (except voltage drop by cable extension), leakage current below 1mA
Operating frequency	1Hz
Protective circuit	Overvoltage protection, power supply reverse polarity protection and overcurrent protection.
Coding mode	Universal coding, unique coding
Working range	Horizontal: 0-10mm when power; Vertical: 0-5mm when power
Housing protection rate	IP65
Sectional size	36*23mm
Vibration resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20 times each at X, Y and Z direction.
Operating ambient temperature	- 10°C- + 55°C (No freezing)
Storage temperature	-30°C- + 70°C (No freezing)
Ambient operating humidity	When temperature 20°C, humidity max 85%.

Model selection (eg.: SSRNS21-00N-1)

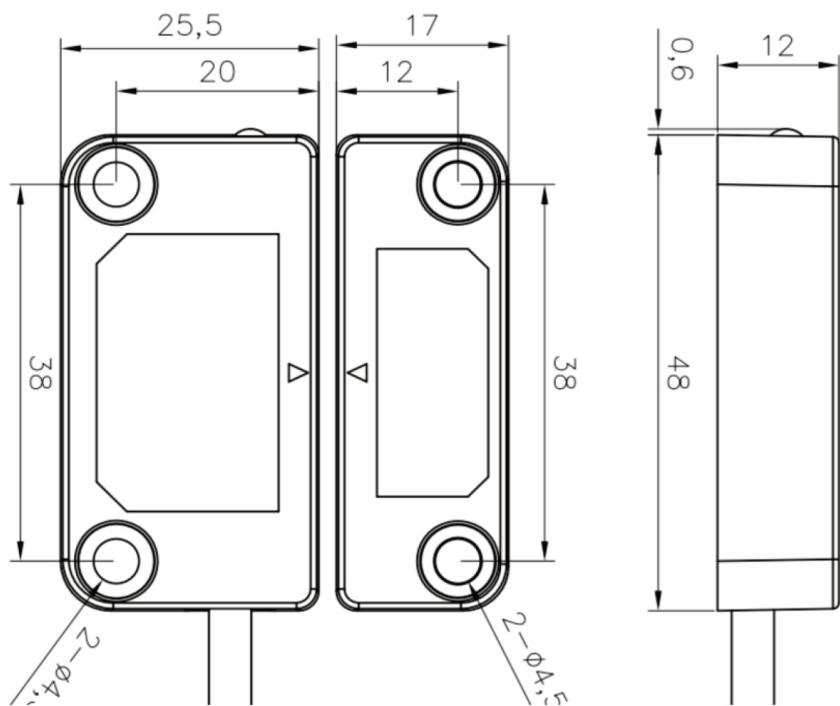
Product series	Configuration type	Coding mode	Output type	cable length
SSRNS21	0: Basic mode 1: Advanced mode	0: Universal coding 1: Unique coding	N: NPN P: PNP	1: 1m 3: 3m 5: 5m 10: 10m 20: 20m

Explanation of standard type and advanced type		
	Safety output	Cascade function
Basic mode	●	-
Standard mode	●	●

Model selection table

Configuration type	Output type	Coding mode	Model
Simply mode	NPN	Universal coding	SSRNS21-00N
		Unique coding	SSRNS21-01N
	PNP	Universal coding	SSRNS21-00P
		Unique coding	SSRNS21-01P
Standard mode	NPN	Universal coding	SSRNS21-10N
		Unique coding	SSRNS21-11N
	PNP	Universal coding	SSRNS21-10P
		Unique coding	SSRNS21-11P

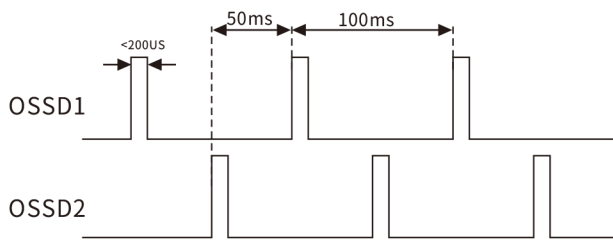
Product size



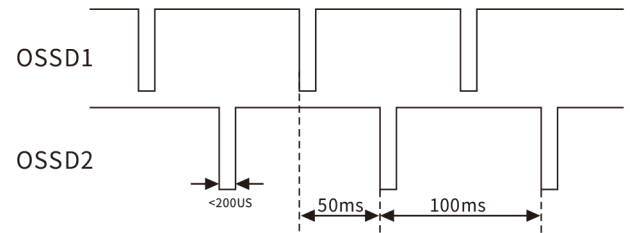
Indicator status

Switch Status	Indicator
Output error	Red 1Hz blink
Voltage error	Red double blink
Unique code unmatched	Red & green light blink alternately at 4Hz
No error, no RFID, no output	Red ON
No error, with RFID, no cascade	Green 1Hz blink
No error, with RFID, cascade signal error	Green double blink
No error, normal output	Green ON

Timing Chart



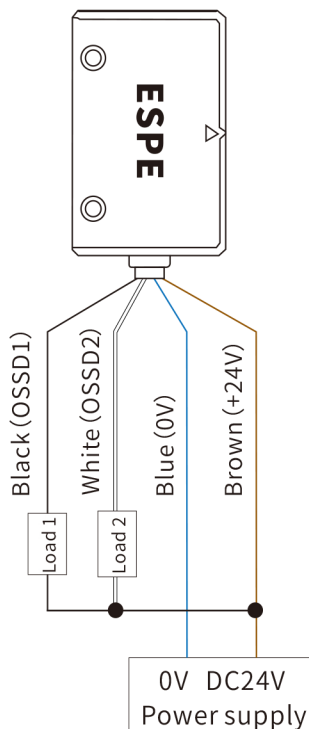
NPN timing chart



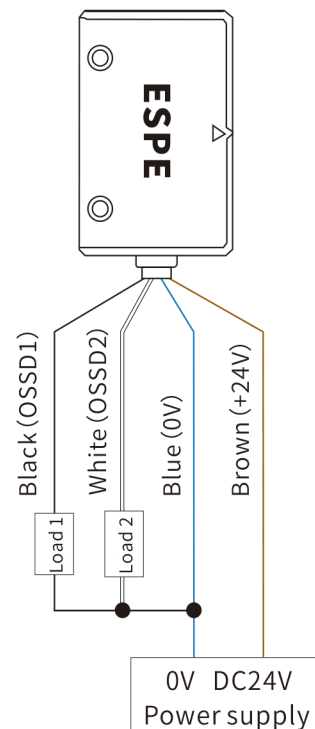
PNP timing chart

Wiring diagram

SSRNS2100 Basic mode (NPN)

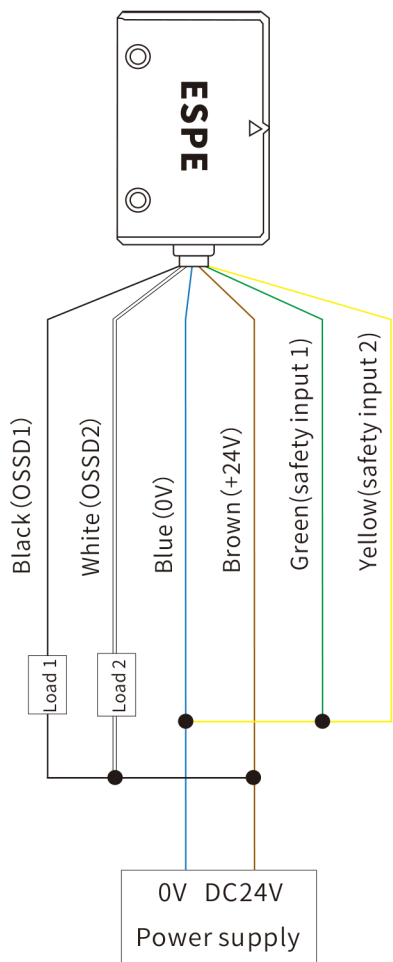


SSRNS2100 Basic mode (PNP)

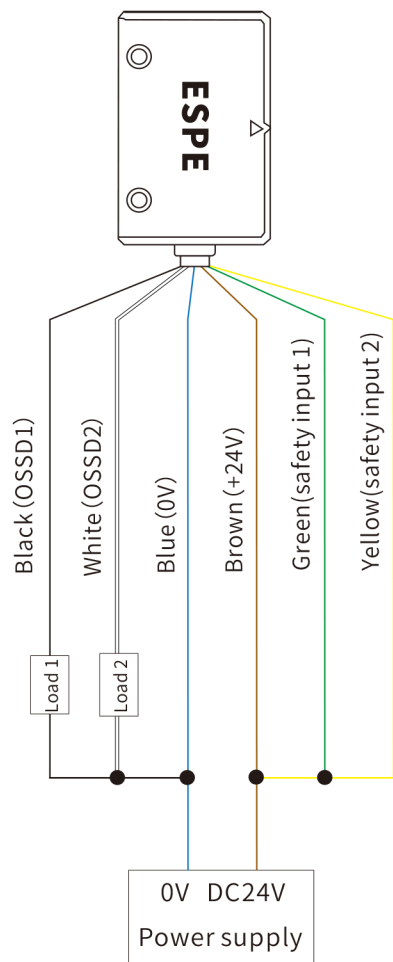


Wiring diagram

SSRNS2101 Standard mode (NPN)



SSRNS2101 Standard mode (PNP)



Wiring explanation

Color	Function	Detail
Brown	Positive of power	Connect with 24V pole
Blue	Negative of power	Connect with 0V pole
Black	Safety output 1	Connect to PLC or control interface of other safety input
White	Safety output 2	
Green	Safety input 1	Cascade: connect with safety input signal of switch (OSSD1 & OSSD2)
Yellow	Safety input 2	