



Safety Door Switch

Diverse styles and simple operation

ESPE Introduction

Shenzhen ESPE Technology Co., Ltd. is a high-tech enterprise integrated with researching, production and safety since 2008. As leading brand of safety industry, ESPE supply consult, risk evaluation, safety solution designing one-stop service.

“3+1+N” product strategy make sure ESPE have power to support 20000+ customers from wide industry: new energy (lithium battery & photovoltaic), aerospace, semiconductor, automotive, logistic, electronic production etc. Not only take 1/3 Chinese market, but also exported to 50+ countries.

Product range: safety light curtain, measuring light curtain, safety interlock switch, laser scanner, safety relay, safety controller module, LED signal tower light etc.



ESPE established in

2008



Annual sales amount

20万⁺
set



Cooperated with

11000⁺



Honor & Certificates



Company certificates

- ★ National High-tech Enterprise.
- ★ Title of “Shenzhen Specialized, Refined and Innovative” Enterprise.
- ★ Title of Guangdong Province Credit-worthy Enterprise.
- ★ National Casting & Forging Machinery Supervision Product Certificates.
- ★ ISO9001:2015 Quality Management System Certification.
- ★ Co-draft of industry standard “JB/T14121-2021 Cylinder-driven Rapid Forging Hydraulic Press”.
- ★ Co-revise of national Standard “GB/T4584-2022 Technical Conditions of Photoelectric Protection Devices For Presses”.
- ★ Co-draft of National standard GBT/T19436 Mechanical Electrical Safety Electro-sensitive protection Equipment”.

Product certificates

- ★ EU CE type 4.
- ★ TUV AUD/ TUV Austria.
- ★ CE-EMC, FCC safety certificates.
- ★ UKCA Type 4 certificates.
- ★ National CMA, CNAS.
- ★ EU RoHS certificates.

Patent

- ★ Technology patent 40+, software 30+.

Comprehensive solution provider in field of industrial safety protection

Vision

Popularize industrial safety and lead the sensor technology;
Make machine more intelligent, production more convenient, and operators safer.

Value

Integrity and pragmatism, innovation, repay society.

Mission

Act as industry benchmark, aiming to be century enterprises.

Cooperative Partners



Contents



SLM21 P.07

6 Contacts Safety Door Switch

Holding force: 1300N
Size: 88*108*34.3mm
Connector: M20



SLM13 P.14

4 Contacts Safety Door Switch

Holding force: 1300N
Size: 39*38.5*183.2mm
Connector: M20



SLM11 P.22

Multiple Contacts Safety Door Switch

Holding force: 1300N
Size: 36.4*165*36mm
Connector: M20



SLM11 P.30

2 Contacts Safety Door Switch

Holding force: 1300N
Size: 38*135*36mm
Connector: M16



SSM11 P.34

Mechanical Safety Door Switch

Material: PA66 fire retardant material
Size: 30*96*30mm
Connector: M20



P.39

Safety Latch



SLR11 P.45

High Level Safety Interlock Switch

Holding force: 2000N
Size: 29.7*29.7*125.75mm
Feature: RFID function



SLE21 P.57

Miniature Safety Interlock Switch

Holding force: 500N
Size: 40.4*45.4*71mm
Feature: Support cascade 16-20 sets



SSR21 P.67

Contactless Safety Door Switch

Working power: DC24V±15%
Size: 48*25.5*12mm
Feature: small size



SSR22

P.72

High Performance Switch

Magnetic force: 15N

Size: 48*30*13mm

Feature: 2 OSSD output



SSG11

P.77

Contactless Safety Switch

Detection head size: 50x14x14mm

Detection distance: 15mm

Material: ABS

SLM21 Series

6 Contacts Safety Door Switch



Safety protection forced lock

- EN 60947-5-1/IEC 60947-5-1
- GB/T 14048.5
- EN ISO 14119/ISO 14119
- GB/T 18831



Product introduction

SLM21 series safety door switch with multiple models for selection, adjustable inserting head and various operational key ensure a flexible installation. 1300N holding force and IP67 protection rate ensure its widely applied in different environment.

Product feature

- Multiple contacts for selection.
- Holding force 1300N.
- Ip67 protection rate.
- Various inserting direction.
- Support general load or micro-load.

Technical parameter

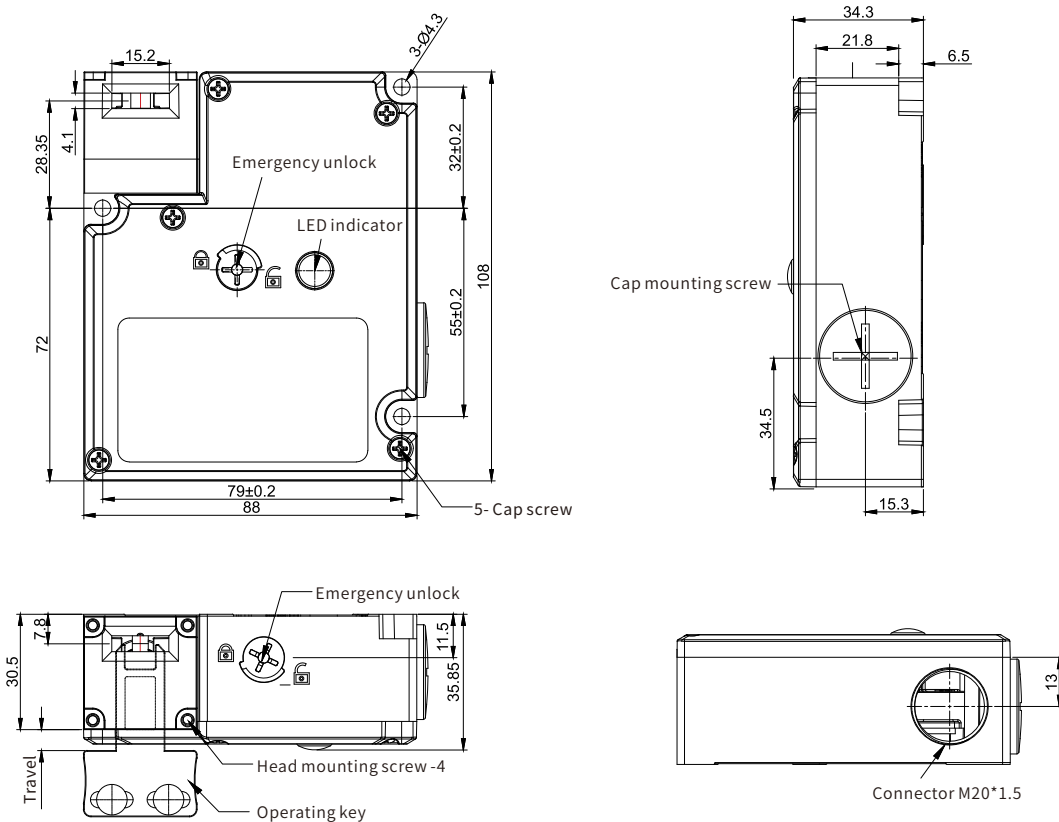
Electromagnetic tube		
Rated operating voltage	DC24V	
Power	4.8W	
Rated current	Approximate 200mA	
Insulation	Class B (130°C)	
LED indicator		
Rated operating voltage	DC24V	
Rated current	Approximate 1mA	
Luminous color (LED)	Green	
Safety level	PL d (ISO 13849-1)	
Certificates	TÜV Rheinland	
Standard	EN60947-5-1、IEC60947-5-1、GB/T 14048.5、EN ISO 14119、GB/T 18831	
Protection rate	IP67	
Material	PA66 fire retardant	
Mechanical lifespan	Over 1,000,000 times	
Electrical lifespan	Over 150.000 (AC240V 3A, resistive load)	
Using type	AC-15	DC-13
Rated operating voltage (Ue)	240V	24V
Rated operating current (Ie)	3A	2A
Electrical parameters		
Contact resistance	< 200 mΩ	
Nominal discharge current (Ith)	10A	
Rated insulation voltage (Ui)	300V	
Anti-electric shock level	Class II (Dual Insulation)	
Pulse withstand voltage (EN60947-5-1)	2.5KV	
Insulation resistance	100MΩ above	
Short-circuit protection	10A, 250V requires a quick-break fuse	
Vibration resistance	10-55Hz double amplitude 1.5mm	
Impact resistance	Durability1000m/s ²	
Conditional short-circuit current	100A (EN 60947-5-1)	
Space of contact	2×2mmabove	
Action characteristic		
Direct opening force	Min. 60N	
Direct opening travel	Over 10mm	
Allowed operating speed	0.1 m ~ 0.5m/s	
Allowed operating frequency	Maximum 30 times/minutes	
Holding force	1300N	
Environment		
Operating environment	3 (EN60947-5-1)	
Operating temperature	-10°C~+55°C (no freezing)	
Operating humidity	< 95%RH	

SLM21 Series Safety Door Switch

Model selection (eg.: SLM21-BPMF2)

Product series	Switch contact (Door monitor + lock monitor)	Head direction/ Material	Door lock/ release method	Key inserting direction	Connector
SLM21	—	□	□	□	□
A: 1NC/1NO(Slow action) + 1NC/1NO(Slow action) B: 1NC/1NO(Slow action) + 2NC (Slow action) C: 2NC (Slow action)+ 1NC/1NO (Slow action) D: 2NC(Slow action) + 2NC(Slow action) E: 2NC/1NO(Slow action) + 1NC/1NO (Slow action) F: 2NC/1NO(Slow action) + 2NC(Slow action) G: 2NC/1NO (Slow action)+ 2NC/1NO(Slow action) H: 3NC(Slow action) + 1NC/1NO(Slow action) I: 3NC(Slow action) + 2NC(Slow action) J: 3NC (Slow action) + 3NC(Slow action) K: 3NC(Slow action) + 2NC/1NO(Slow action) L: 2NC/1NO (Slow action)+ 3NC(Slow action)		P: 4 optional directions (Default front side installation)/ plastic M: 4 optional directions (Default front side installation)/ metal	M: DC24V power to release (mechanical lock) E: DC24V power to lock	Top Front	2: M20

Product size



SLM21 model selection table

Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Top release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO + 1NC/1NO	M20	SLM21-APMT2
				1NC/1NO + 2NC	M20	SLM21-BPMT2
				2NC + 1NC/1NO	M20	SLM21-CPMT2
				2NC + 2NC	M20	SLM21-DPMT2
				2NC/1NO + 1NC/1NO	M20	SLM21-EPMT2
				2NC/1NO + 2NC	M20	SLM21-FPMT2
				2NC/1NO + 2NC/1NO	M20	SLM21-GPMT2
				3NC + 1NC/1NO	M20	SLM21-HPMT2
				3NC + 2NC	M20	SLM21-IPMT2
				3NC + 3NC	M20	SLM21-JPMT2
				3NC + 2NC/1NO	M20	SLM21-KPMT2
				2NC/1NO + 3NC	M20	SLM21-LPMT2
			Power to lock	1NC/1NO + 1NC/1NO	M20	SLM21-APET2
				1NC/1NO + 2NC	M20	SLM21-BPET2
				2NC + 1NC/1NO	M20	SLM21-CPET2
				2NC + 2NC	M20	SLM21-DPET2
				2NC/1NO + 1NC/1NO	M20	SLM21-EPET2
				2NC/1NO + 2NC	M20	SLM21-FPET2
				2NC/1NO + 2NC/1NO	M20	SLM21-GPET2
				3NC + 1NC/1NO	M20	SLM21-HPET2
				3NC + 2NC	M20	SLM21-IPET2
				3NC + 3NC	M20	SLM21-JPET2
				3NC + 2NC/1NO	M20	SLM21-KPET2
				2NC/1NO + 3NC	M20	SLM21-LPET2
	Metal	Electromagnetic DC24V Green LED	Power to release	1NC/1NO + 1NC/1NO	M20	SLM21-AMMT2
				1NC/1NO + 2NC	M20	SLM21-BMMT2
				2NC + 1NC/1NO	M20	SLM21-CMMT2
				2NC + 2NC	M20	SLM21-DMMT2
				2NC/1NO + 1NC/1NO	M20	SLM21-EMMT2
				2NC/1NO + 2NC	M20	SLM21-FMMT2
				2NC/1NO + 2NC/1NO	M20	SLM21-GMMT2
				3NC + 1NC/1NO	M20	SLM21-HMMT2
				3NC + 2NC	M20	SLM21-IMMT2
				3NC + 3NC	M20	SLM21-JMMT2
				3NC + 2NC/1NO	M20	SLM21-KMMT2
				2NC/1NO + 3NC	M20	SLM21-LMMT2
			Power to lock	1NC/1NO + 1NC/1NO	M20	SLM21-AMET2
				1NC/1NO + 2NC	M20	SLM21-BMET2
				2NC + 1NC/1NO	M20	SLM21-CMET2
				2NC + 2NC	M20	SLM21-DMET2
				2NC/1NO + 1NC/1NO	M20	SLM21-EMET2
				2NC/1NO + 2NC	M20	SLM21-FMET2
				2NC/1NO + 2NC/1NO	M20	SLM21-GMET2
				3NC + 1NC/1NO	M20	SLM21-HMET2
				3NC + 2NC	M20	SLM21-IMET2
				3NC + 3NC	M20	SLM21-JMET2
				3NC + 2NC/1NO	M20	SLM21-KMET2
				2NC/1NO + 3NC	M20	SLM21-LMET2

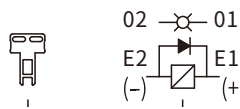
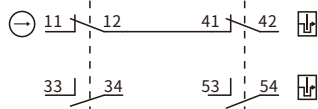
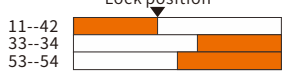
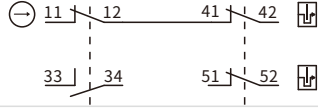
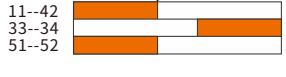
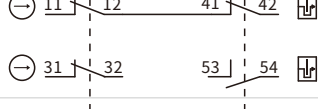
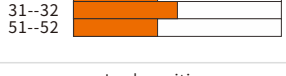
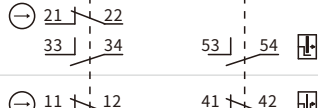
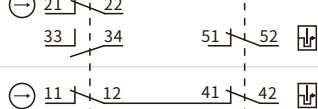
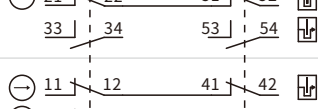
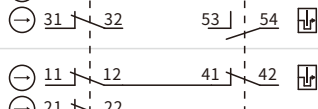
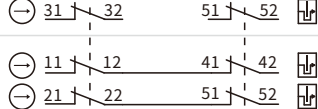
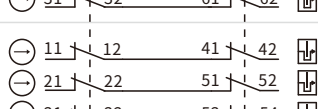
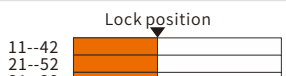
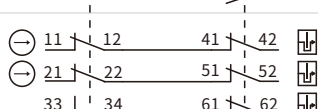
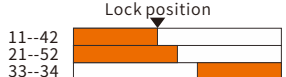
SLM21 Series Safety Door Switch

SLM21 model selection table

Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Front release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO + 1NC/1NO	M20	SLM21-APMF2
				1NC/1NO + 2NC	M20	SLM21-BPMF2
				2NC + 1NC/1NO	M20	SLM21-CPMF2
				2NC + 2NC	M20	SLM21-DPMF2
				2NC/1NO + 1NC/1NO	M20	SLM21-EPMF2
				2NC/1NO + 2NC	M20	SLM21-FPMF2
				2NC/1NO + 2NC/1NO	M20	SLM21-GPMF2
				3NC + 1NC/1NO	M20	SLM21-HPMF2
				3NC + 2NC	M20	SLM21-IPMF2
				3NC + 3NC	M20	SLM21-JPMF2
				3NC + 2NC/1NO	M20	SLM21-KPMF2
				2NC/1NO + 3NC	M20	SLM21-LPMF2
			Power to lock	1NC/1NO + 1NC/1NO	M20	SLM21-APEF2
				1NC/1NO + 2NC	M20	SLM21-BPEF2
				2NC + 1NC/1NO	M20	SLM21-CPEF2
				2NC + 2NC	M20	SLM21-DPEF2
				2NC/1NO + 1NC/1NO	M20	SLM21-EPEF2
				2NC/1NO + 2NC	M20	SLM21-FPEF2
				2NC/1NO + 2NC/1NO	M20	SLM21-GPEF2
				3NC + 1NC/1NO	M20	SLM21-HPEF2
				3NC + 2NC	M20	SLM21-IPEF2
				3NC + 3NC	M20	SLM21-JPEF2
				3NC + 2NC/1NO	M20	SLM21-KPEF2
				2NC/1NO + 3NC	M20	SLM21-LPEF2
	Metal	Electromagnetic DC24V Green LED	Power to release	1NC/1NO + 1NC/1NO	M20	SLM21-AMMF2
				1NC/1NO + 2NC	M20	SLM21-BMMF2
				2NC + 1NC/1NO	M20	SLM21-CMMF2
				2NC + 2NC	M20	SLM21-DMMF2
				2NC/1NO + 1NC/1NO	M20	SLM21-EMMF2
				2NC/1NO + 2NC	M20	SLM21-FMMF2
				2NC/1NO + 2NC/1NO	M20	SLM21-GMMF2
				3NC + 1NC/1NO	M20	SLM21-HMMF2
				3NC + 2NC	M20	SLM21-IMMF2
				3NC + 3NC	M20	SLM21-JMMF2
				3NC + 2NC/1NO	M20	SLM21-KMMF2
				2NC/1NO + 3NC	M20	SLM21-LMMF2
			Power to lock	1NC/1NO + 1NC/1NO	M20	SLM21-AMEF2
				1NC/1NO + 2NC	M20	SLM21-BMEF2
				2NC + 1NC/1NO	M20	SLM21-CMEF2
				2NC + 2NC	M20	SLM21-DMEF2
				2NC/1NO + 1NC/1NO	M20	SLM21-EMEF2
				2NC/1NO + 2NC	M20	SLM21-FMEF2
				2NC/1NO + 2NC/1NO	M20	SLM21-GMEF2
				3NC + 1NC/1NO	M20	SLM21-HMEF2
				3NC + 2NC	M20	SLM21-IMEF2
				3NC + 3NC	M20	SLM21-JMEF2
				3NC + 2NC/1NO	M20	SLM21-KMEF2
				2NC/1NO + 3NC	M20	SLM21-LMEF2

Contacts action

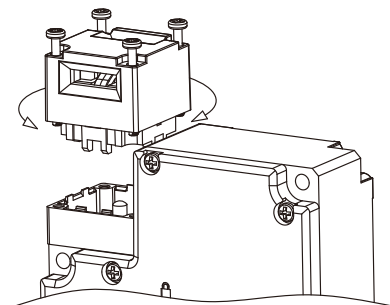
Below wire diagram for switch with key inserts & lock status. (Terminal 12 & 41, 22 & 51, 32 & 61 is inside connection)

Model	Contact (door minitor+ lock monitor)	Wire diagram		Contact action  Contact ON  Contact OFF
		door monitor	lock monitor	
				Operation key complete insertion Travel Operation key extraction 
SLM21 - AP□□□ SLM21 - AM□□□	1NC/1NO + 1NC/1NO			Lock position 
SLM21 - BP□□□ SLM21 - BM□□□	1NC/1NO + 2NC			Lock position 
SLM21 - CP□□□ SLM21 - CM□□□	2NC + 1NC/1NO			Lock position 
SLM21 - DP□□□ SLM21 - DM□□□	2NC + 2NC			Lock position 
SLM21 - EP□□□ SLM21 - EM□□□	2NC/1NO + 1NC/1NO			Lock position 
SLM21 - FP□□□ SLM21 - FM□□□	2NC/1NO + 2NC			Lock position 
SLM21 - GP□□□ SLM21 - GM□□□	2NC/1NO + 2NC/1NO			Lock position 
SLM21 - HP□□□ SLM21 - HM□□□	3NC + 1NC/1NO			Lock position 
SLM21 - IP□□□ SLM21 - IM□□□	3NC + 2NC			Lock position 
SLM21 - JP□□□ SLM21 - JM□□□	3NC + 3NC			Lock position 
SLM21 - KP□□□ SLM21 - KM□□□	3NC + 2NC/1NO			Lock position 
SLM21 - LP□□□ SLM21 - LM□□□	2NC/1NO + 3NC			Lock position 

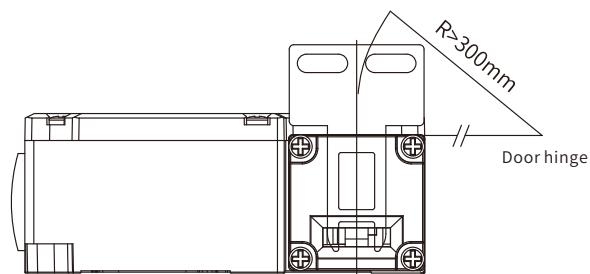
SLM21 Series Safety Door Switch

✂ Product installation

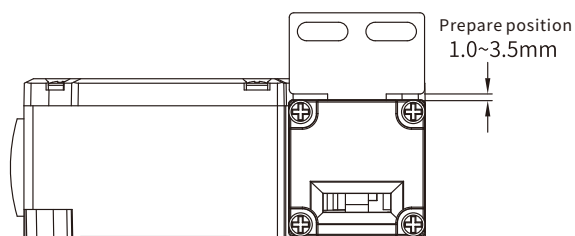
- ★ Loosen 4 screw on top of head, rotate the head to the right key inserting position and then install it.



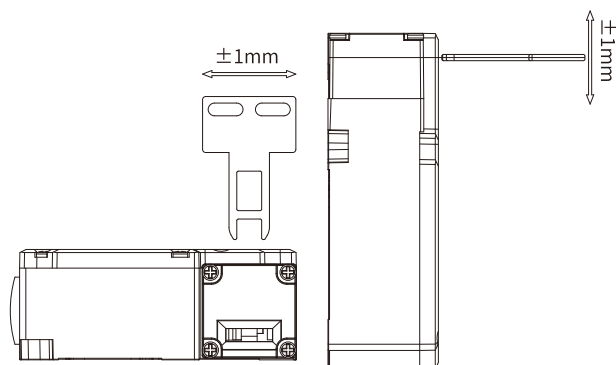
- ★ When install on slide hung door, it should be over than semidiameter.



- ★ Please install the safety switch and insertion key under range 1-3.5mm.



- ★ The installation of operation key allows $\pm 1\text{mm}$ deviation within the key insertion center of the hole.



SLM13 Series

4 Contacts Safety Door Switch



Safety protection forced lock

- EN 60947-5-1/IEC 60947-5-1
- GB/T 14048.5
- EN ISO 14119/ISO 14119
- GB/T 18831



Product introduction

SLM series is the most common door interlock technology. It use a inserting key to detect the movement of the protective door. As the small and light weight size, various contact configurations, and locking functions, safety door locks are usually the lowest cost solution. In addition, the flexible keys improves its misalignment tolerance, make it a wide range of applications. Rotated head (support 7 different key inserting position), power to lock/ power to release ensure various option on working method and installation method. It improve the flexibility of the switch and make it suitable for use on various doors.

Product feature

- Multiple and optional contacts constructure.
- 1300N holding force.
- IP67 protection rate.
- PA66 fire retardant material.
- Support general load and micro-load.

SLM13 Series Safety Door Switch

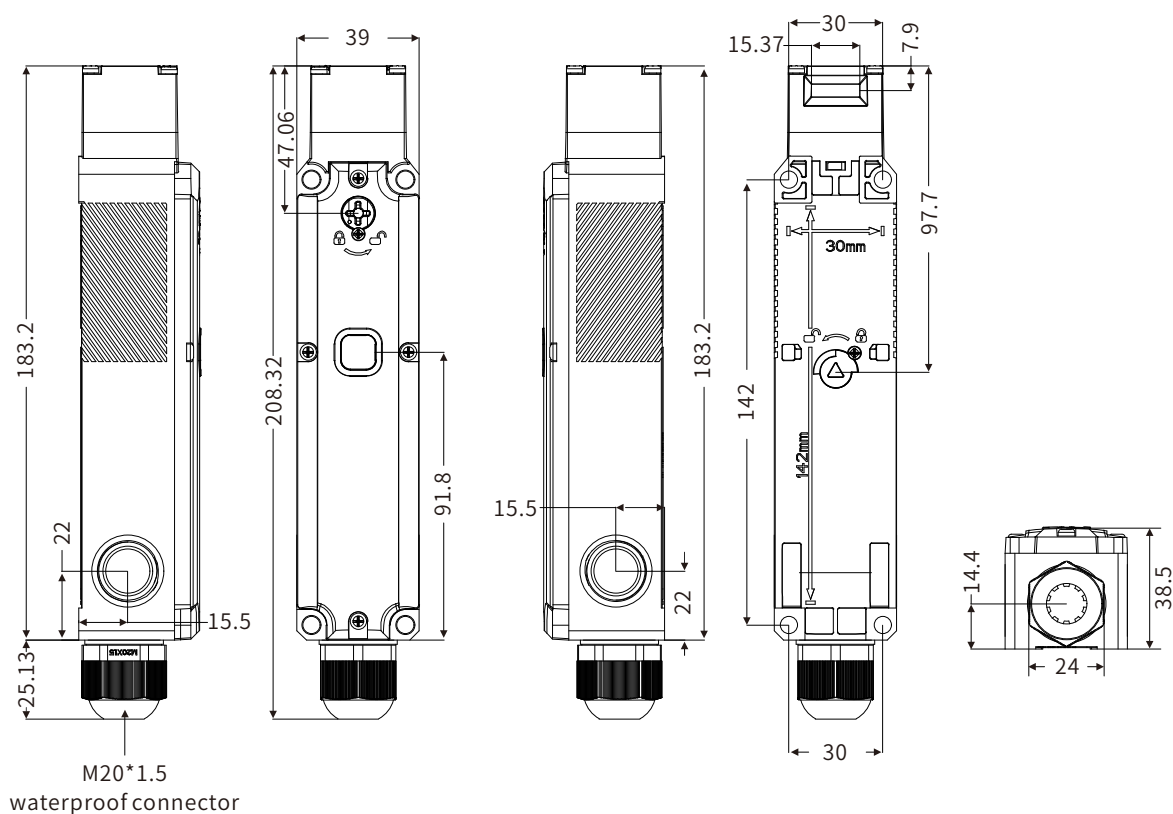
Technical parameter

Electromagnetic tube		
Rated operating voltage	DC24V	
Power	4.8W	
Rated current	Approximate 200mA	
Insulation	Class B (130°C)	
LED indicator		
Rated operating voltage	DC24V	
Rated current	Approx. 2mA	
Luminous color (LED)	Green	
Safety level	PL d (ISO 13849-1)	
Certificates	Rheinland	
Standard	EN60947-5-1、IEC60947-5-1、GB/T 14048.5、EN ISO 14119、GB/T 18831	
Protection rate	IP67	
Material	PA66 fire retardant	
Mechanical lifespan	Over 1,000,000	
Electrical lifespan	Over 150,000 (AC240V3A, resistive load)	
Using type	AC-15	DC-13
Rated operating voltage (Ue)	240V	24V
Rated operating current (Ie)	3A	2A
Electrical parameters		
Contact resistance	<200mΩ	
Nominal discharge current (Ith)	10A	
Rated insulation voltage (Ui)	300V	
Anti-electric shock level	Class II (Double insulation)	
Pulse withstand voltage (EN60947-5-1)	2.5KV	
Insulation resistance	100MΩ以上	
Short-circuit protection	10A,250V Requires a quick-break fuse	
Vibration resistance	10-55HZ Double amplitude 1.5mm	
Impact resistance	Durability 1000m/s ²	
Conditional short-circuit current	100A (EN 60947-5-1)	
Space of contact	2×2mm above	
Action characteristic		
Direct opening force	>10mm	
Operating speed	0.1 m ~ 0.5m/s	
Allowed operating frequency	Maximum 30 times/ minutes	
Holding force	1300N	
Environment		
Operating environment	3 (EN60947-5-1)	
Operating temperature	-10°C~+55°C (no freezing)	
Operating humidity	<95% RH	

Model selection (eg.: SLM13-APM-B)

Product series	Switch contact (Door monitor + lock monitor)	Head direction/ Material	Door lock/ release method	Release key position
SLM13	—	□	□	—
A: 1NC/1NO(Slow action)+1NC/1NO(Slow action) B: 1NC/1NO(Slow action)+2NC(Slow action) C: 2NC(Slow action)+1NC/1NO(Slow action) D: 2NC(Slow action)+2NC(Slow action) E: 1NC/2NO(Slow action)+1NC(Slow action) F: 3NC(Slow action)+1NC(Slow action) G: 2NC/1NO(Slow action)+1NC(Slow action) H: 1NC(Slow action)+3NC(Slow action) I: 1NC(Slow action)+1NC/2NO(Slow action) J: 1NC(Slow action)+2NC/1NO(Slow action) K: 1NO(Slow action)+3NC(Slow action) L: 1NO(Slow action)+2NC/1NO(Slow action)		P: 4 optional directions (Default front side installation)/plastic	M: DC24V power to release (mechanical lock) E: DC24V power to lock	No mark: front B: Rear to release

Product size



SLM13 Series Safety Door Switch

 **SLM13 model selection table**

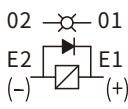
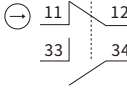
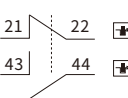
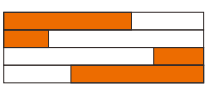
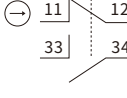
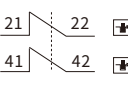
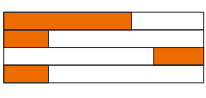
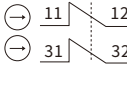
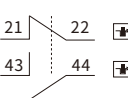
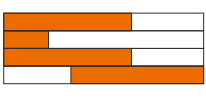
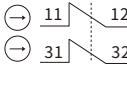
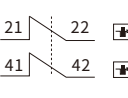
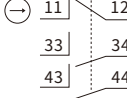
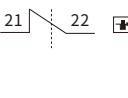
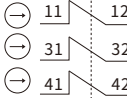
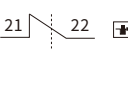
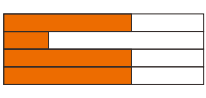
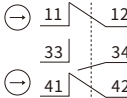
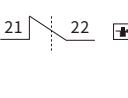
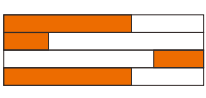
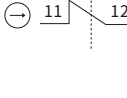
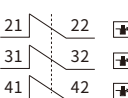
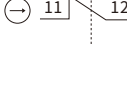
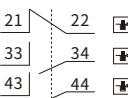
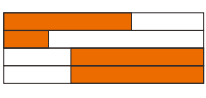
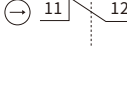
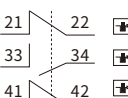
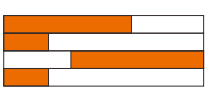
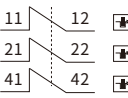
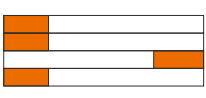
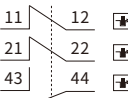
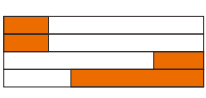
Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Top release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+1NC/1NO	M20×1.5	SLM13-APE
				1NC/1NO+2NC	M20×1.5	SLM13-BPE
				2NC+1NC/1NO	M20×1.5	SLM13-CPE
				2NC+2NC	M20×1.5	SLM13-DPE
				1NC/2NO+1NC	M20×1.5	SLM13-EPE
				3NC+1NC	M20×1.5	SLM13-FPE
				2NC/1NO+1NC	M20×1.5	SLM13-GPE
				1NC+3NC	M20×1.5	SLM13-HPE
				1NC+1NC/2NO	M20×1.5	SLM13-IPE
				1NC+2NC/1NO	M20×1.5	SLM13-JPE
				1NO+3NC	M20×1.5	SLM13-KPE
				1NO+2NC/1NO	M20×1.5	SLM13-LPE
			Power to lock	1NC/1NO+1NC/1NO	M20×1.5	SLM13-APM
				1NC/1NO+2NC	M20×1.5	SLM13-BPM
				2NC+1NC/1NO	M20×1.5	SLM13-CPM
				2NC+2NC	M20×1.5	SLM13-DPM
				1NC/2NO+1NC	M20×1.5	SLM13-EPM
				3NC+1NC	M20×1.5	SLM13-FPM
				2NC/1NO+1NC	M20×1.5	SLM13-GPM
				1NC+3NC	M20×1.5	SLM13-HPM
				1NC+1NC/2NO	M20×1.5	SLM13-IPM
				1NC+2NC/1NO	M20×1.5	SLM13-JPM
				1NO+3NC	M20×1.5	SLM13-KPM
				1NO+2NC/1NO	M20×1.5	SLM13-LPM

SLM13 model selection table

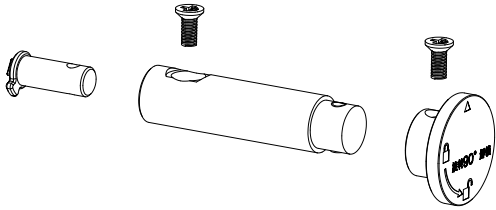
Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Front release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+1NC/1NO	M20×1.5	SLM13-APE-B
				1NC/1NO+2NC	M20×1.5	SLM13-BPE-B
				2NC+1NC/1NO	M20×1.5	SLM13-CPE-B
				2NC+2NC	M20×1.5	SLM13-DPE-B
				1NC/2NO+1NC	M20×1.5	SLM13-EPE-B
				3NC+1NC	M20×1.5	SLM13-FPE-B
				2NC/1NO+1NC	M20×1.5	SLM13-GPE-B
				1NC+3NC	M20×1.5	SLM13-HPE-B
				1NC+1NC/2NO	M20×1.5	SLM13-IPE-B
				1NC+2NC/1NO	M20×1.5	SLM13-JPE-B
				1NO+3NC	M20×1.5	SLM13-KPE-B
				1NO+2NC/1NO	M20×1.5	SLM13-LPE-B
			Power to lock	1NC/1NO+1NC/1NO	M20×1.5	SLM13-APM-B
				1NC/1NO+2NC	M20×1.5	SLM13-BPM-B
				2NC+1NC/1NO	M20×1.5	SLM13-CPM-B
				2NC+2NC	M20×1.5	SLM13-DPM-B
				1NC/2NO+1NC	M20×1.5	SLM13-EPM-B
				3NC+1NC	M20×1.5	SLM13-FPM-B
				2NC/1NO+1NC	M20×1.5	SLM13-GPM-B
				1NC+3NC	M20×1.5	SLM13-HPM-B
				1NC+1NC/2NO	M20×1.5	SLM13-IPM-B
				1NC+2NC/1NO	M20×1.5	SLM13-JPM-B
				1NO+3NC	M20×1.5	SLM13-KPM-B
				1NO+2NC/1NO	M20×1.5	SLM13-LPM-B

SLM13 Series Safety Door Switch

Contacts action

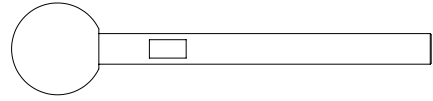
Model	Contact (door minitor+ lock monitor)	Wire diagram		Contact action Contact ON Contact OFF
		door monitor	lock monitor	
	door monitor lock monitor NC  NC  NO  NO 		02 01 E2 (-) E1 (+) 	Operation key complete insertion Travel Operation key extraction 
SLM13-APE/M	1NC/1NO+1NC/1NO			11--12 21--22 33--34 43--44 
SLM13-BPE/M	1NC/1NO+2NC			11--12 21--22 33--34 41--42 
SLM13-CPE/M	2NC+1NC/1NO			11--12 21--22 31--32 43--44 
SLM13-DPE/M	2NC+2NC			11--12 21--22 31--32 41--42 
SLM13-EPE/M	1NC/2NO+1NC			11--12 21--22 33--34 43--44 
SLM13-FPE/M	3NC+1NC			11--12 21--22 31--32 41--42 
SLM13-GPE/M	2NC/1NO+1NC			11--12 21--22 33--34 41--42 
SLM13-HPE/M	1NC+3NC			11--12 21--22 31--32 41--42 
SLM13-IPE/M	1NC+1NC/2NO			11--12 21--22 33--34 43--44 
SLM13-JPE/M	1NC+2NC/1NO			11--12 21--22 33--34 41--42 
SLM13-KPE/M	1NO+3NC			11--12 21--22 33--34 41--42 
SLM13-LPE/M	1NO+2NC/1NO			11--12 21--22 33--34 43--44 

Rear release unit



Model :SU-50 (Sold Separately)

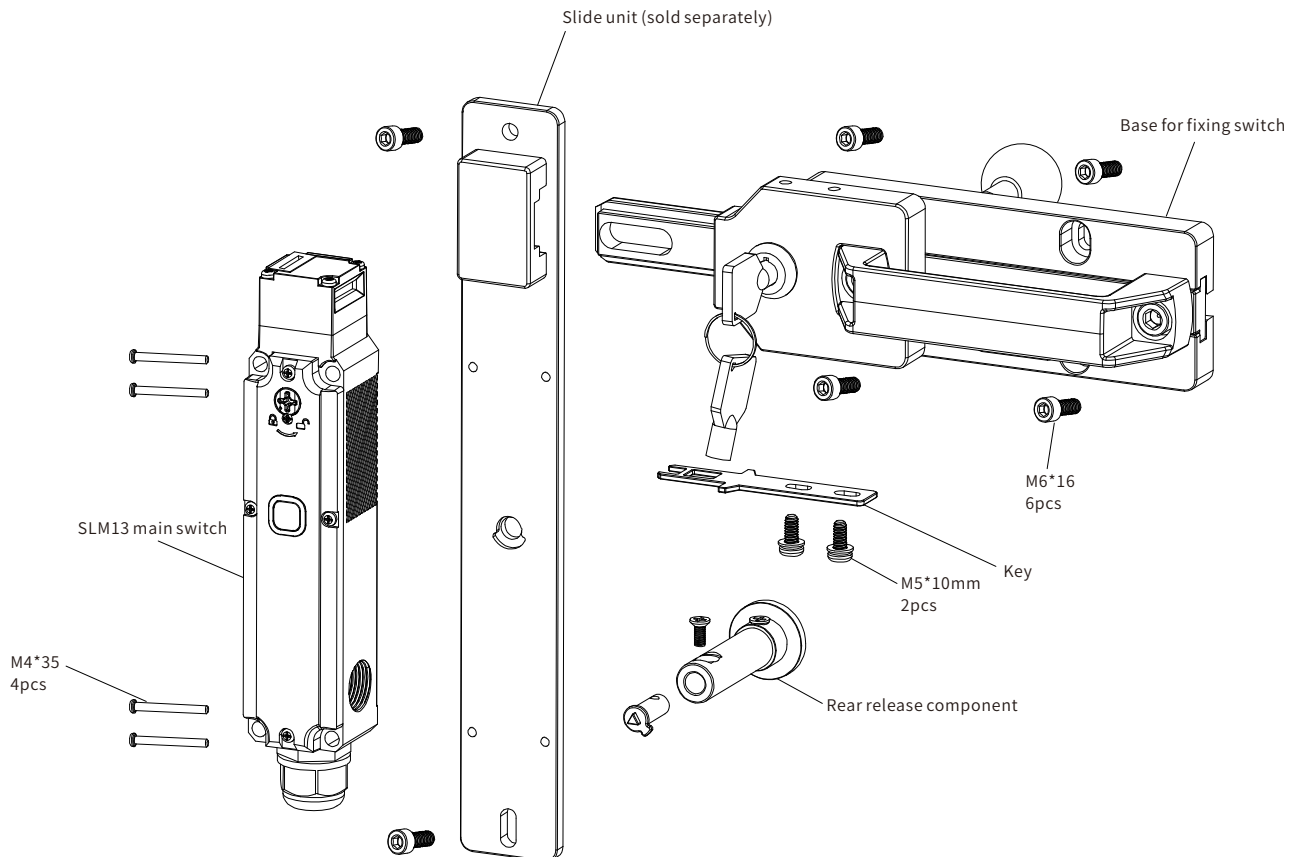
Back handle



Model :SH-1 (Sold Separately)

Installation method (Slide unit sold separately)

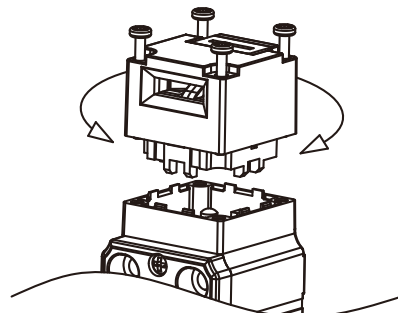
1. 4pcs M6*16 screw to fix the base of slide unit
2. 4pcs M5*10 screw fix the keys
3. 4pcs M4*35 screw fix the switch
4. 2pcs M6*16 screw fix the base of switch



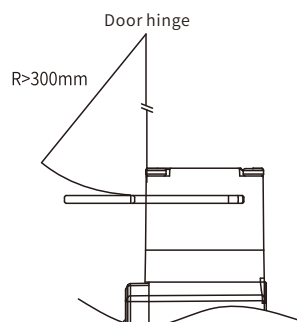
SLM13 Series Safety Door Switch

✂ Product installation

- ★ Loosen 4 screw on top of head, rotate the head to the right key inserting position and then install it.

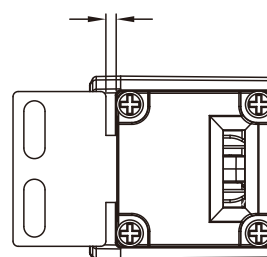


- ★ When install on slide hung door, it should be over than semidiameter.

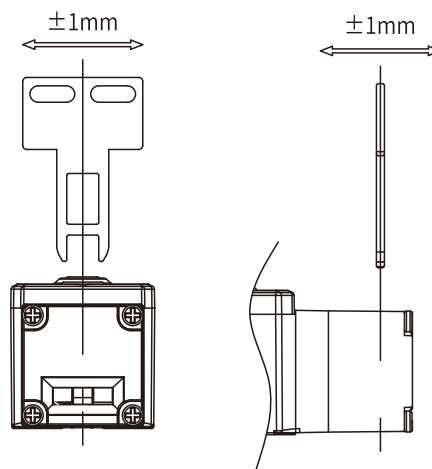


- ★ Please install the safety switch and insertion key under range 1-3.5mm.

Prepare position
1.0~3.5mm



- ★ The installation of operation key allows $\pm 1\text{mm}$ deviation within the key insertion center of the hole.





Safety protection forced lock

- EN 60947-5-1/IEC 60947-5-1
- GB/T 14048.5
- EN ISO 14119/ISO 14119
- GB/T 18831



Product introduction

SLM11 series safety door switch is equipped with multiple contacts, with electromagnetic locking or mechanical locking option, rotation head and various key type to ensure flexible installation. 1300N strong holding force and IP67 protection structure ensure its widely application range.

Product feature

- Multiple and optional contacts.
- 1300N holding force.
- IP67 protection rate.
- Rotated head & various keys.
- Support general load and micro-load.

SLM11 Series Safety Door Switch

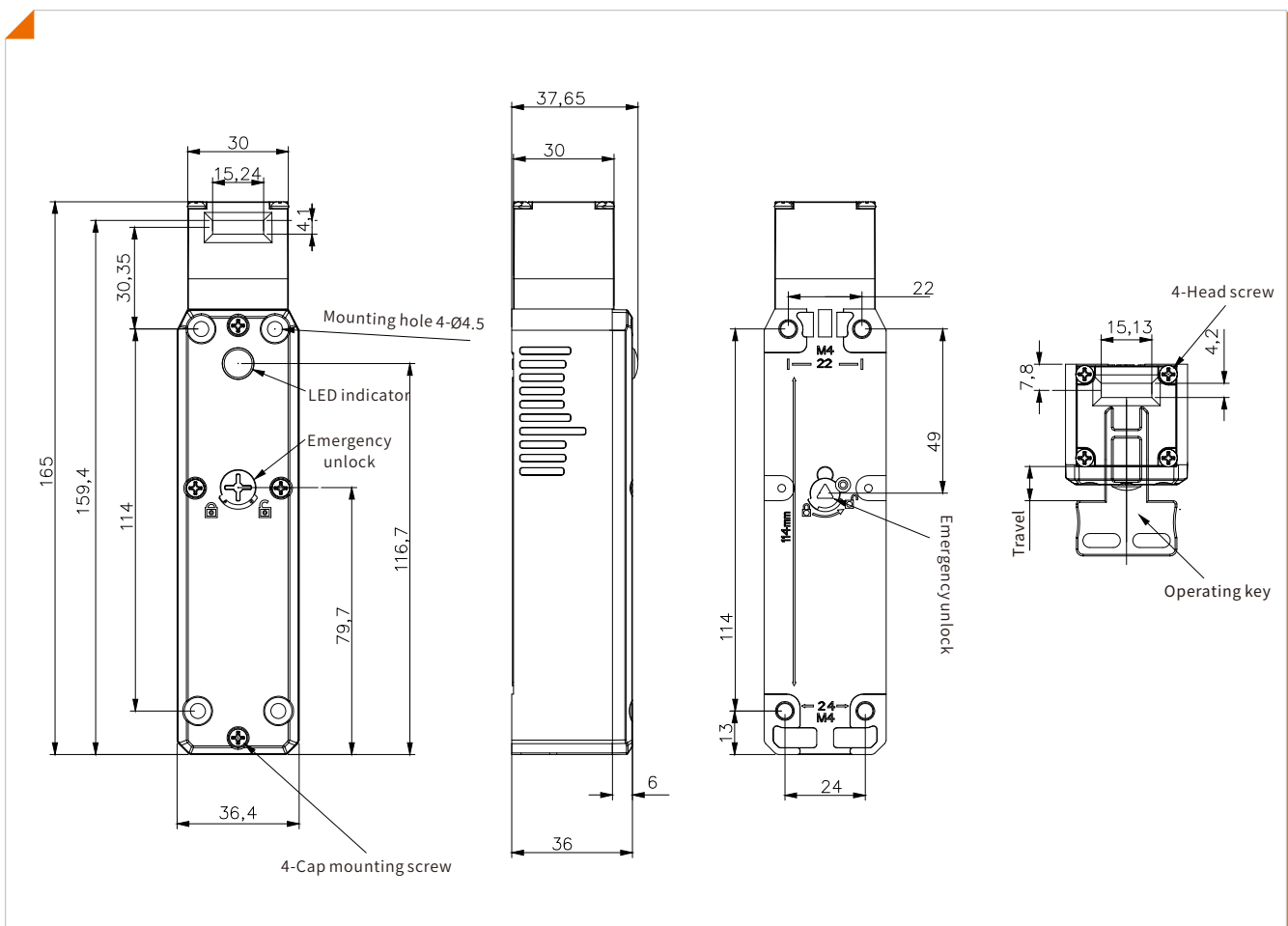
Technical parameter

Electromagnetic tube		
Rated operating voltage	DC24V	
Power	4.8W	
Rated current	Approximate 200mA	
Insulation	Class B (130°C)	
LED indicator		
Rated operating voltage	DC24V	
Rated current	Approximate 1mA	
Luminous color (LED)	Green	
Safety level	PL d (ISO 13849-1)	
Certificates	TÜV Rheinland	
Standard	EN60947-5-1、IEC60947-5-1、GB/T 14048.5、EN ISO 14119、GB/T 18831	
Protection rate	IP67	
Material	PA66 fire retardant	
Mechanical lifespan	Over 1,000,000 times	
Electrical lifespan	Over 150.000 (AC240V 3A, resistive load)	
Using type	AC-15	DC-13
Rated operating voltage (Ue)	240V	24V
Rated operating current (Ie)	3A	2A
Electrical parameters		
Contact resistance	< 200 mΩ	
Nominal discharge current (Ith)	10A	
Rated insulation voltage (Ui)	300V	
Anti-electric shock level	Class II (Dual Insulation)	
Pulse withstand voltage (EN60947-5-1)	2.5KV	
Insulation resistance	100MΩ above	
Short-circuit protection	10A, 250V requires a quick-break fuse	
Vibration resistance	10-55Hz double amplitude 1.5mm	
Impact resistance	Durability1000m/s ²	
Conditional short-circuit current	100A (EN 60947-5-1)	
Space of contact	2×2mmabove	
Action characteristic		
Direct opening force	Min. 60N	
Direct opening travel	Over 10mm	
Allowed operating speed	0.1 m ~ 0.5m/s	
Allowed operating frequency	Maximum 30 times/minutes	
Holding force	1300N	
Environment		
Operating environment	3 (EN60947-5-1)	
Operating temperature	-10°C~+55°C (no freezing)	
Operating humidity	< 95%RH	

Model selection (eg.: SLM11-BPM2)

Product series	Switch contact (Door monitor + lock monitor)	Head direction/ Material	Door lock/ release method	Connector	Key inserting direction
SLM11	— ☐	☐	☐	☐ — ☐	☐
B: 1NC/1NO(Slow action)+2NC(Slow action) D: 2NC(Slow action) +1NC(Slow action) E: 2NO(Slow action) + 2NC (Slow action) F: 1NC/1NO(Slow action)+1NC(Slow action) G: 2NC(Slow action)+2NC (Slow action) H: 1NC/1NO(Slow action)+1NC/1NO(Slow action) I: 1NO(Slow action)+3NC(Slow action) J: 1NC(Slow action)+3NC(Slow action) L: 3NC(Slow action)+1NC(Slow action) M: 2NC(Slow action)+1NC/1NO(Slow action)		P: 4 optional directions (Default front side installation)/ plastic M: 4 optional directions (Default front side installation)/ metal	M: DC24V power to release (mechanical lock) E: DC24V power to lock	2: M20	No mark: front B: Rear to release

Product size



SLM11 Series Safety Door Switch

SLM11 model selection table

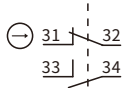
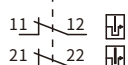
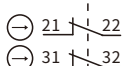
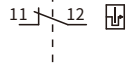
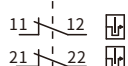
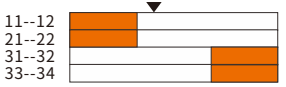
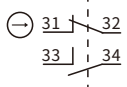
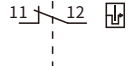
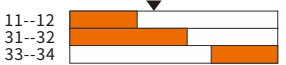
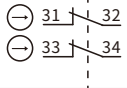
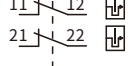
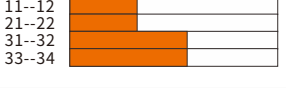
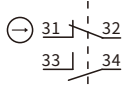
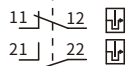
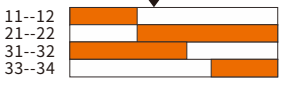
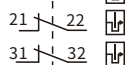
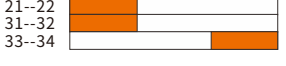
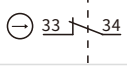
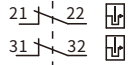
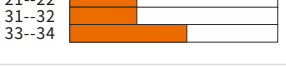
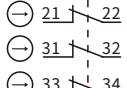
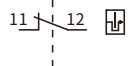
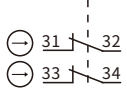
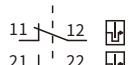
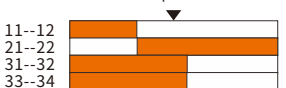
Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Top release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+2NC	M20	SLM11-BPM2
				2NC+1NC	M20	SLM11-DPM2
				2NO+ 2NC	M20	SLM11-EPM2
				1NC/1NO+1NC	M20	SLM11-FPM2
				2NC+2NC	M20	SLM11-GPM2
				1NC/1NO+1NC/1NO	M20	SLM11-HPM2
				1NO+3NC	M20	SLM11-IPM2
				1NC+3NC	M20	SLM11-JPM2
				3NC+1NC	M20	SLM11-LPM2
			Power to lock	2NC+1NC/1NO	M20	SLM11-MPM2
				1NC/1NO+2NC	M20	SLM11-BPE2
				2NC+1NC	M20	SLM11-DPE2
				2NO+ 2NC	M20	SLM11-EPE2
				1NC/1NO+1NC	M20	SLM11-FPE2
				2NC+2NC	M20	SLM11-GPE2
				1NC/1NO+1NC/1NO	M20	SLM11-HPE2
				1NO+3NC	M20	SLM11-IPE2
				1NC+3NC	M20	SLM11-JPE2
				3NC+1NC	M20	SLM11-LPE2
				2NC+1NC/1NO	M20	SLM11-MPE2
	Metal	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+2NC	M20	SLM11-BMM2
				2NC+1NC	M20	SLM11-DMM2
				2NO+ 2NC	M20	SLM11-EMM2
				1NC/1NO+1NC	M20	SLM11-FMM2
				2NC+2NC	M20	SLM11-GMM2
				1NC/1NO+1NC/1NO	M20	SLM11-HMM2
				1NO+3NC	M20	SLM11-IMM2
				1NC+3NC	M20	SLM11-JMM2
				3NC+1NC	M20	SLM11-LMM2
			Power to lock	2NC+1NC/1NO	M20	SLM11-MMM2
				1NC/1NO+2NC	M20	SLM11-BME2
				2NC+1NC	M20	SLM11-DME2
				2NO+ 2NC	M20	SLM11-EME2
				1NC/1NO+1NC	M20	SLM11-FME2
				2NC+2NC	M20	SLM11-GME2
				1NC/1NO+1NC/1NO	M20	SLM11-HME2
				1NO+3NC	M20	SLM11-IME2
				1NC+3NC	M20	SLM11-JME2
				3NC+1NC	M20	SLM11-LME2
				2NC+1NC/1NO	M20	SLM11-MME2

SLM11 model selection table

Release position	Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Front release	Plastic	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+2NC	M20	SLM11-BPM2-B
				2NC+1NC	M20	SLM11-DPM2-B
				2NO+ 2NC	M20	SLM11-EPM2-B
				1NC/1NO+1NC	M20	SLM11-FPM2-B
				2NC+2NC	M20	SLM11-GPM2-B
				1NC/1NO+1NC/1NO	M20	SLM11-HPM2-B
				1NO+3NC	M20	SLM11-IPM2-B
				1NC+3NC	M20	SLM11-JPM2-B
				3NC+1NC	M20	SLM11-LPM2-B
			Power to lock	2NC+1NC/1NO	M20	SLM11-MPM2-B
				1NC/1NO+2NC	M20	SLM11-BPE2-B
				2NC+1NC	M20	SLM11-DPE2-B
				2NO+ 2NC	M20	SLM11-EPE2-B
				1NC/1NO+1NC	M20	SLM11-FPE2-B
				2NC+2NC	M20	SLM11-GPE2-B
				1NC/1NO+1NC/1NO	M20	SLM11-HPE2-B
				1NO+3NC	M20	SLM11-IPE2-B
				1NC+3NC	M20	SLM11-JPE2-B
				3NC+1NC	M20	SLM11-LPE2-B
				2NC+1NC/1NO	M20	SLM11-MPE2-B
	Metal	Electromagnetic DC24V Green LED	Power to release	1NC/1NO+2NC	M20	SLM11-BMM2-B
				2NC+1NC	M20	SLM11-DMM2-B
				2NO+ 2NC	M20	SLM11-EMM2-B
				1NC/1NO+1NC	M20	SLM11-FMM2-B
				2NC+2NC	M20	SLM11-GMM2-B
				1NC/1NO+1NC/1NO	M20	SLM11-HMM2-B
				1NO+3NC	M20	SLM11-IMM2-B
				1NC+3NC	M20	SLM11-JMM2-B
				3NC+1NC	M20	SLM11-LMM2-B
			Power to lock	2NC+1NC/1NO	M20	SLM11-MMM2-B
				1NC/1NO+2NC	M20	SLM11-BME2-B
				2NC+1NC	M20	SLM11-DME2-B
				2NO+ 2NC	M20	SLM11-EME2-B
				1NC/1NO+1NC	M20	SLM11-FME2-B
				2NC+2NC	M20	SLM11-GME2-B
				1NC/1NO+1NC/1NO	M20	SLM11-HME2-B
				1NO+3NC	M20	SLM11-IME2-B
				1NC+3NC	M20	SLM11-JME2-B
				3NC+1NC	M20	SLM11-LME2-B
				2NC+1NC/1NO	M20	SLM11-MME2-B

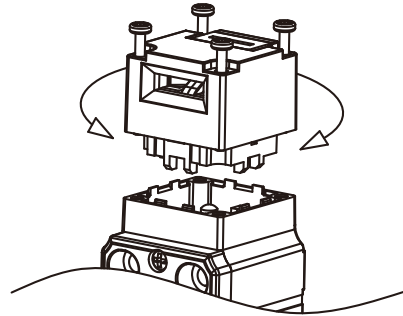
SLM11 Series Safety Door Switch

Contacts action

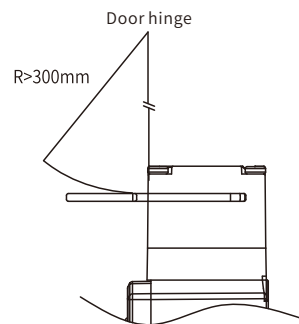
Model	Contact (door minitor+ lock monitor)	Wire diagram		Contact action
		door monitor	lock monitor	Contact ON Contact OFF
	door monitor lock monitor NC NC NO NO		02 01 E2 E1 (-) (+)	Operation key complete insertion Travel Operation key extraction 
SLM11 - BP□□ SLM11 - BM□□	1NC/1NO+2NC			Lock position 
SLM11 - DP□□ SLM11 - DM□□	2NC+1NC			Lock position 
SLM11 - EP□□ SLM11 - EM□□	2NO+ 2NC			Lock position 
SLM11 - FP□□ SLM11 - FM□□	1NC/1NO+1NC			Lock position 
SLM11 - GP□□ SLM11 - GM□□	2NC+2NC			Lock position 
SLM11 - HP□□ SLM11 - HM□□	1NC/1NO+1NC/1NO			Lock position 
SLM11 - IP□□ SLM11 - IM□□	1NO+3NC			Lock position 
SLM11 - JP□□ SLM11 - JM□□	1NC+3NC			Lock position 
SLM11 - LP□□ SLM11 - LM□□	3NC+1NC			Lock position 
SLM11 - MP□□ SLM11 - MM□□	2NC+1NC/1NO			Lock position 

Product installation

- ★ Loosen 4 screw on top of head, rotate the head to the right key inserting position and then install it.

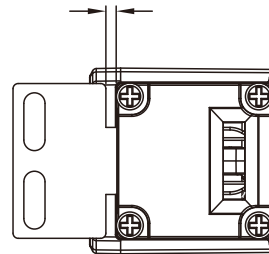


- ★ When install on slide hung door, it should be over than semidiameter.

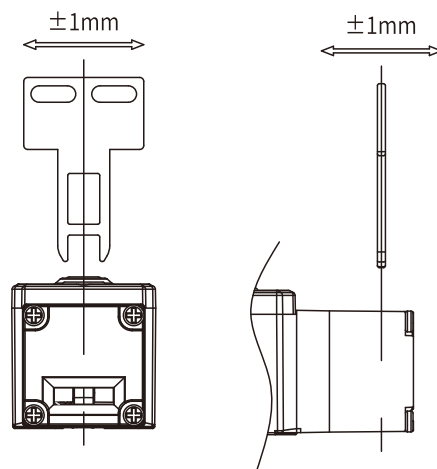


- ★ Please install the safety switch and insertion key under range 1-3.5mm.

Prepare position
1.0~3.5mm

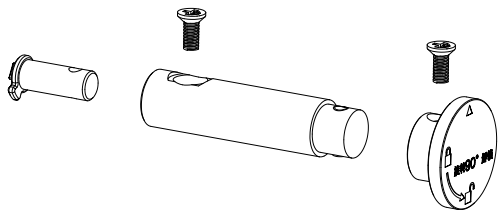


- ★ The installation of operation key allows $\pm 1\text{mm}$ deviation within the key insertion center of the hole.



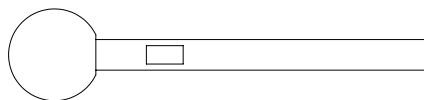
SLM11 Series Safety Door Switch

Rear release unit



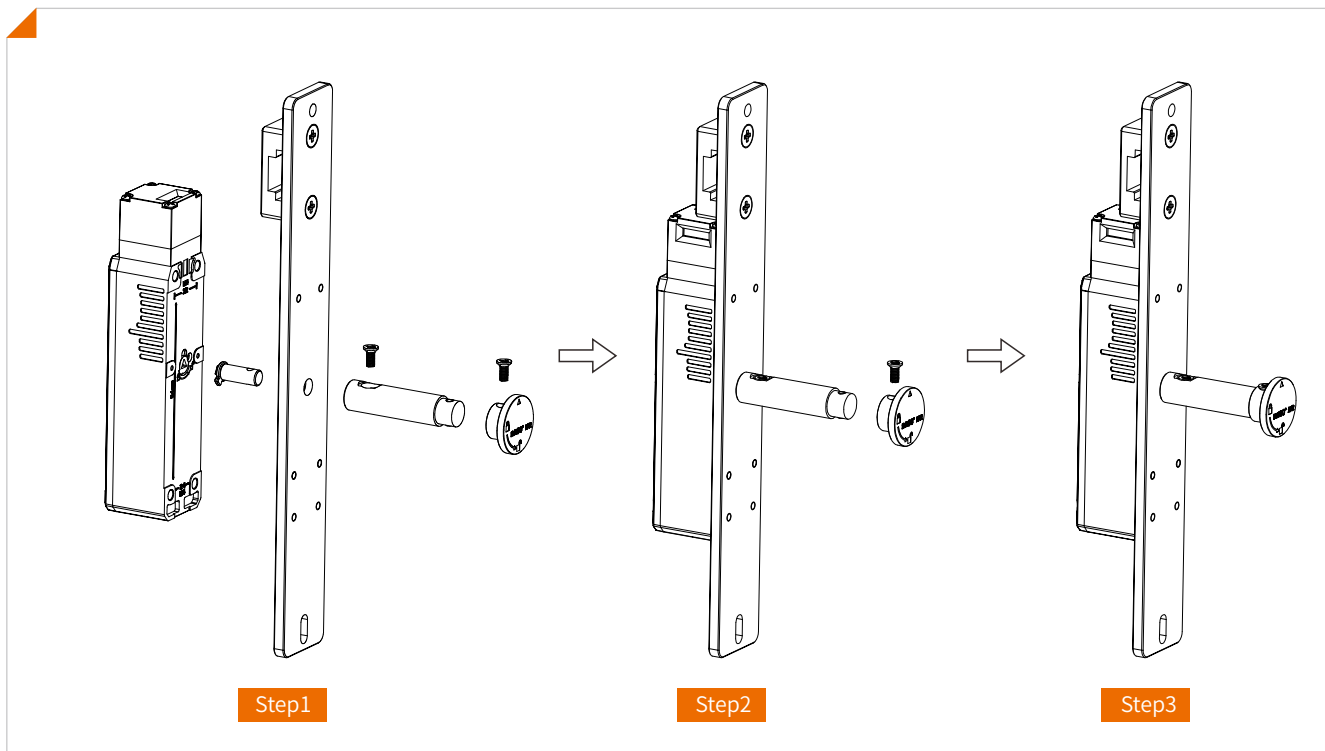
Model :SU-50 (Sold separately)

Back handle



Model :SH-1 (Sold separately)

✂ Installation of back unlock device



⚠ Precautions for rear release button

- 1.The release button is a safety measure for emergency evacuation when operator is accidentally trapped in the safety fence (hazard area).
- 2.Rotate the metal knob 90° anticlockwise to release safety door switch and open the door.
- 3.After removed danger, please rotate the metal knob 90° clockwise to restore the locked state. The door cannot be locked even if the door is closed when the release knob is in the unlocked position.
- 4.Be sure to install the emergency release knob in an operable place inside safety fence (hazardous area).
- 5.Please do not operate the emergency release knob with tools or apply excessive force or force in directions other than the operating direction, or beyond the knob rotation angle range, so as to avoid damage to the knob parts and cause failure.

SLM11Series

2 contacts safety door switch



Safety protection forced lock

- EN 60947-5-1/IEC60947-5-1
- GB/T 14048.5
- EN ISO 14119/ISO 14119
- GB/T 18831



Product introduction

The 2 contacts safety door switch can be easily installed in narrow space, greatly improve the ease of use. Rotated head support various insertion of operating key and ensure flexible installation to save time spend on installation and wiring. This design is suitable for site with low safety performance index requirements such as injection molding machines.

Product feature

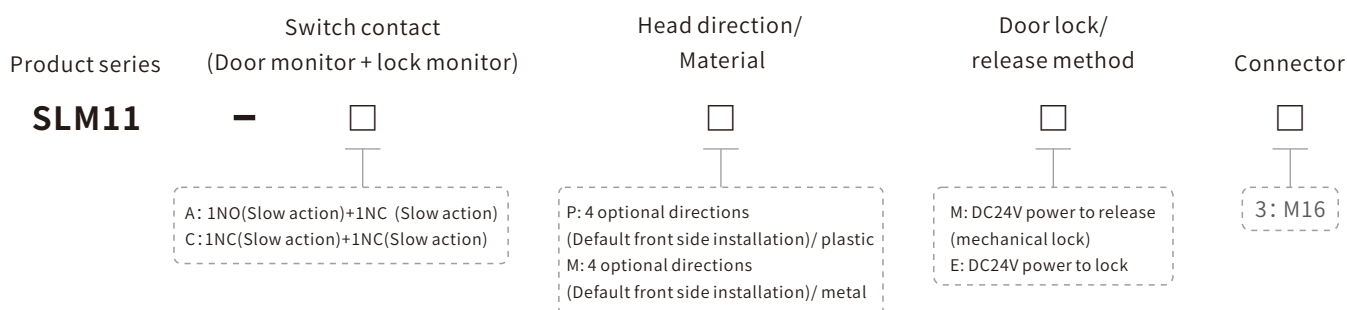
- Holding force 1300N.
- IP67 protection rate.
- Multiple rotated direction.
- Support general load and micro-load.

SLM11 Series Safety Door Switch

Technical parameter

Electromagnetic tube		
Rated operating voltage	DC24V	
Power	4.8W	
Rated current	Approximate 200mA	
Insulation	Class B (130°C)	
LED indicator		
Rated operating voltage	DC24V	
Rated current	Approximate 1mA	
Luminous color (LED)	Green	
Safety level	PL d (ISO 13849-1)	
Certificates	TÜV Rheinland	
Standard	EN60947-5-1、IEC60947-5-1、GB/T 14048.5、EN ISO 14119、GB/T 18831	
Protection rate	IP67	
Material	PA66 fire retardant	
Mechanical lifespan	Over 1,000,000 times	
Electrical lifespan	Over 150.000 (AC240V 3A, resistive load)	
Using type	AC-15	DC-13
Rated operating voltage (Ue)	240V	24V
Rated operating current (Ie)	3A	2A
Electrical parameters		
Contact resistance	< 200 mΩ	
Nominal discharge current (Ith)	10A	
Rated insulation voltage (Ui)	300V	
Anti-electric shock level	Class II (Dual Insulation)	
Pulse withstand voltage (EN60947-5-1)	2.5KV	
Insulation resistance	100MΩ above	
Short-circuit protection	10A, 250V requires a quick-break fuse	
Vibration resistance	10-55Hz double amplitude 1.5mm	
Impact resistance	Durability1000m/s ²	
Conditional short-circuit current	100A (EN 60947-5-1)	
Space of contact	2×2mmabove	
Action characteristic		
Direct opening force	Min. 60N	
Direct opening travel	Over 10mm	
Allowed operating speed	0.1 m ~ 0.5m/s	
Allowed operating frequency	Maximum 30 times/minutes	
Holding force	1300N	
Environment		
Operating environment	3 (EN60947-5-1)	
Operating temperature	-10°C~+55°C (no freezing)	
Operating humidity	< 95%RH	

📌 Model selection (eg.: SLM11-APM3)



📄 SLM11 model selection table

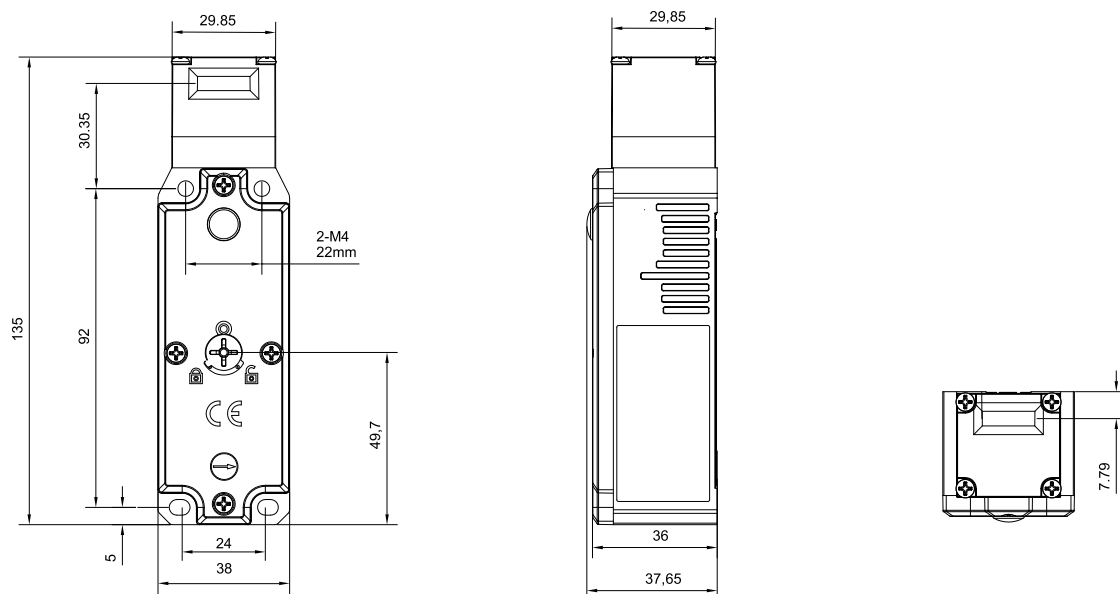
Head material	Magnetic voltage/ indicator	Lock/ Release method	Contact type (door monitor + lock monitor)	Connector size	Model
Plastic	Electromagnetic DC24V Green LED	Power to release	1NO+1NC	M16	SLM11-APM3
			1NC+1NC	M16	SLM11-CPM3
		Power to lock	1NO+1NC	M16	SLM11-APE3
			1NC+1NC	M16	SLM11-CPE3
Metal	Electromagnetic DC24V Green LED	Power to release	1NO+1NC	M16	SLM11-AMM3
			1NC+1NC	M16	SLM11-CMM3
		Power to lock	1NO+1NC	M16	SLM11-AME3
			1NC+1NC	M16	SLM11-CME3

🔗 Contacts action

Model	Contact (door monitor+ lock monitor)	Wire diagram		Contact action
		door monitor	lock monitor	Contact ON Contact OFF
	door monitor lock monitor NC NC NO NO			Operation key complete insertion Travel Operation key extraction
SLM11-AP□□ SLM11-AM□□	1NO+1NC			Lock position
SLM11-CP□□ SLM11-CM□□	1NC+1NC			Lock position

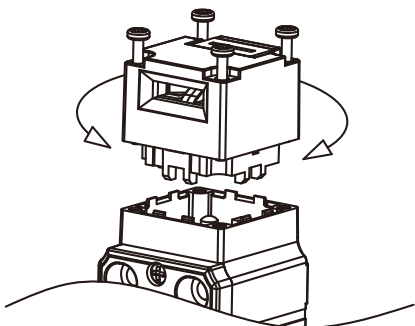
SLM11 Series Safety Door Switch

Product size

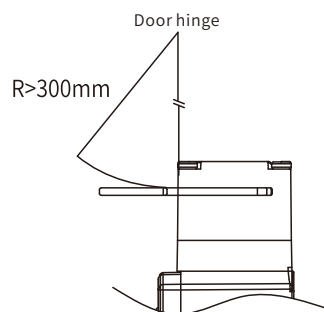


Product installation

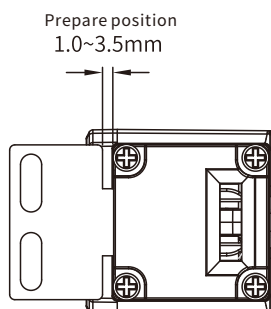
- ★ Loosen 4 screw on top of head, rotate the head to the right key inserting position and then install it.



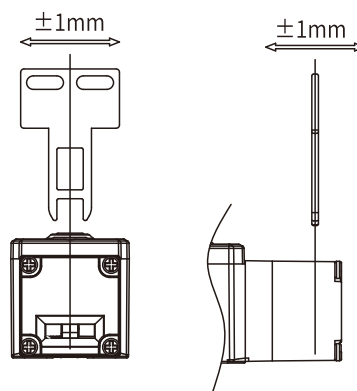
- ★ When install on slide hung door, it should be over than semidiameter.



- ★ Please install the safety switch and insertion key under range 1-3.5mm.



- ★ The installation of operation key allows $\pm 1\text{mm}$ deviation within the key insertion center of the hole.



SSM11Series

Mechanical safety door switch



Product introduction

New generation safety door switch save labor and is environment beneficially. Equipped with 2NC/1NO and 3NC contact structure of 3 contact type. Mechanical design only used for monitoring door close/open.

Product feature

- Optional contacts.
- Support general load and micro-load.
- Simple installation and wiring to save labor and install easily.
- Rotated head.

SSM11 Series Safety Door Switch

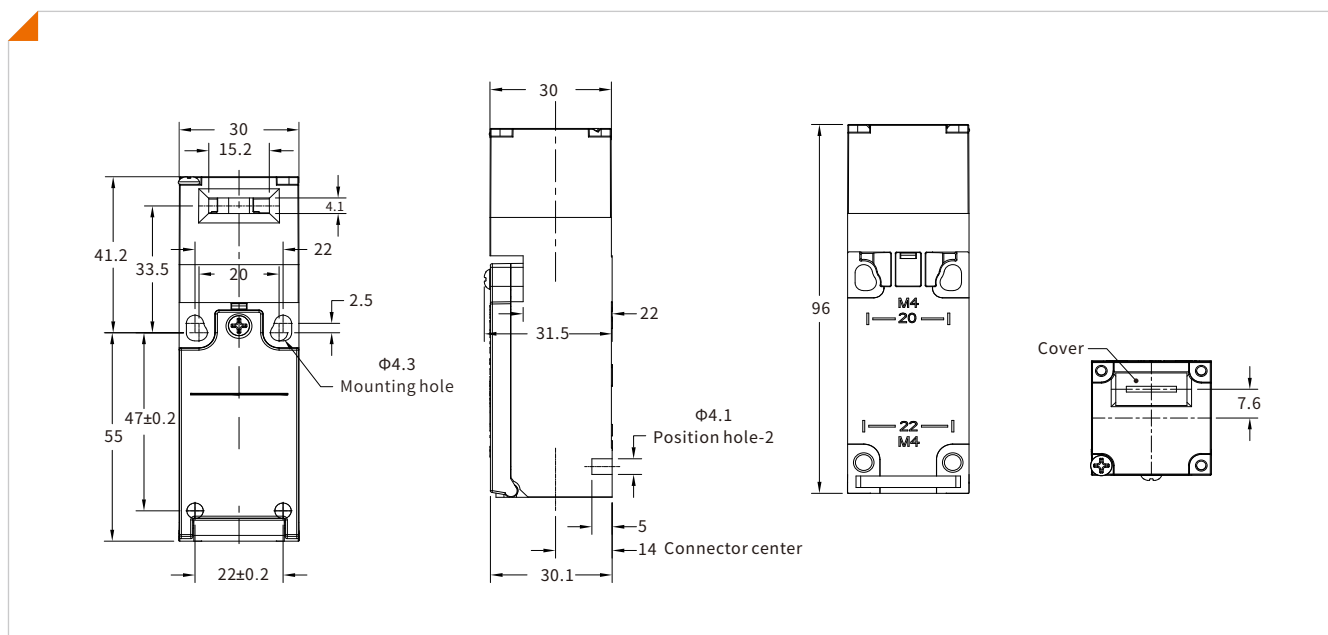
Technical parameter

Safety level	PL d (ISO 13849-1)	
Certificates	CE	
Standard	EN60947-5-1、IEC60947-5-1、GB/T 14048.5、EN ISO 14119、GB/T 18831	
Protection rate	IP67	
Material	PA66 fire retardant	
Mechanical lifespan	Over 1,000,000 times	
Electrical lifespan	Over 150.000	
Using type	AC-15	DC-13
Rated operating voltage (Ue)	240V	24V
Rated operating current (Ie)	3A	2A
Electrical parameters		
Contact resistance	< 200 mΩ	
Rated insulation voltage (Ui)	300V	
Anti-electric shock level	Class II (Dual Insulation)	
Pulse withstand voltage (EN60947-5-1)	2.5KV	
Insulation resistance	100MΩ above (<500VDC)	
Short-circuit protection	10A, 250V requires a quick-break fuse	
Vibration resistance	10-55Hz double amplitude 1.5mm	
Impact resistance	Durability1000m/s ²	
Conditional short-circuit current	100A (EN 60947-5-1)	
Space of contact	2×2mm above	
Action characteristic		
Direct opening force	Min. 60N	
Direct opening travel	Over 10mm	
Allowed operating speed	0.1 m ~ 0.5m/s	
Allowed operating frequency	Maximum 20 times/minutes	
Environment		
Operating environment	3 (EN60947-5-1)	
Operating temperature	-10°C ~ + 60°C (no freezing)	
Operating humidity	< 85%RH	

Model selection (eg.: SSM11-AP2)

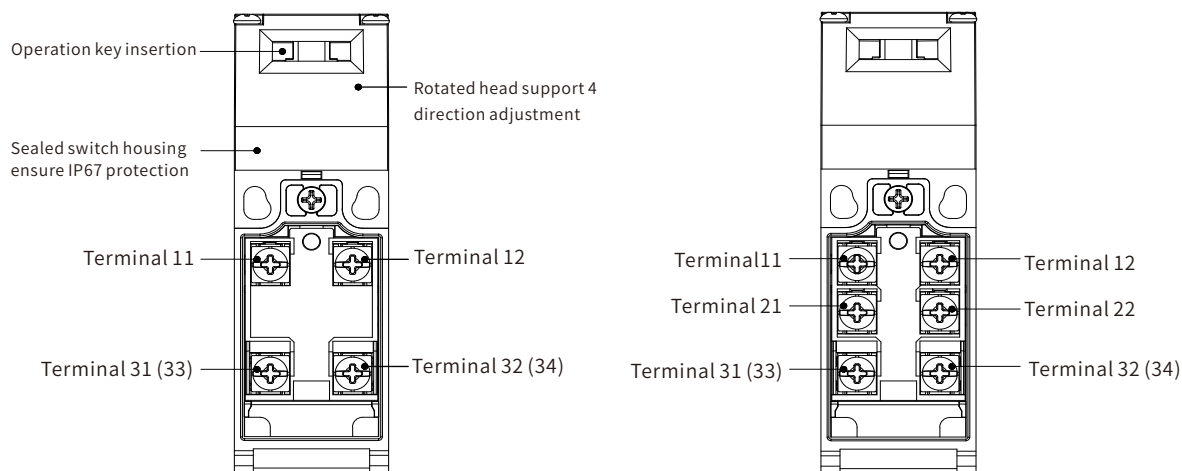
Product series	Internal switch	Head direction/ Material	Connector
SSM11	—		
	 A: 1 NC/1NO (Slow action) B: 2NC (Slow action) C: 2NC/1NO (Slow action) D: 3NC (Slow action)	 P: 4 optional directions(front side as ex-work setting)/ plastic M: 4 optional directions(front side as ex-work setting)/ metal	 2: M20

Product size



Contacts action

Note: The terminal arrangement of the extended form is the same



SSM11 Series Safety Door Switch

SSM11 model selection table

Head material	Contact type	Connector size	Model
Plastic	1NC/1NO	M20	SSM11-AP2
	2NC	M20	SSM11-BP2
	2NC/1NO	M20	SSM11-CP2
	3NC	M20	SSM11-DP2
Metal	1NC/1NO	M20	SSM11-AM2
	2NC	M20	SSM11-BM2
	2NC/1NO	M20	SSM11-CM2
	3NC	M20	SSM11-DM2

Contacts action

Picture shows the state of key inserting and locked.

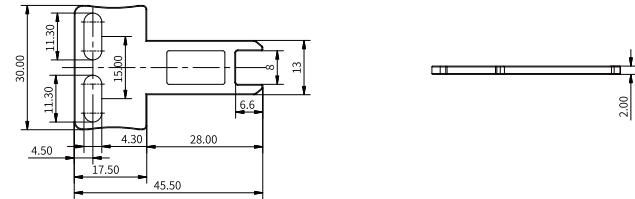
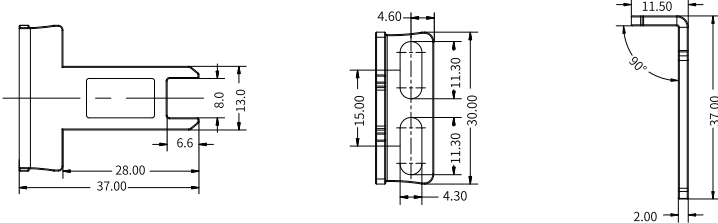
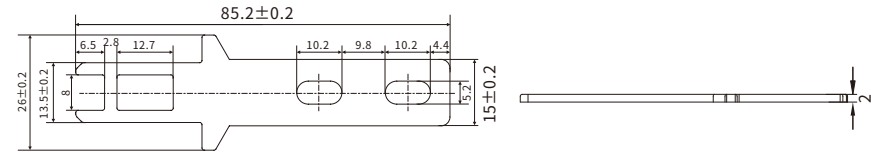
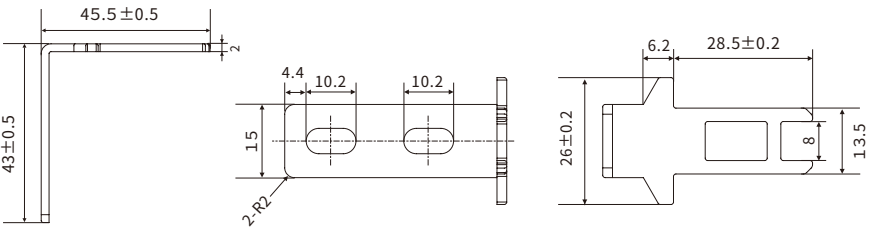
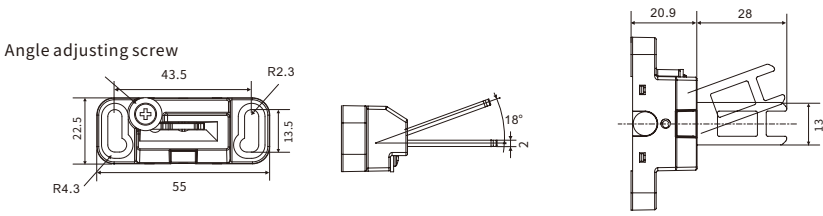
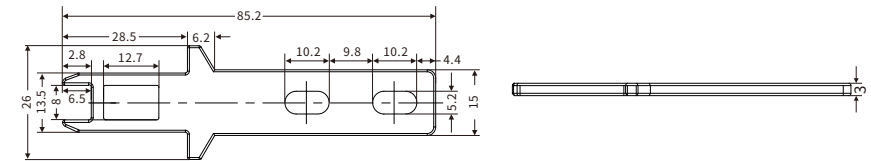
Model	Contact	Wire diagram	Contact action
SSM11-AP2 SSM11-AM2	1NO+1NC		Operation key complete insertion Operation key extraction Travel → 11--12 33--34 Contact ON Contact OFF
SSM11-BP2 SSM11-BM2	2NC		Operation key complete insertion Operation key extraction Travel → 11--12 31--32 Contact ON Contact OFF
SSM11-CP2 SSM11-CM2	2NC/1NO		Operation key complete insertion Operation key extraction Travel → 11--12 21--22 33--34 Contact ON Contact OFF
SSM11-DP2 SSM11-DM2	3NC		Operation key complete insertion Operation key extraction Travel → 11--12 21--22 31--32 Contact ON Contact OFF

SK Series Key

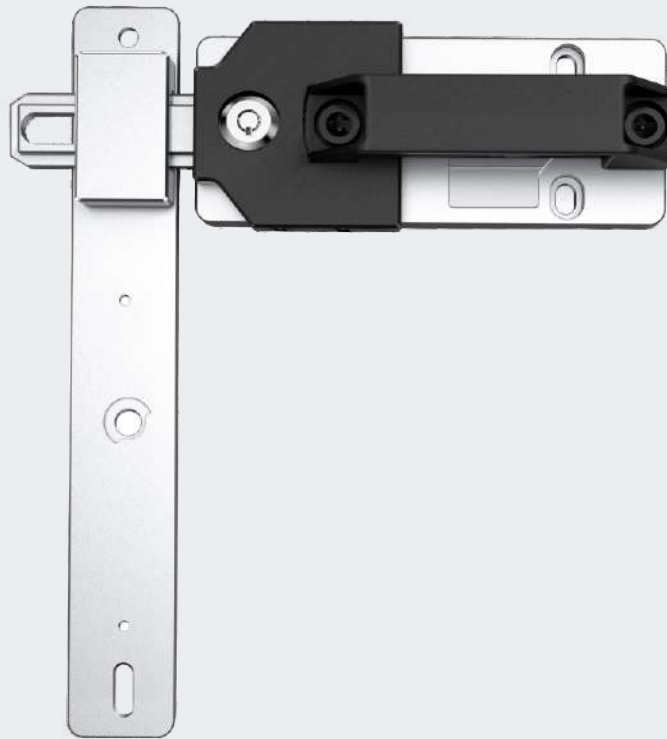
Model selection

SK -

Model for key	1:T type
	2:L type
	3:T type longer size
	4:L type longer size
	5:Horizontal/ vertical adjustable key
	8:T type longer size (3mm only for SLM13)
Product series	SK series

Picture	Model	Size
	SK-1	
	SK-2	
	SK-3	
	SK-4	
	SK-5	Angle adjusting screw 
	SK-8 (only recommend for SLM13 series)	

EMB Slide Unit Series



Product introduction

The safety latch is the ideal complement of safety switch and safety locking device. The accurate guidance of the driving element increases the tolerance in the event of a movement of the latch and always guarantees the proper functioning of the installed safety switch. In addition, the safety latch effectively prevents the driving element from breaking. This eliminates malfunctions and allows a high performances level to be achieved for the overall construction. Additional options such as hinged locks or emergency unlocking devices reliably prevent accidental access by maintenance personnel.

Product feature

- Reduce cost of development and installation.
- Mechanical protection and robust material ensure long life.
- Improving productivity by robust design and sensor.
- Models equipped with emergency unlock device prevent accidental operation.
- Padlock design prevents unintentional entry by workers.

EMB-R01

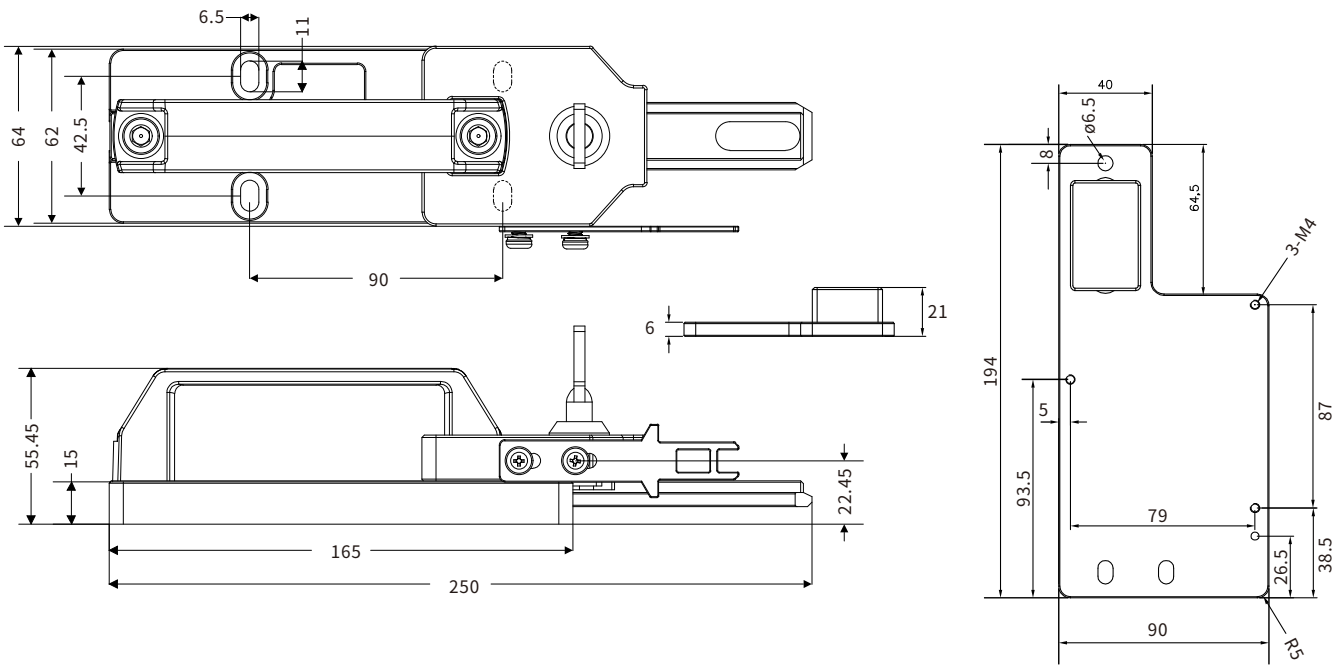


EMB-M02

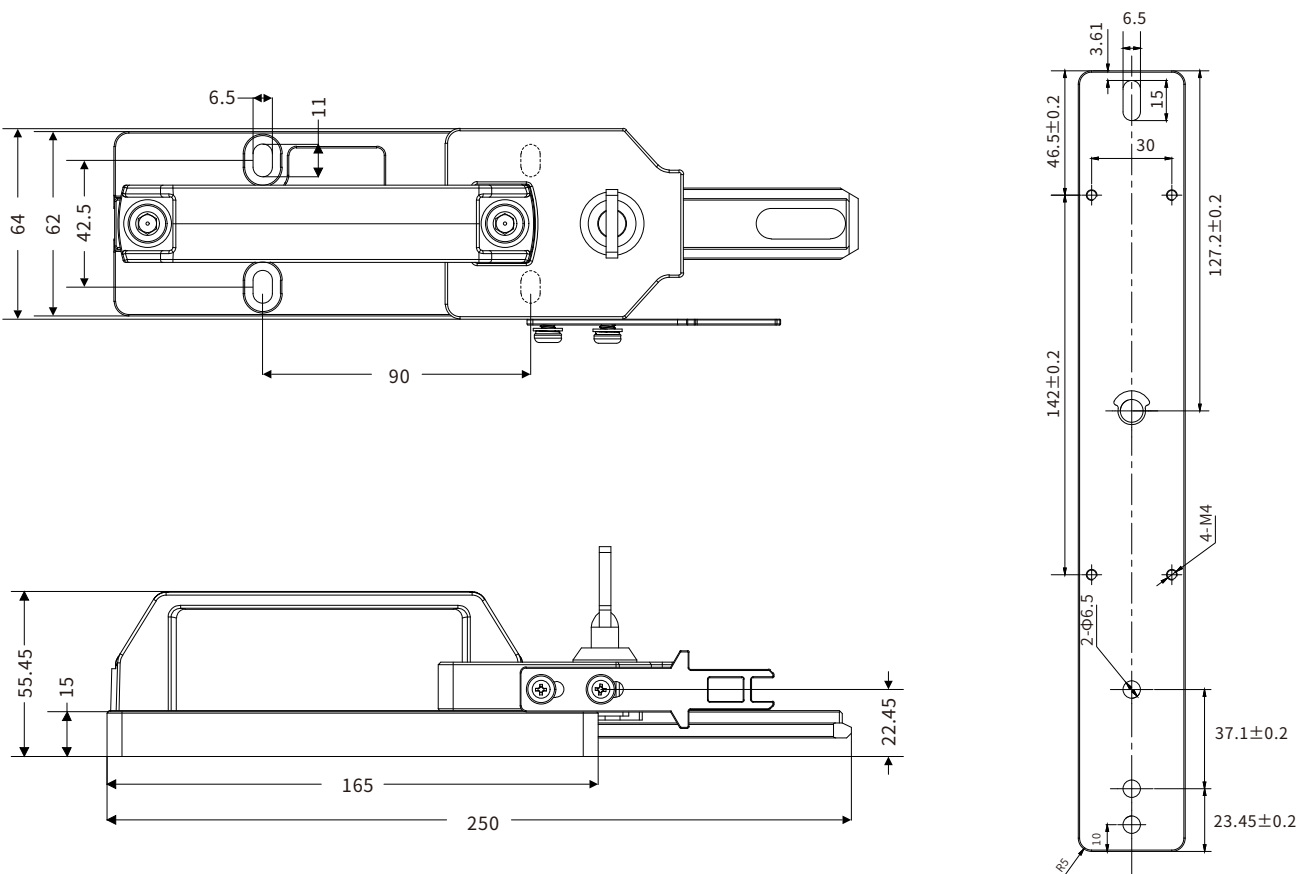


EMB Slide Unit Series

EMB-M03



EMB-M04



Combination & model selection

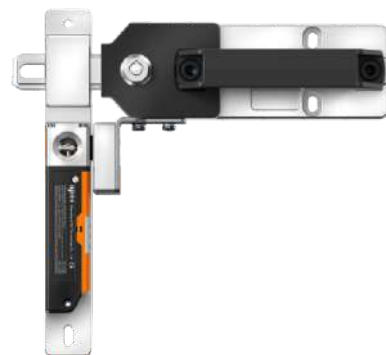
EMB-R01



SLR11 series



EMB-R01-R



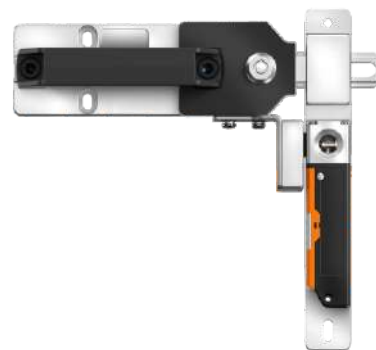
Right slide to open



SLR11 series



EMB-R01-L

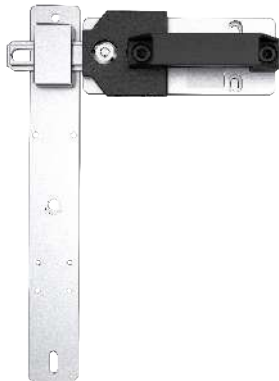


Left slide to open

Remark: Picture is for showing installation, door switch & safety latch should be purchased separately.

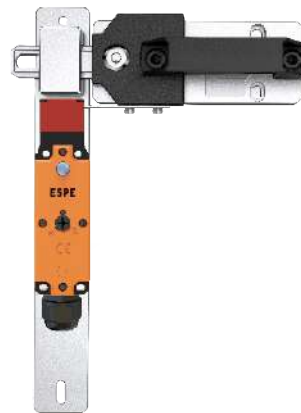
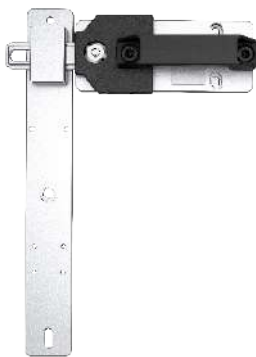
EMB Slide Unit Series

EMB-M02



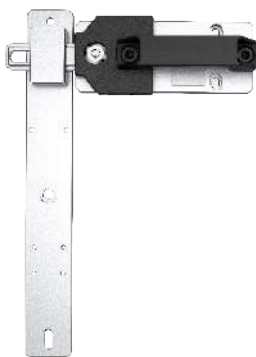
SLM11 multiple contacts

EMB-M02



SLM11 2 contacts

EMB-M02

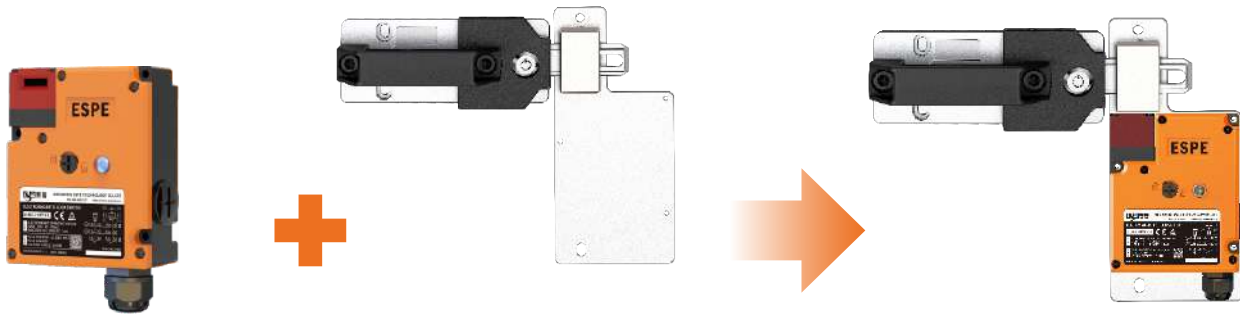


SSM11 series

EMB-M02

Remark: Picture is for showing installation, door switch & safety latch should be purchased separately.

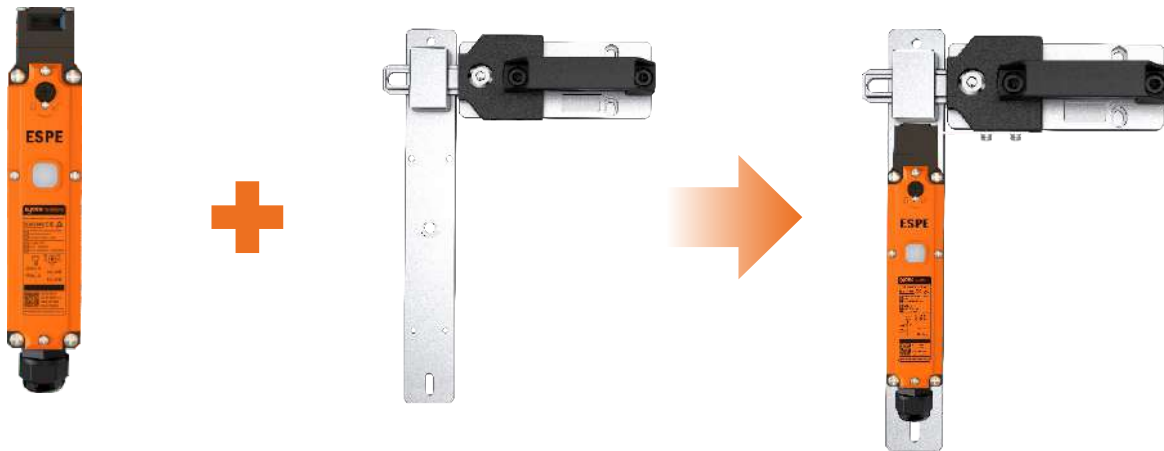
EMB-M03



SLM21 series

EMB-M03

EMB-M04



SLM13 series

EMB-M04

Remark: Picture is for showing installation, door switch & safety latch should be purchased separately.



Product introduction

Safety interlock switch is a safety device used to lock and monitor the movable mechanisms such as safety fence doors, and protective covers. The strong structural design of SLR11 series make it withstand higher tension. The RFID technology has higher security and confidentiality. Sensor & actuator support universal and unique coding. Small size for easy installation.

Product feature

- With locking & monitoring function.
- Optional coding modes: Universal coding & unique coding.
- Self-diagnose & cross-diagnose: Periodic double cross-diagnose improves security.
- Independent redundant dual signal: In case of hazard caused by signal loop failure.
- Small size: 29.7*29.7 section size.
- Flexible installation: Directly installed on aluminum frame less than 30mm, brackets is no need.

Product parameter

Standard		ISO 13849-1 (Category 4/Pl e) ; IEC/EN60947-5-3
Certificate		CE
Locking mode		Power to lock/ power to release
Safety output		NPN*2/PNP*2
Response time	Locking→Unlocking	<100ms(Independent working)
	Unlocking → Locking	<300ms(Independent working)
Locking	Lock holding force Fzh	≥2000N
	Lock bolt insertion deviation	≤2mm
	Mechanical endurance	>1 million times (Door operating speed1m/s)
	Operating frequency	1Hz
	Minimum radius of the revolving door	≥250mm
	Manual unlocking	Front. Rear
Cascade linking		Maximum 20 sets
Control output (OSSD output)	Output type	Transistor output x 2
	Maximum load current	≤200mA
	Residual voltage (When it' s ON)	<2.5V (Cable 5m)
	Voltage when it' s OFF	≤2V (Cable 5m)
	Leakage current	≤0.5mA
	Maximum load capacity	4uF
	Load connection resistance	≤2.5Ω
AUX output (unsafe output)	Output type	Transistor output
	Maximum load capacity	1
	Machanical endurance	50mA
	Residual voltage (when it' s ON)	≤2.5V@50mA
External input (breaking current)	Safety input	5mA*2
	Reset/EDM input	About 10mA*1
	Locking control input	About 10mA*1
Power supply	Working voltage	DC24V±15%
	Rated power	<5W (No load)
Protection		Safety circuit protection, current limit, overload protection, overvoltage protection, reverse polarity protection
Environment	Housing protection level	IP65
	Operating ambient temperature	-20°C~+55°C (No freezing)
	Storage temperature	-25°C~+70°C (No freezing)
	Operating ambient humidity	5%~95%RH
	Ambient storage humidity	5%~95%RH
	Vibration resistance	10Hz-55Hz, double amplitude 2.0mm, 5 minutes each in X, Y and Z directions
	Shock resistance	30g 6times each in X, Y and Z direction (IEC60947-5-3)
Restart time		3.5s
Material		Nylon/ Zinc alloy/ Stainless steel

SLR11 Series Safety Interlock Switch

Model selection (eg.: SLR11-□□□□□-□)

Product series	Locking mode	Configuration type	Coding mode	Output type	Wire connection	Cable length	AUX selection
SLR11	— ☐	☐	☐	☐	☐ — ☐	☐	☐
	0: Power to lock 1: Power to release	0: Standard mode 1: Advanced mode	0: Universal coding 1: Unique coding	N: NPN P: PNP	C: M12 connector No mark: leading wire	3: 3m 5: 5m 10: 10m 20: 20m	No mark: output monitored by locking A: output monitored by keys

Function of standard mode & advanced mode

	Safety output	AUX output	Safety input	Lock input	EDM	Reset
Standard mode	●	●	●	●	—	—
Advanced mode	●	●	●	●	●	●

AUX Output

No mark: AUX outputs turning ON/OFF linked with the lock state.

Door Status	Lock Status	OSSD Output	AUX Output
Open	Releasing	OFF	ON
Close	Releasing	OFF	ON
Close	Locking	ON	OFF

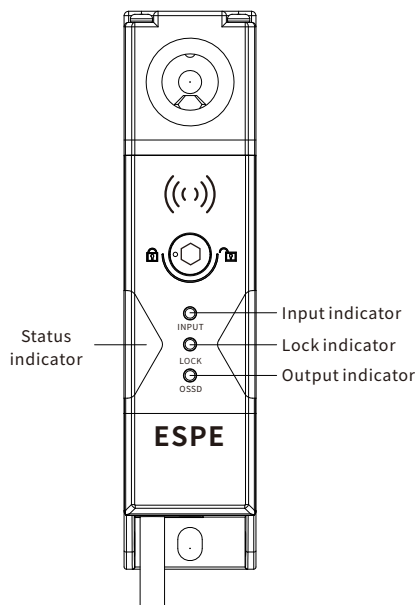
A: AUX output turn ON/OFF linked with the door opening/closing

Door Status	Lock Status	OSSD Output	AUX Output
Open	Releasing	OFF	ON
Close	Releasing	OFF	OFF
Close	Locking	ON	OFF

Model selection table

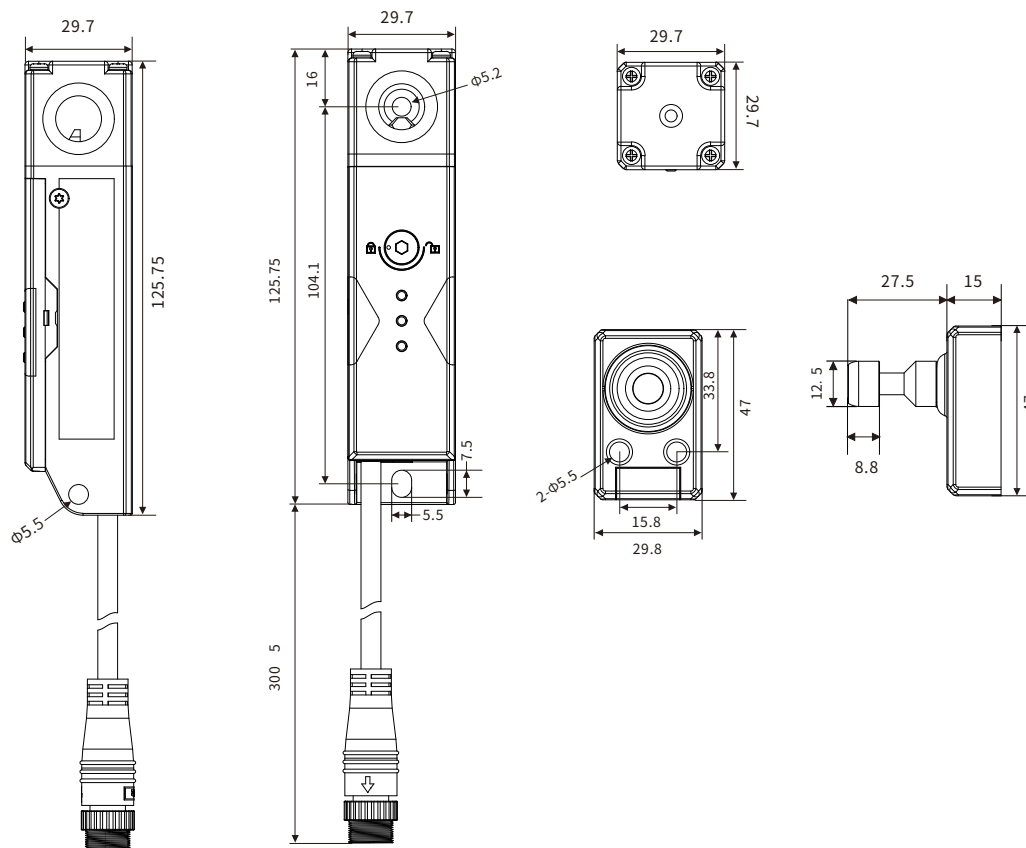
Locking mode	Configuration	Output	Coding mode	Model
Power to lock	Standard mode	NPN	Universal coding	SLR11-000N
		NPN	Unique coding	SLR11-001N
		PNP	Universal coding	SLR11-000P
		PNP	Unique coding	SLR11-001P
	Advanced mode	NPN	Universal coding	SLR11-010N
		NPN	Unique coding	SLR11-011N
		PNP	Universal coding	SLR11-010P
		PNP	Unique coding	SLR11-011P
Power to release	Standard mode	NPN	Universal coding	SLR11-100N
		NPN	Unique coding	SLR11-101N
		PNP	Universal coding	SLR11-100P
		PNP	Unique coding	SLR11-101P
	Advanced mode	NPN	Universal coding	SLR11-110N
		NPN	Unique coding	SLR11-111N
		PNP	Universal coding	SLR11-110P
		PNP	Unique coding	SLR11-111P

Indicator light



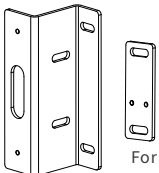
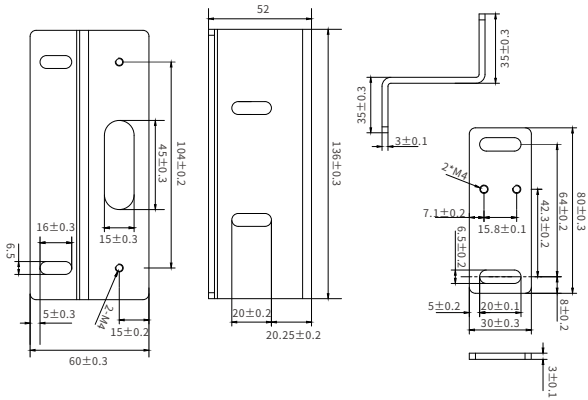
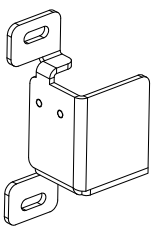
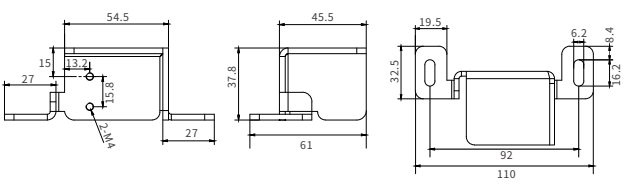
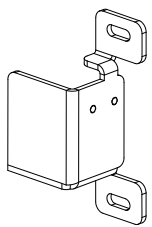
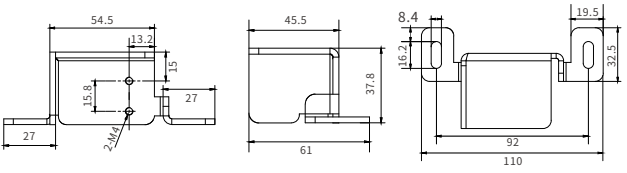
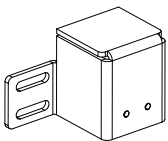
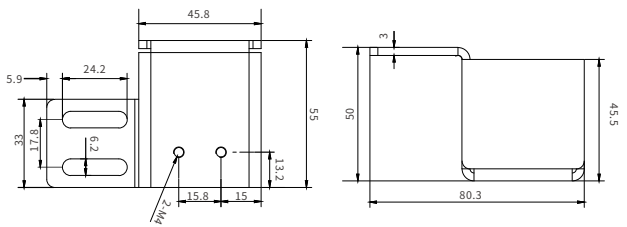
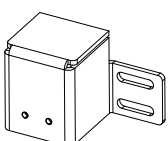
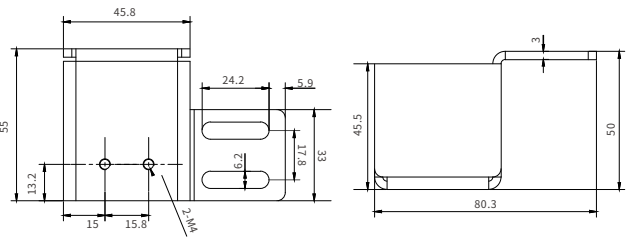
Indicator	Color	Details
Output indicator	Red, green	OSSD output: green. OSSD close: red. OSSD error: red 2Hz blink. EDM error: red 1Hz blink.
Locking indicator	Green	Locking: steady ON. Lock error: 2Hz blink. NO RFID: 1Hz blink. Attempt to lock: ON after double blinking. Attempt to: OFF after double blinking. Releasing: OFF.
Input indicator	Orange	Normal input: light on. Wait for input: OFF. Wait for reset: 1Hz blink. Safety input error: 2Hz blink.
Working status indicator	Green, red, orange	Lock and with output: Green ON. Output & system error: Red ON. Voltage error: orange 1Hz blink. Internal communication self-diagnose error: red 2Hz blink. Internal signal self-diagnose error: red 1Hz blink. Internal data calibration error: green 1Hz blink.

Product size



SLR11 Series Safety Interlock Switch

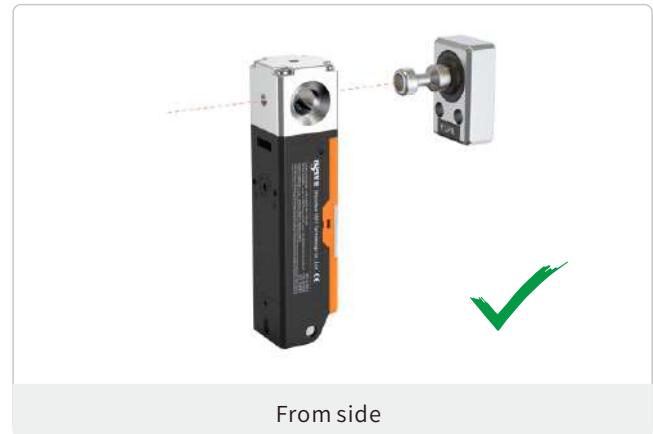
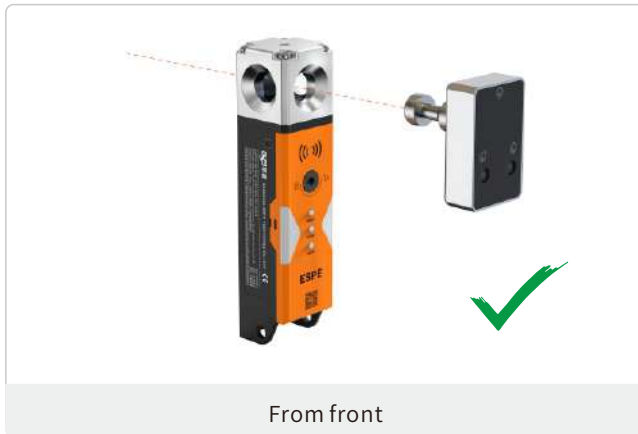
Brackets

Picture	Bracket	Model	Size
 For main unit For actuator	Inside mounting brackets	SR11-B01	
	Slide mounting bracket (left opening)	SR11-BL01	
	Slide mounting bracket (right opening)	SR11-BR01	
	Hinge mounting bracket (left opening)	SR11-BL02	
	Hinge mounting bracket (right opening)	SR11-BR02	

Installation

Direction of main unit and actuator

Correction installation



Incorrect installation direction



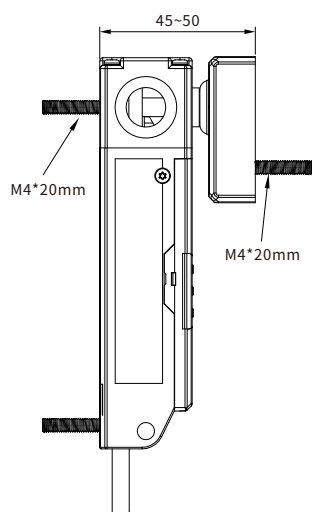
Mutual interference

When multiple SLR11 used closely, they may malfunction due to mutual interference. In order to avoid mutual interference, please install interlock as below.

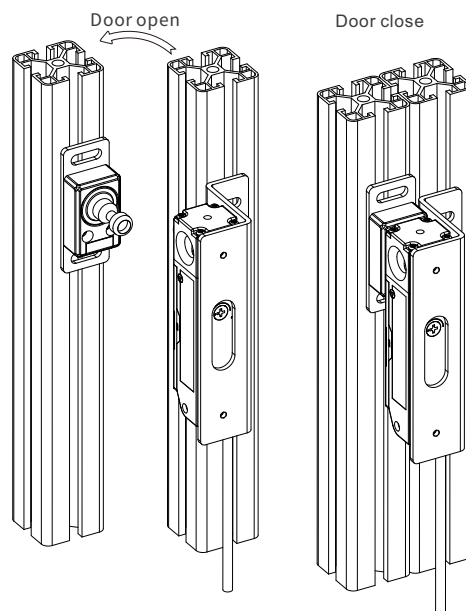


SLR11 Series Safety Interlock Switch

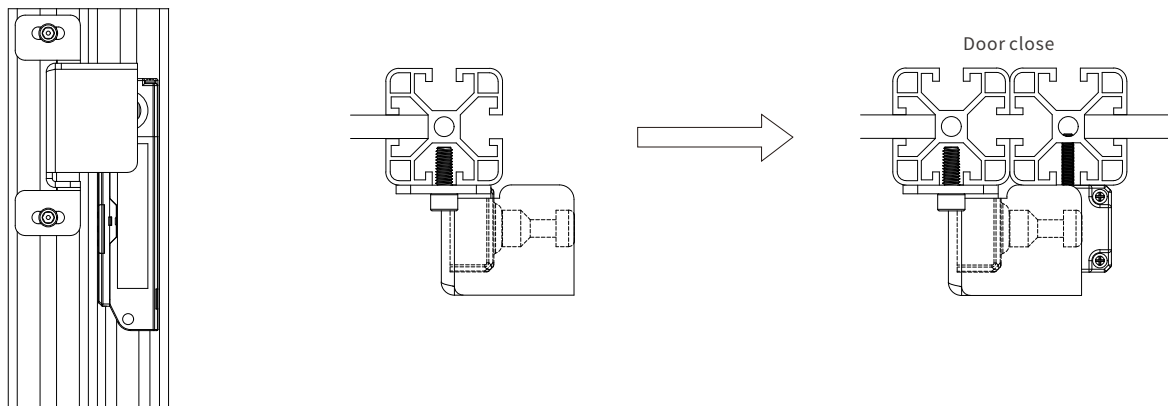
Installation without bracket



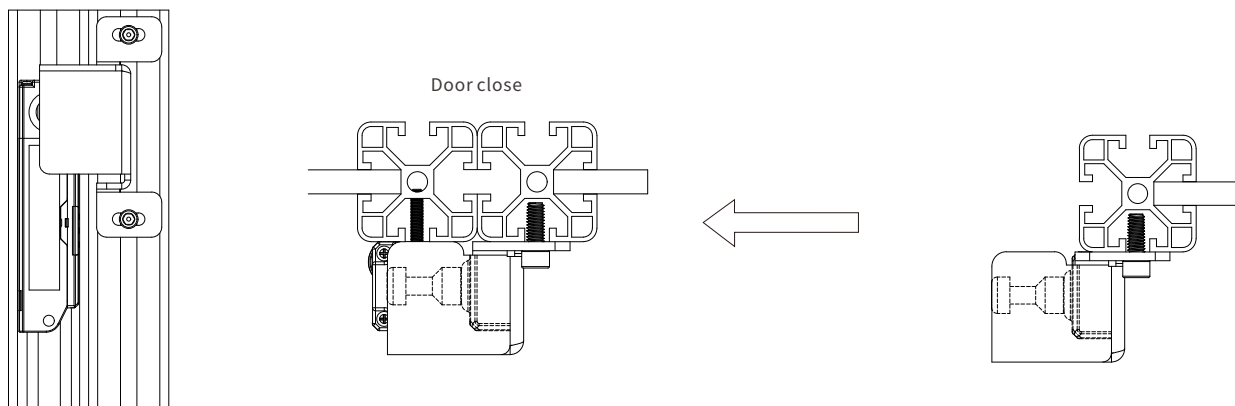
Installation with inside bracket



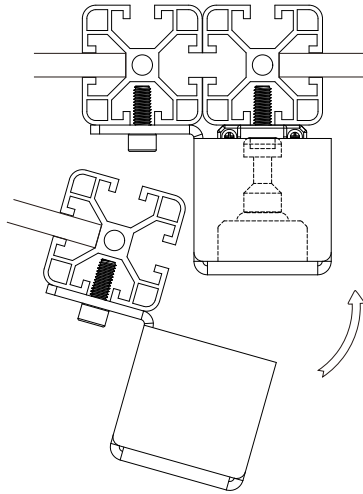
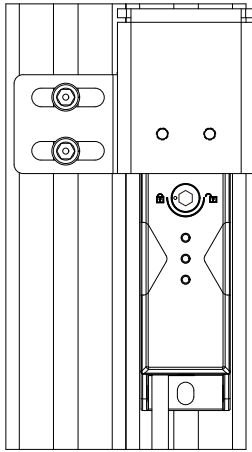
Installation with left-opening slide bracket



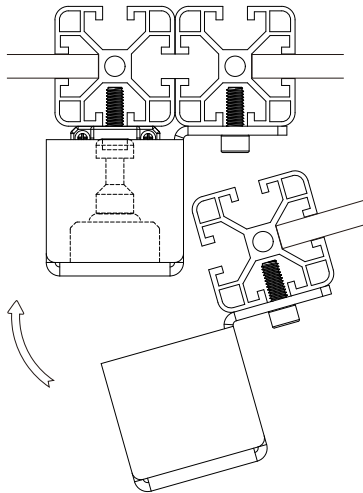
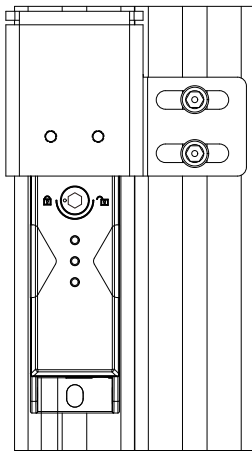
Installation with right-opening slide bracket



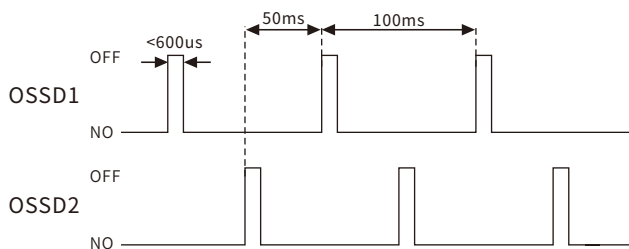
Installation with left opening hinge bracket



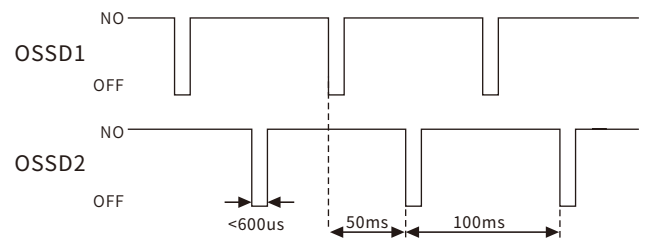
Installation with right opening hinge bracket



Timing chart



NPN timing chart

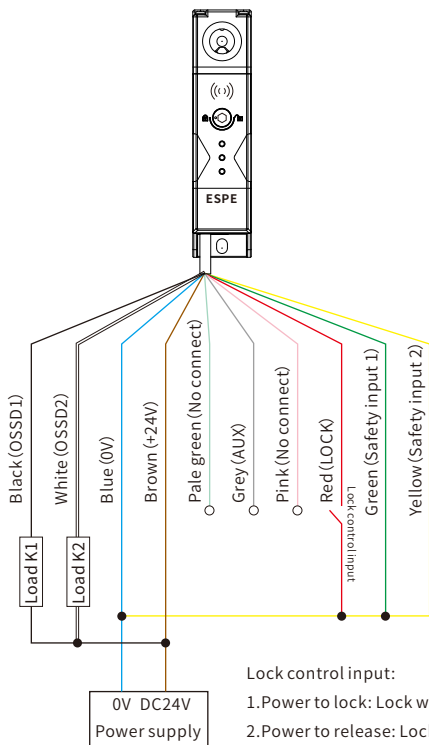


PNP timing chart

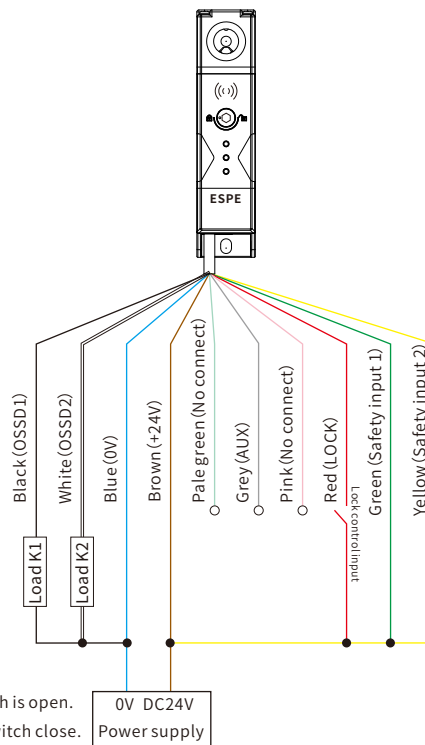
SLR11 Series Safety Interlock Switch

Wire diagram

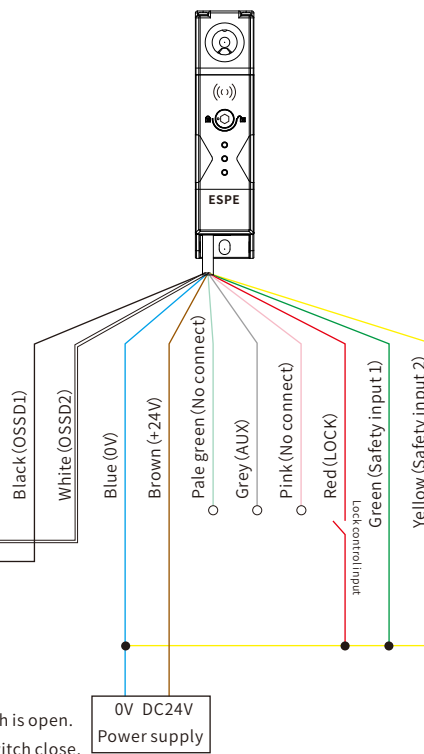
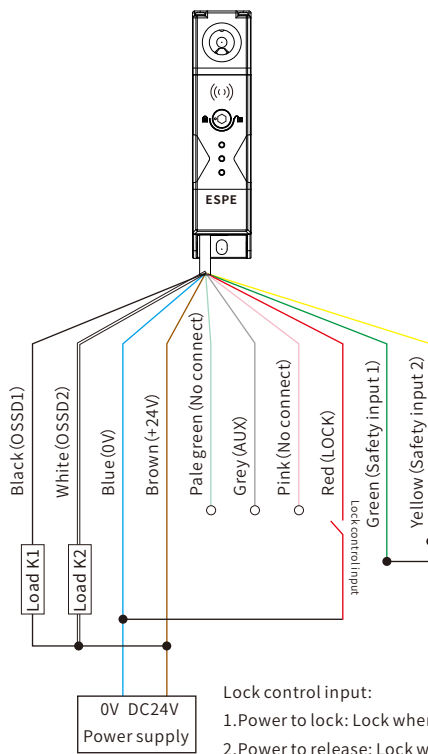
SLR11 Standard mode (NPN, No cascade)



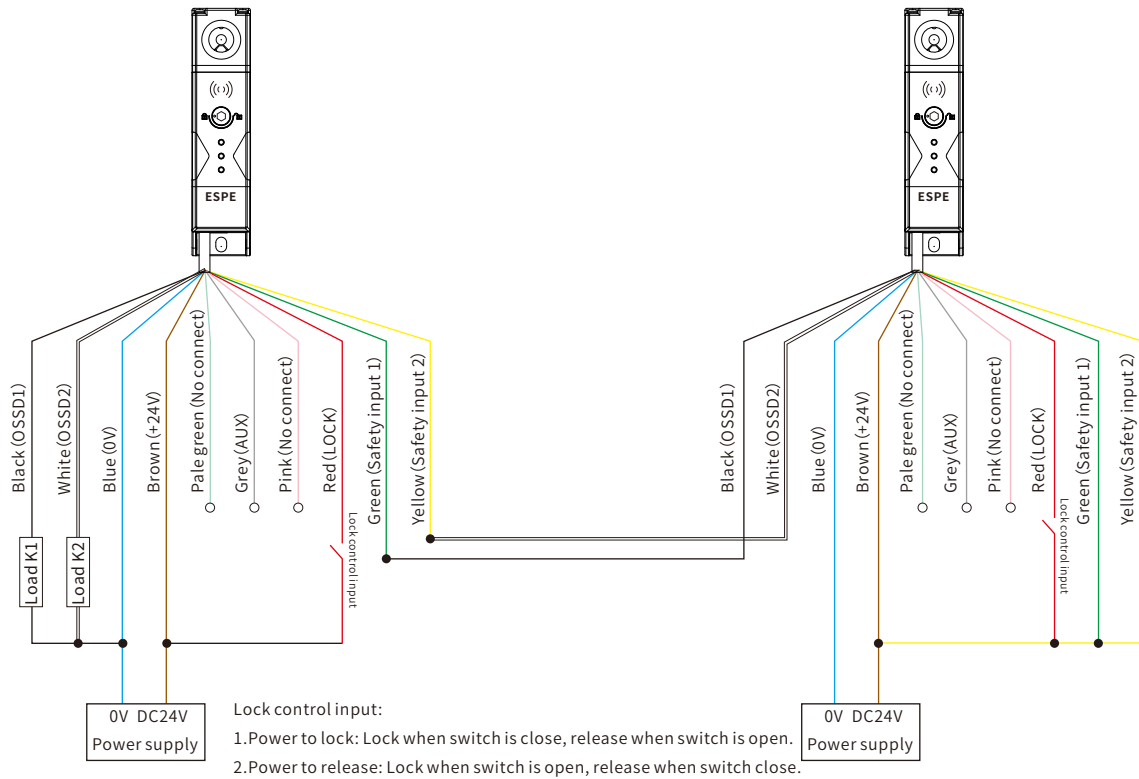
SLR11 Standard mode (PNP, No cascade)



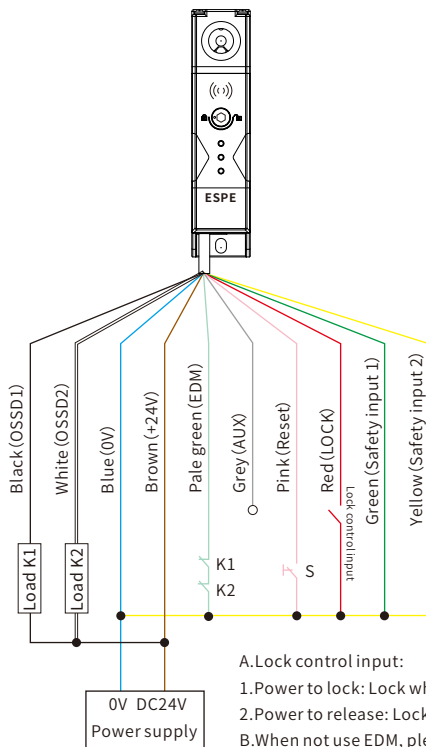
SLR11 Standard mode (NPN, cascade)



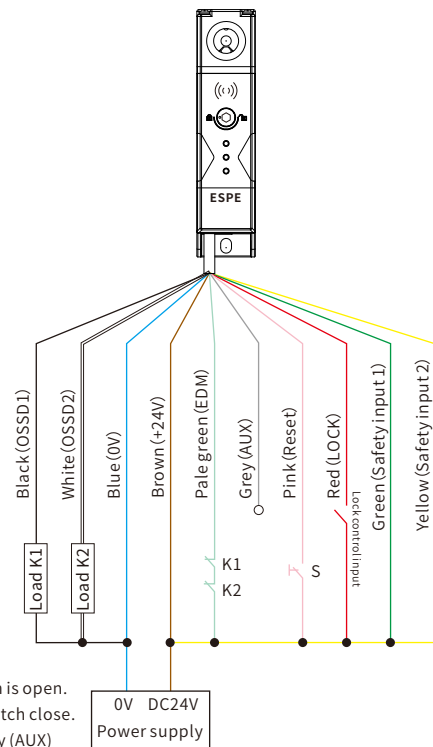
SLR11 Standard mode (PNP, cascade)



SLR11 Advanced (NPN, No cascade)



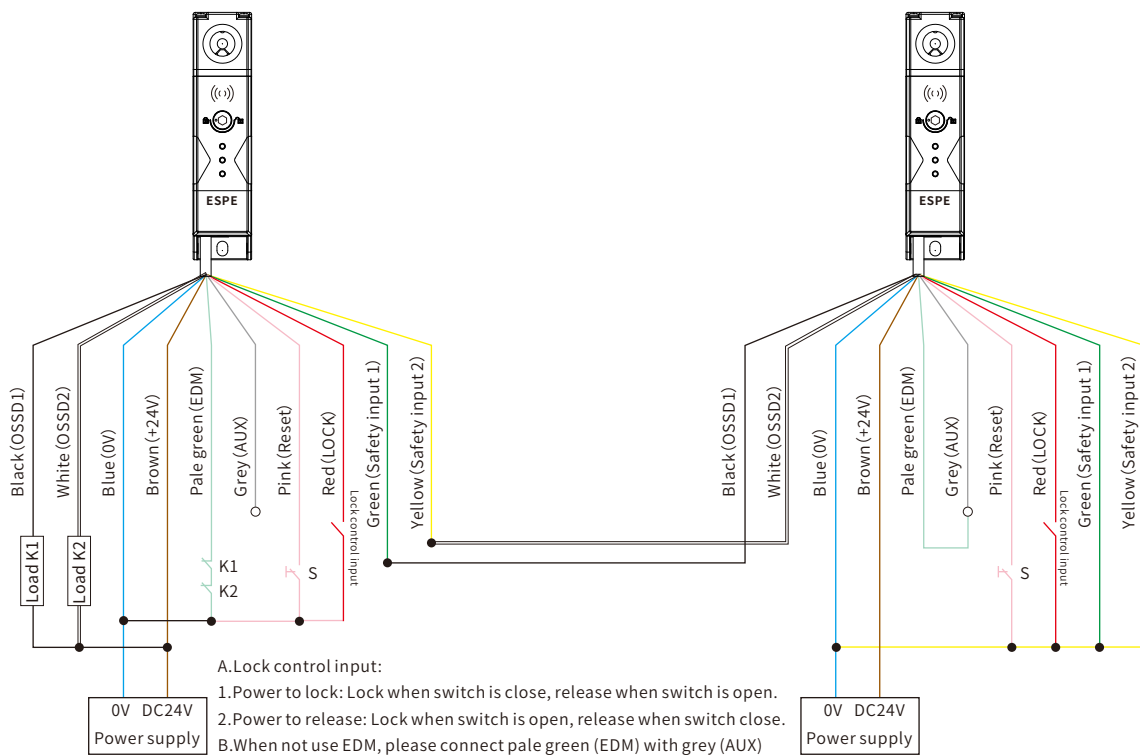
SLR11 Advanced (PNP, No cascade)



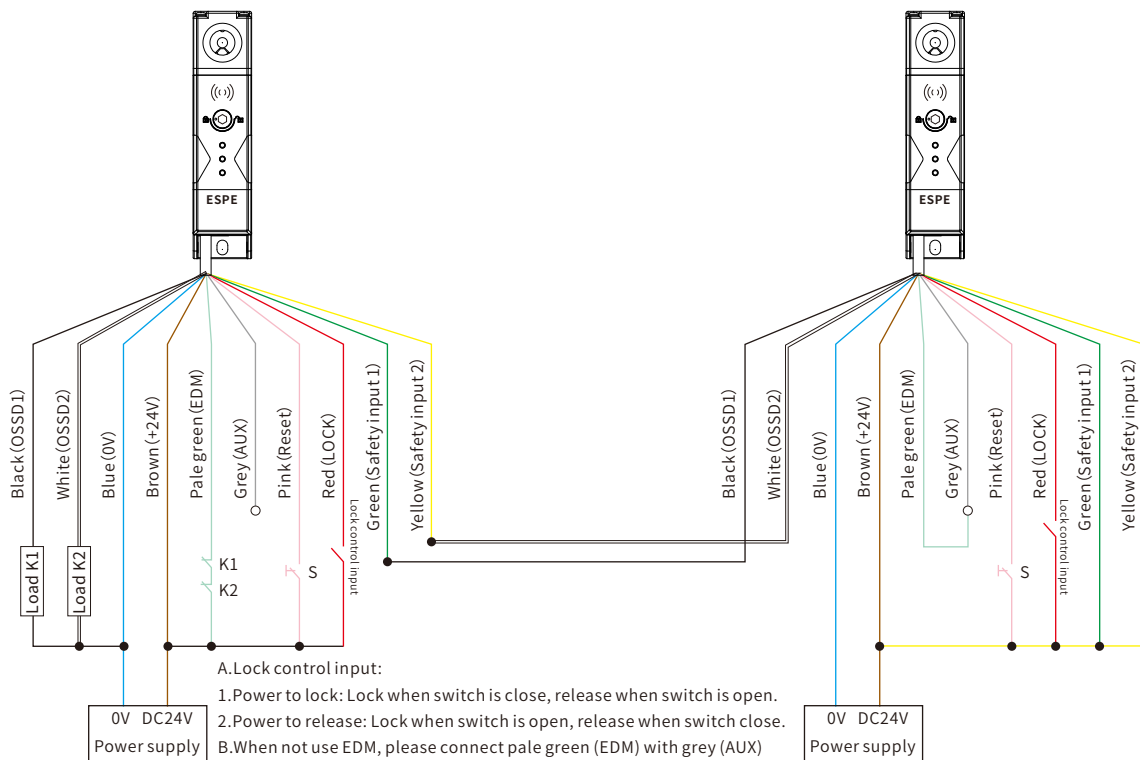
SLR11 Series Safety Interlock Switch

Wire diagram

SLR11 Advanced mode (NPN, cascade)



SLR11 Advanced mode (PNP, cascade)

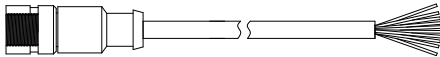


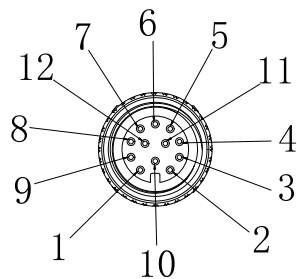
Cable option

Product series	Wire NO.	Cable type	Length
SLR11 — M12P	10:10 wire	S: one side for wire, one side with straight female aviation connector SS: one side for straight aviation connection, one side straight male connector	3: 3m 5: 5m 10: 10m 20: 20m

Remark: With leading wire type, no need to refer about this.

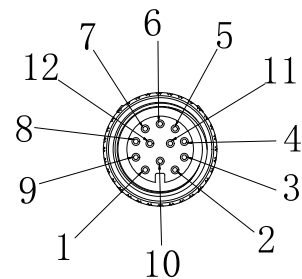
Selection table (with cable)

Standard cable	Type	Length	Model
	Common use for standard & advanced type	3m	SLR11-M12P10S3
		5m	SLR11-M12P10S5
		10m	SLR11-M12P10S10
		20m	SLR11-M12P10S20



M12 waterproof aviation female connector

- 1、Brown-VCC;
- 2、Blue-GND;
- 3、Grey-AUX;
- 4、Black-OSSD1;
- 5、White-OSSD2;
- 6、Green-Safety input 1;
- 7、Yellow-Safety input 2;
- 8、Red-LOCK;
- 9、Pale green-No connect;
- 10、Pink-No connect;
- 11、No mark;
- 12、No mark;

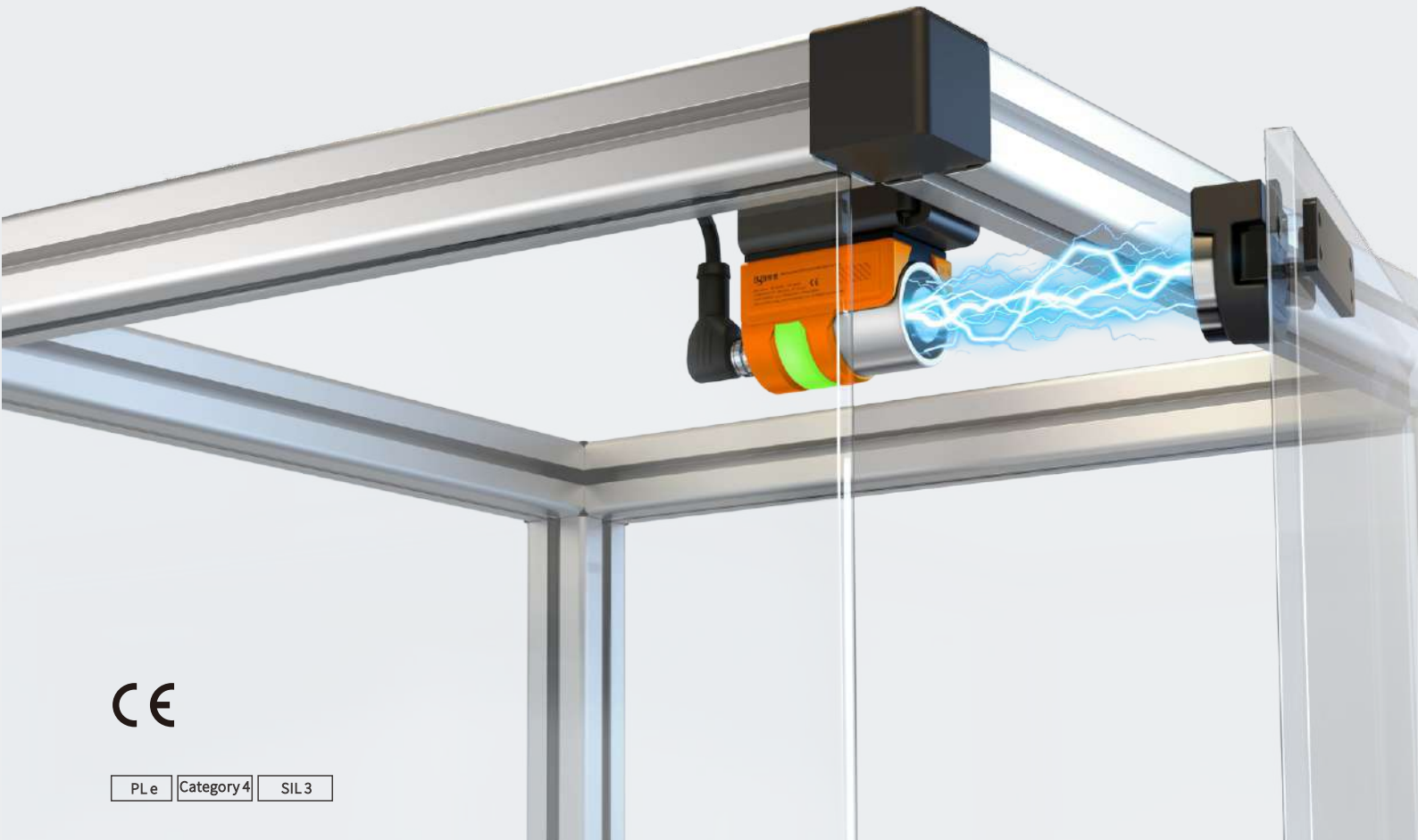


M12 waterproof aerial female connector Advanced series

- 1、Brown-VCC;
- 2、Blue-GND;
- 3、Grey-AUX;
- 4、Black-OSSD1;
- 5、White-OSSD2;
- 6、Green-Safety input 1;
- 7、Yellow-Safety input 2;
- 8、Red-LOCK;
- 9、Pale green-EDM;
- 10、Pink-Reset;
- 11、No mark;
- 12、No mark;

SLE21 Series

Miniature Safety Interlock Switch



Product introduction

SLE21 series is an electromagnetic locking safety interlock switch, the misalignment constructure and strong holding force ensure an optimized solution for movable guarding doors. The switch with advantage of electromagnetic and miniature size support new solution for small equipment with smaller inertia. Non-contact feature is available in high cleanliness and dust-free workshop like semiconductor, automobile manufacturing, beverage & food production etc.

Product feature

- 500N electromagnetic force lock.
- Adopt "Electromagnetic" locking and keyless constructure.
- Easy to integrate (max. 20sets).
- Permanent magnet built-in actuator .
- Small size, easy to install.
- Full perspective indicator light.
- Non-contact without powder.
- IP65 / IP67 protection level.

Product parameter

Type		Hinged door	
		Miniature size	
		M12 connector	
		Standard mode	Advanced mode
Working distance	Sao(Off-On)	4mm	
	Sar(On-Off)	4mm	
Response time	Lock→release	200ms	
	Release→lock	200ms	
	Detect→non-detect	20ms+2ms* (cascading amount-1)	
	Non-detect →detect	300ms+25ms* (cascading amount-1)	
Control output	Output method	Transistor output*2	
	Max. load current	150mA	
	Residual voltage (during ON)	2.5V max. (5m cable) 3.5V (31m cable)	
	OFF stage voltage	2.0V max. (5m cable) 3V (31m cable)	
	Leakage current	0.5mA max.	
	Max. capacitive load	4uF	
	Load wiring resistance	2.5Ω max.	
AUX output (Not safety output)	Output	Transistor	
	Max. load current	50mA	
	Residual voltage (when ON)	2.5V max. (5m cable) 3.5V (31m cable)	
External input (Short circuit current)	Safety input	Approx. 1.5mA x 2	
	Lock control input (OSSD switching input)	Approx. 5mA	
	Reset/ EDM input	Approx. 5mA (only for advanced function)	
	EDM option input	Approx. 2.5mA (only for advanced function)	
Power	Power supply	24VDC±10% (ripple P-P 10% Class 2)	
	Power consumption	<5W	
Circuit protection		Reverse current protection, short-circuit protection and surge protection for each output	
Environmental resistance	Enclosure rating	IP67	
	Ambient temperature	-10°C~+55°C (No freezing)	
	Storage temperature	-25°C~+70°C (No freezing)	
	Operating relative humidity	5% to 95%RH	
	Storage relative humidity	5% to 95%RH	
	Vibration resistance	10 to 55Hz, double amplitude 2.0mm, 5 minutes in each of tne X, Y, and Z direction (IEC60947-5-3)	
	Shock resistance	30G in X, Y, Z directions 6 times each axis (IEC60947-5-3)	
Applicable standards (safety)		EN ISO13849-1:2015 (PL e, Category 4) , IEC60947-5-3, EN60947-5-3	

SLE21 Safety Interlock Switch

Model explanation (e.g.: SLE21-□□□□□)

Series	Locking method	Configuration	Coding method	Output method	Lead wire
SLE21	— □ 0: Power to lock	□ 0: Standard mode 1: Advanced mode	□ 0: Universal coding 1: Unique coding	□ N: NPN P: PNP	□ C: M12 connector

Description for standard & advanced mode

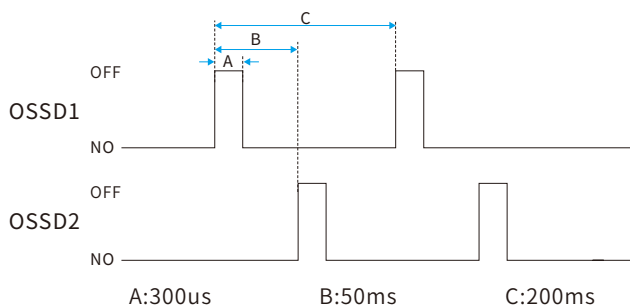
	Safety output	AUX output	Safety input	Lock input	OSSD action switch	EDM/ reset	EDM option
Standard	●	●	●	●	●	—	—
Advanced	●	●	●	●	●	●	●

SLE21 selection sheet

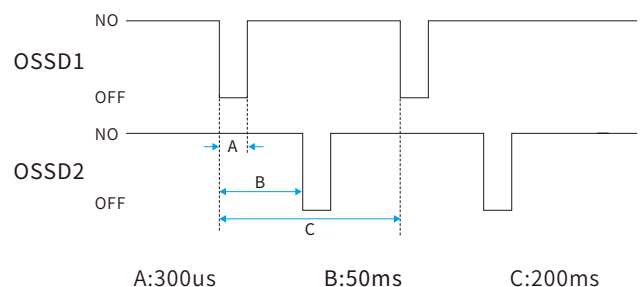
Locking method	Configuration	Output method	Coding method	Model
Power to lock	Standard	NPN	Universal coding	SLE21-000NC
		NPN	Unique coding	SLE21-001NC
		PNP	Universal coding	SLE21-000PC
		PNP	Unique coding	SLE21-001PC
	Advanced	NPN	Universal coding	SLE21-010NC
		NPN	Unique coding	SLE21-011NC
		PNP	Universal coding	SLE21-010PC
		PNP	Unique coding	SLE21-011PC

Timing diagram

NPN output timing diagram

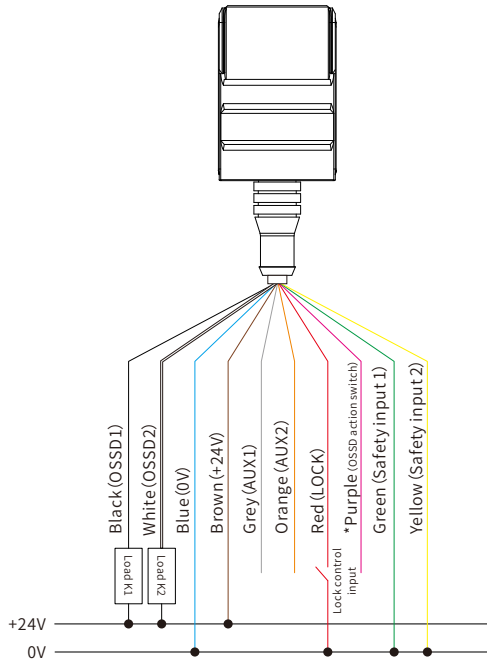


PNP output timing diagram



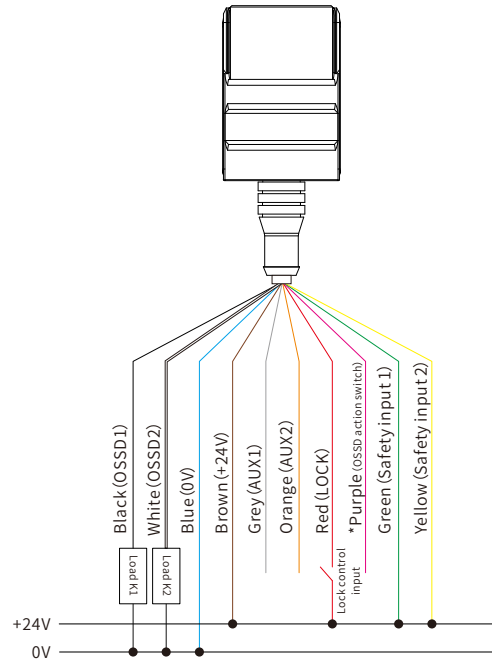
Wire diagram

SLE21 standard mode (NPN, no cascade)



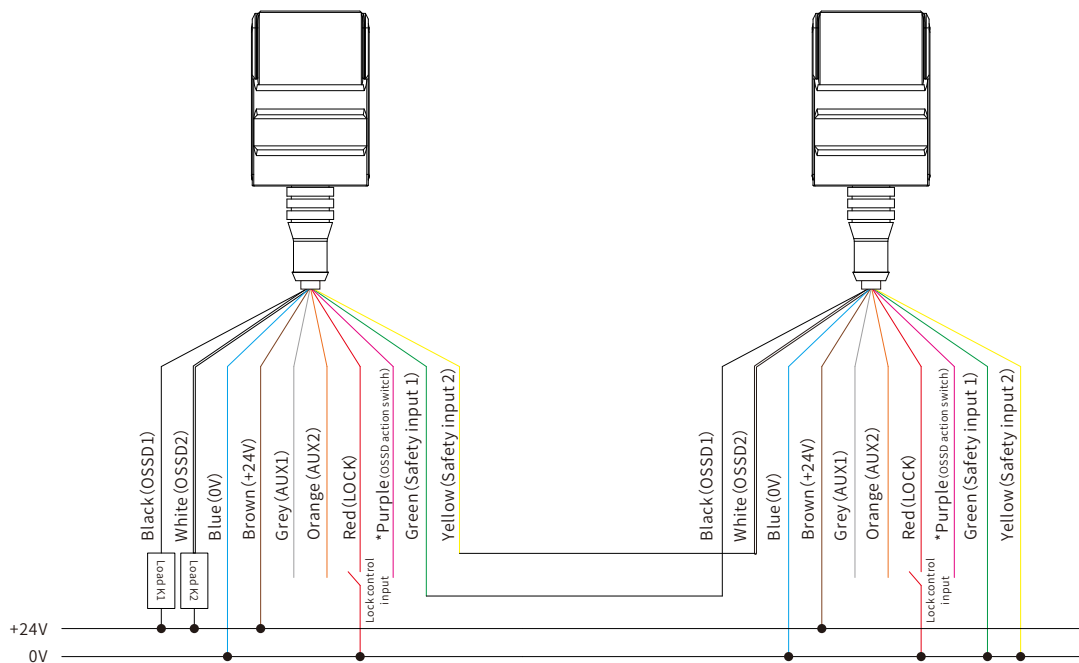
*Open/close link, purple is connected with 0V; Lock link, purple disconnected

SLE21 standard mode (PNP, no cascade)



*Open/close link, purple is connected with +24V; Lock link, purple disconnected

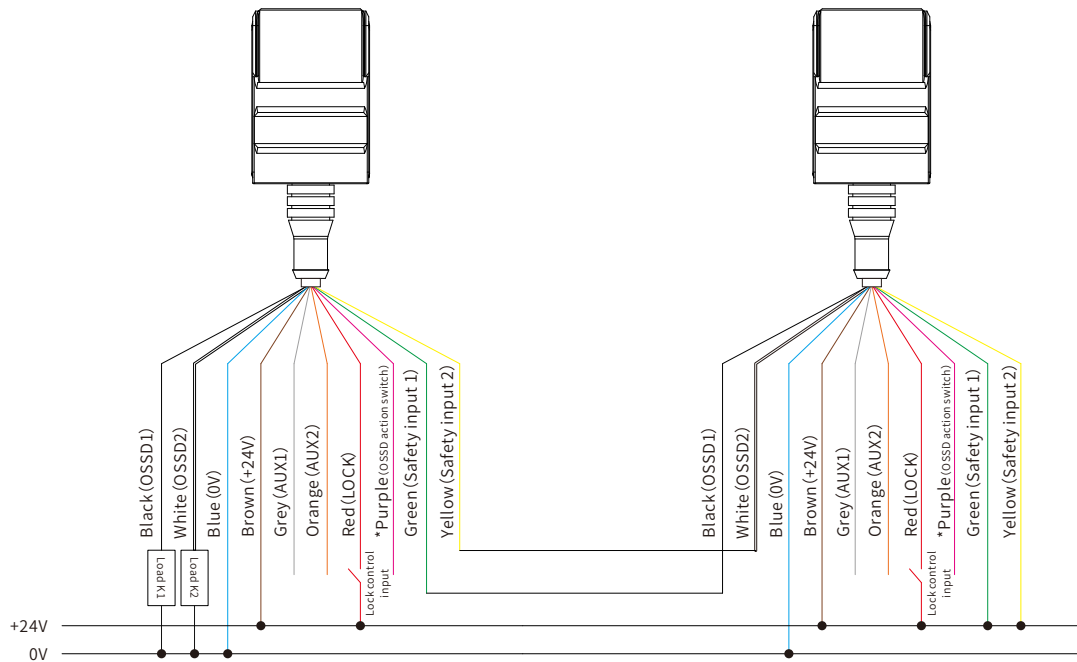
SLE21 standard mode (NPN, cascade)



*Open/close link, purple is connected with 0V; Lock link, purple disconnected

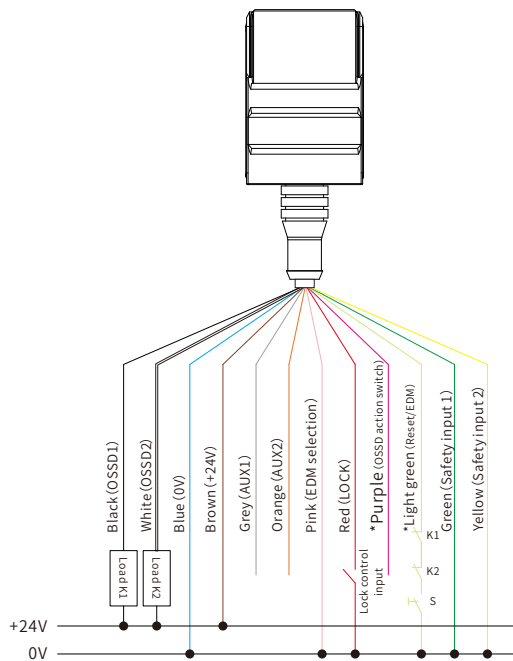
SLE21 Safety Interlock Switch

SLE21 standard mode (PNP, cascade)



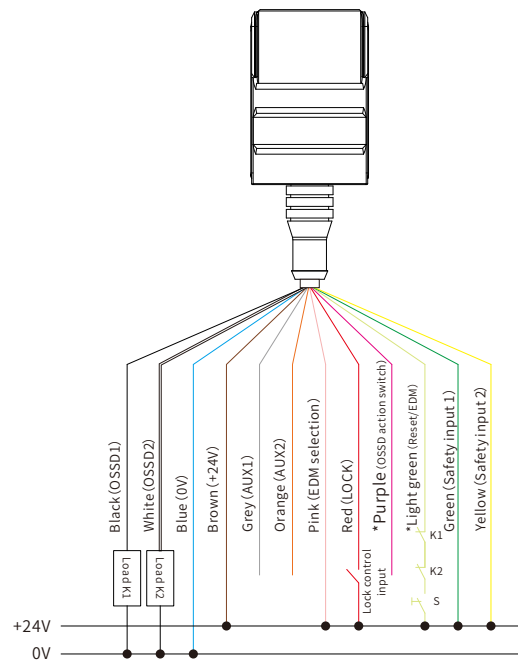
*Open/close link, purple is connected with +24V; Lock link, purple disconnected

SLE21 advanced mode (NPN, no cascade)



*Open/close link, purple is connected with 0V; Lock link, purple disconnected
 *1. Use EDM and reset: wiring as picture
 2. Do not use EDM reset: select EDM (pink wire), reset /EDM (light green wire) connect to +24V;
 3. Only use EDM: EDM function (pink wire) selection input should be open and insulated.
 K1, K2: external equipment (force guided relays, electromagnetic contactors, etc.)
 S: Reset switch

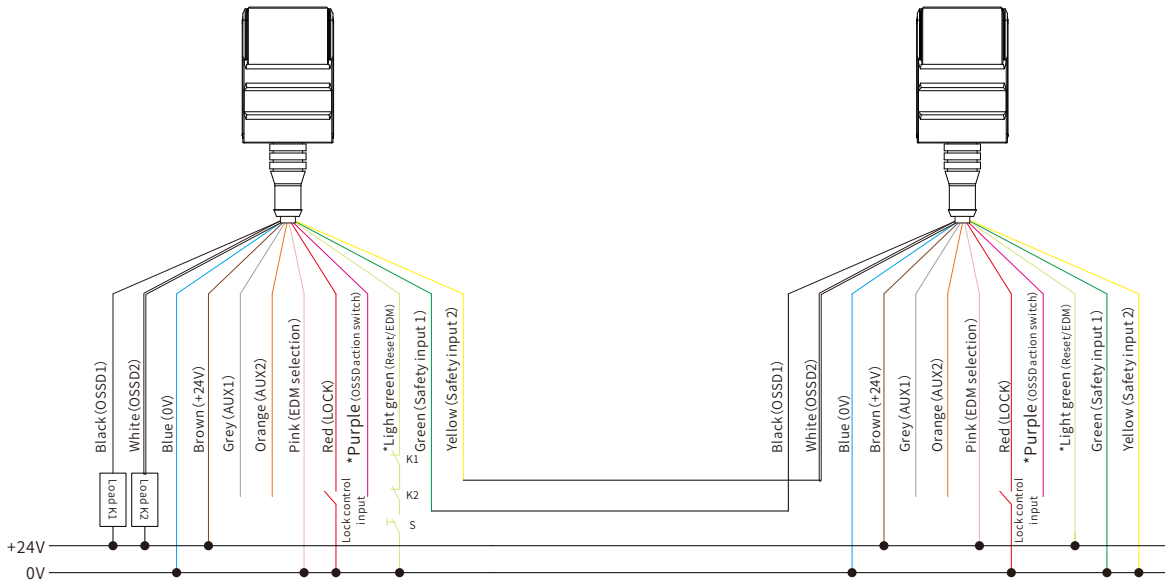
SLE21 advanced mode (PNP, no cascade)



*Open/close link, purple is connected with +24V; Lock link, purple disconnected
 *1. Use EDM and reset: wiring as picture
 2. Do not use EDM reset: select EDM (pink wire), reset /EDM (light green wire) connect to 0V;
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 K1, K2: external equipment (force guided relays, electromagnetic contactors, etc.)
 S: Reset switch

Wire diagram

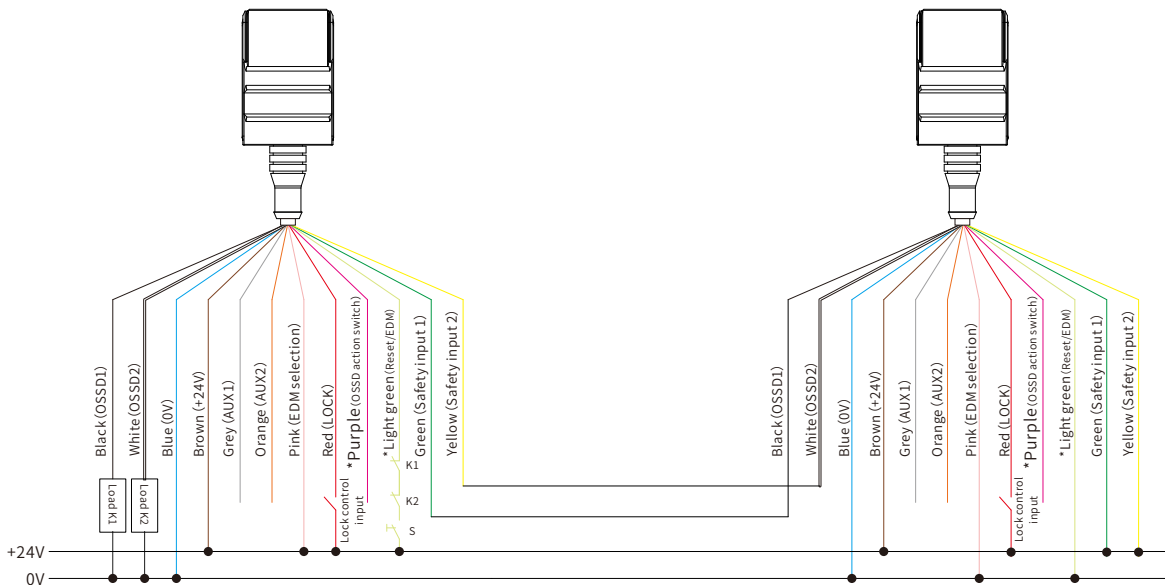
SLE21 advanced mode (NPN, cascade)



*Open/close link, purple is connected with 0V; Lock link, purple disconnected
 *1. Use EDM and reset: wiring as picture
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 S: Reset switch

SLE21 advanced mode (PNP, cascade)

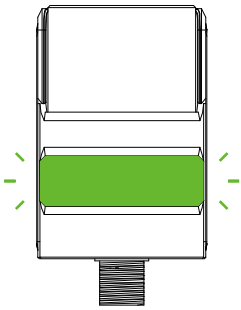


*Open/close link, purple is connected with 0V; Lock link, purple disconnected
 *1. Use EDM and reset: wiring as picture
 2. Do not use EDM reset: select EDM (pink wire), reset /EDM (light green wire) connect to +24V;
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 S: Reset switch

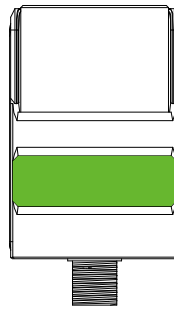
*Open/close link, purple is connected with +24V; Lock link, purple disconnected
 *1. Use EDM and reset: wiring as picture
 2. Do not use EDM reset: select EDM (pink wire), reset /EDM (light green wire) connect to 0V;
 3. Only use EDM: EDM function (pink wire) selection input should be open and insulated.
 K1, K2: external equipment (force guided relays, electromagnetic contactors, etc.)
 S: Reset switch

SLE21 Safety Interlock Switch

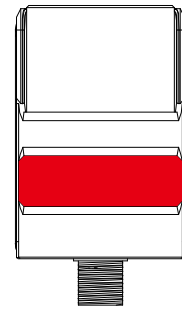
LED Indicator



Closed - green light flash



Closed & Locked – green steady



Open -red steady

Lock linked (OSSD switch)

LED indicator	Status			
	OSSD	Safety input	LOCK	Actuator
Green	ON	ON	ON	Presence
Red	OFF	ON/OFF	ON/OFF	Absence
Green blink	OFF	ON	OFF	Presence
Orange	OFF	OFF	ON	Presence
Orange blink	OFF	OFF	OFF	Presence
Orange flash	OFF	EDM false		
Red blink	OFF	System false		
Alternating in red, green and orange	OFF	Code uniquely and confirmed, waiting for restart		
Alternating in red and green	OFF	Code uniquely but not confirmed		
OFF	OFF	Power OFF		

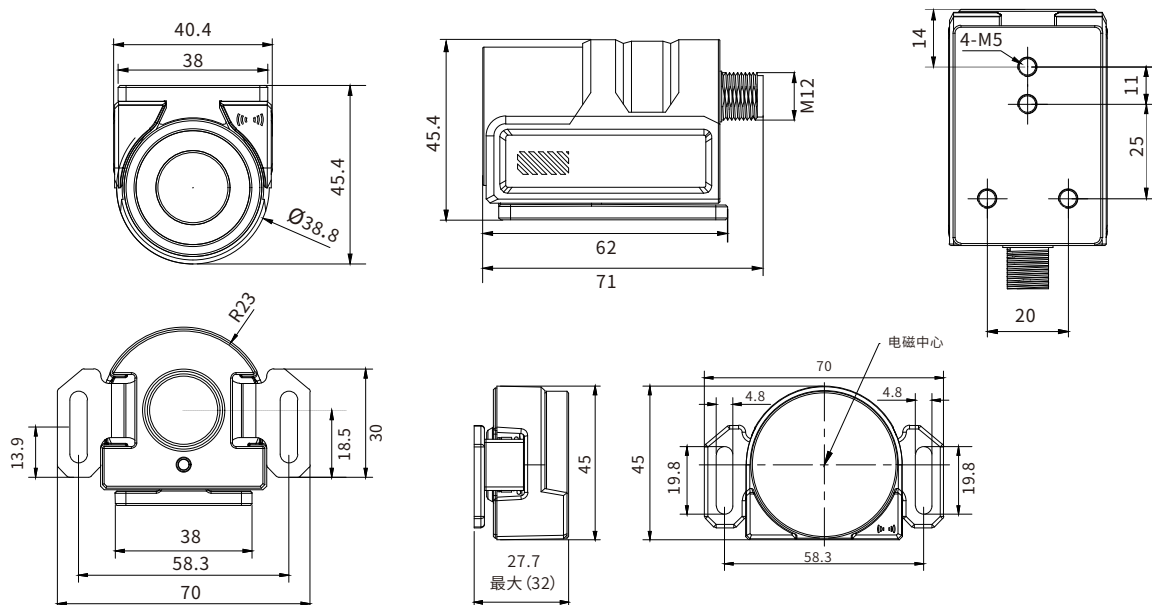
If set in manual reset, the indicator turns to orange light until reset/EDM operated.

Open/close link (OSSD switch)

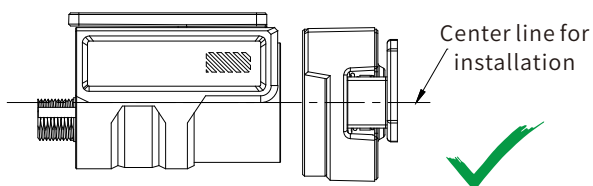
Indicator LED	Status			
	OSSD	Safety input	LOCK	Actuator
Green	ON	ON	ON	Presence
Red	OFF	ON/OFF	ON/OFF	Absence
Orange	OFF	OFF	ON/OFF	Presence
Orange flash	OFF	EDM false		
Red flash	OFF	System false		
Alternating in red, green and orange	OFF	Code uniquely and confirmed, waiting for restart		
Alternating in red and green.	OFF	Code uniquely but not confirmed		
OFF	OFF	Power OFF		

If set in manual reset, the indicator turns to orange light until reset/EDM operated.

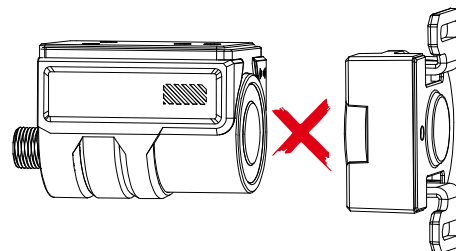
Product size



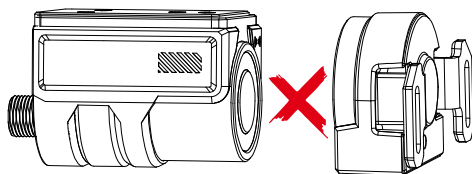
Installation



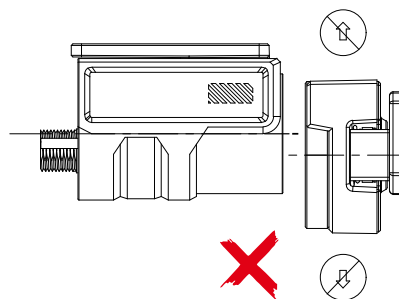
1. Correct installation, main unit and sensing surface of actuator are facing each other.



2. Wrong installation, main unit and sensing surface of actuator with 90° apart.



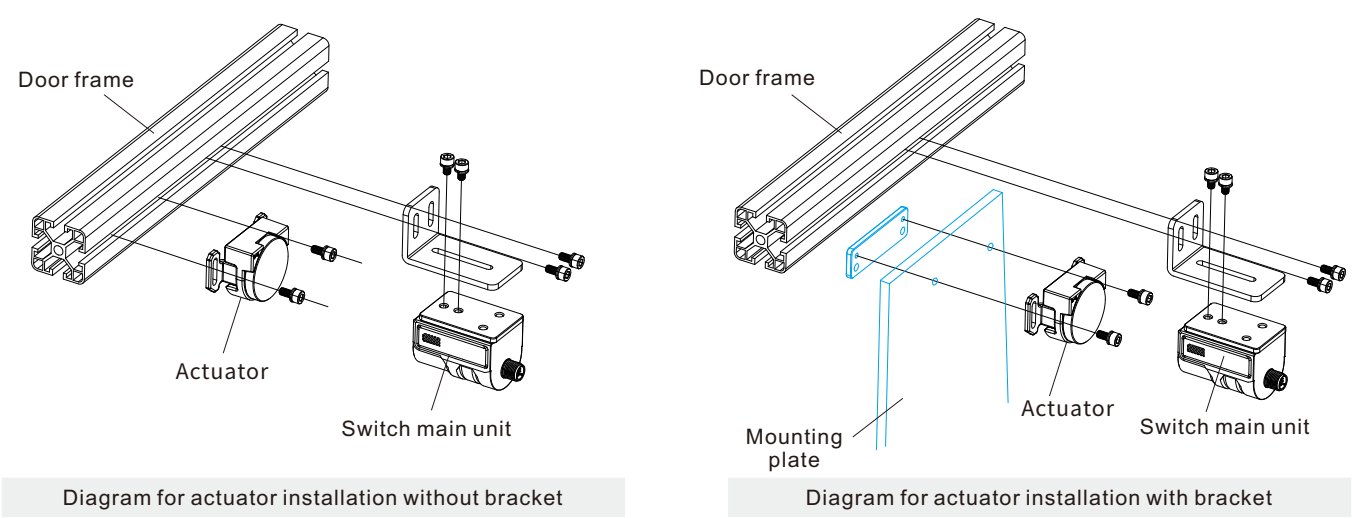
3. Wrong installation, main unit and sensing surface of actuator with 180° apart.



4. Wrong installation, main unit and sensing surface of actuator is not at the same level.

SLE21 Safety Interlock Switch

Installation mode



SLE21 Safety interlock component

Step 1	Step 2	Step 3	Step 4
Switch main unit	Actuator	Installation bracket	Cable for SLE21

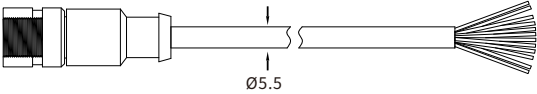
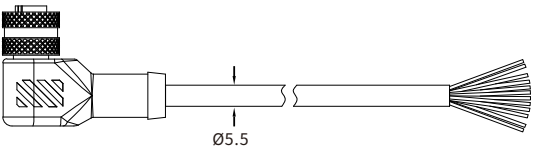
Bracket

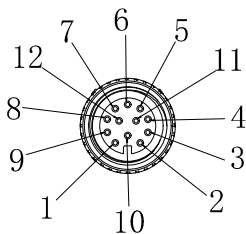
Picture	Name	Size
	SLE21-EL1	Technical drawing of SLE21-EL1 bracket showing dimensions in mm: - Top view: 2-Ø5.2, 9, 22, 58.3, 71.5, 6.5, 2-M4 - Side view: 38, 5.2, 70, 45.2 - End view: 4, R5, 40.2 - Detail view: 5.5, 18.5, 18, 7.7

Cable

Series		Pin of connector	Cable	Length
SLE21	-	P		
				
		12:12 Pin	S: terminated cable with straight connector L: terminated cable with L shape connector	1: 1m 3: 3m 5: 5m 10: 10m 20: 20m

Cable option

Standard cable	Connector type	Length	Model
	Straight connector	1m	SLE21-P12S1
		3m	SLE21-P12S3
		5m	SLE21-P12S5
		10m	SLE21-P12S10
		20m	SLE21-P12S20
	L type connector	1m	SLE21-P12L1
		3m	SLE21-P12L3
		5m	SLE21-P12L5
		10m	SLE21-P12L10
		20m	SLE21-P12L20



Wire sequence of M12 waterproof connector

M12-12 PIN wire:

1. Brown-positive of power
2. Blue - negative of power
3. Grey - AUX output 1
4. Black - OSSD 1
5. White - OSSD 2
6. Green – safety input 1
7. Yellow – safety input 2
8. Red – lock control 1
9. Light green – EDM
10. Pink – EDM selection
11. Orange – AUX output 2
12. Purple – OSSD switch

SSR21 Series

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. SSR21 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 ± 0.05 mm, 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.: SSR21-00N-1)

Product series	Configuration type	Coding mode	Output type	cable length
SSR21	 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

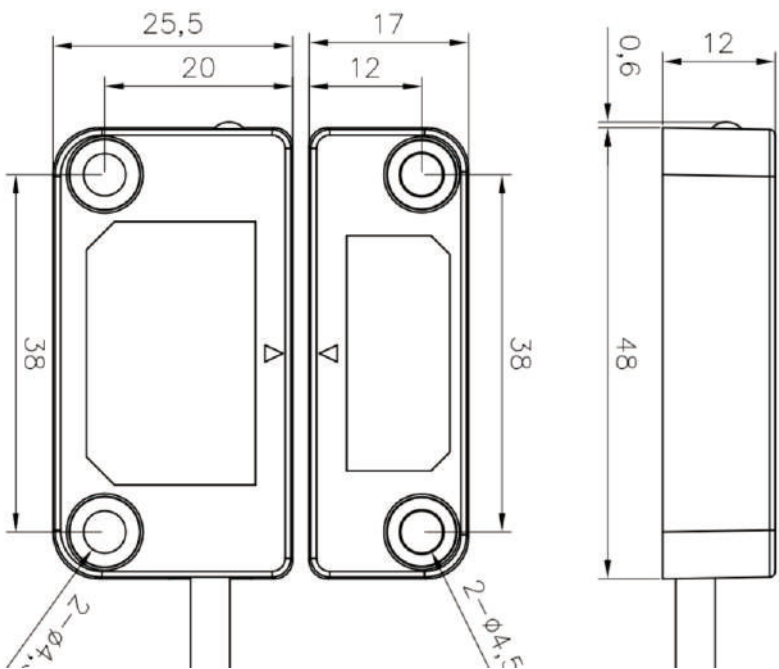
	Safety output	Cascade function
Basic mode	●	-
Standard mode	●	●

SSR21 Series Safety Door Switch

Model selection table

Configuration type	Output type	Coding mode	Model
Simply mode	NPN	Universal coding	SSR21-00N
		Unique coding	SSR21-01N
	PNP	Universal coding	SSR21-00P
		Unique coding	SSR21-01P
Standard mode	NPN	Universal coding	SSR21-10N
		Unique coding	SSR21-11N
	PNP	Universal coding	SSR21-10P
		Unique coding	SSR21-11P

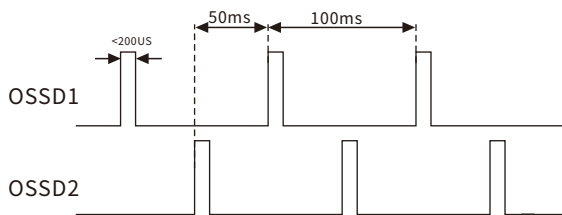
Product size



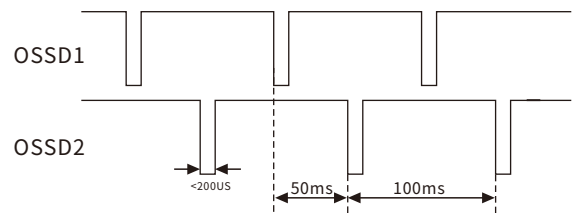
Indicator status

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



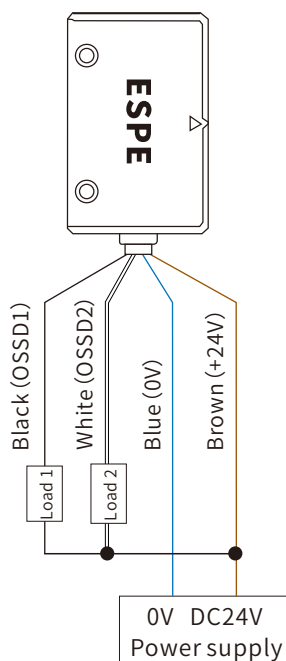
NPN timing chart



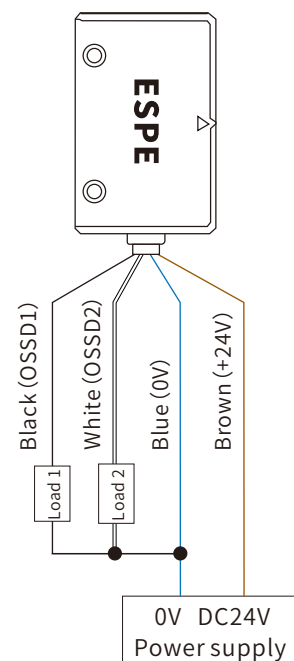
PNP timing chart

Wiring diagram

SSR2100 Basic mode (NPN)



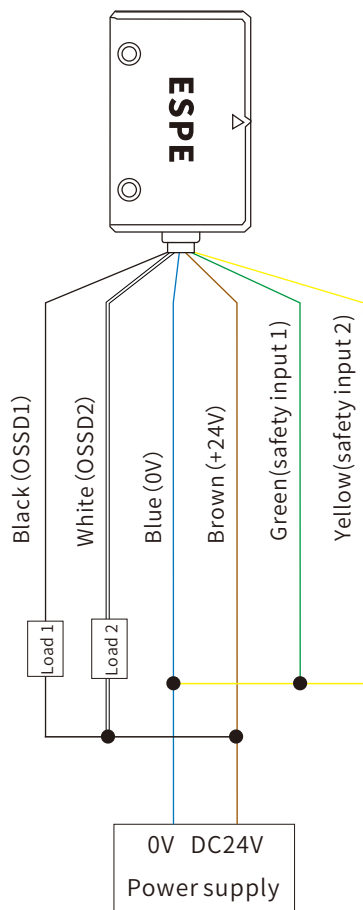
SSR2100 Basic mode (PNP)



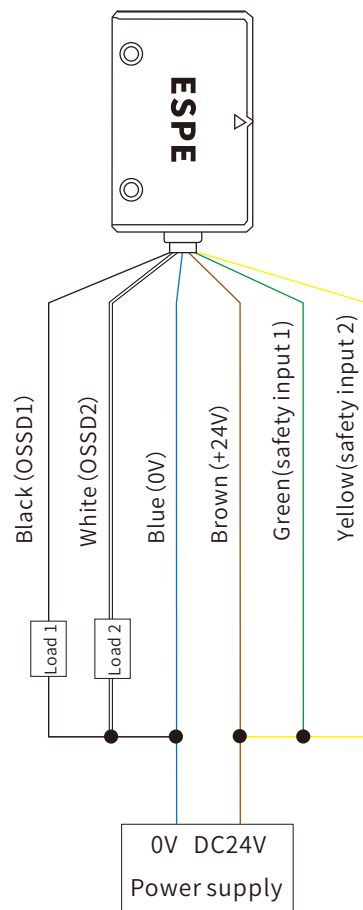
SSR21 Series Safety Door Switch

Wiring diagram

SSR2101 Standard mode(NPN)



SSR2101 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	

SSR22 Series

High Performance Contactless Safety Door Switch



Product introduction

Safety door switch is a kind of safety device, specialized for monitoring open/ close of protective mechanism (like safety fence door, protective cover). SSR22 series safety door switch with RFID technology to ensure high safety and confidentiality. The sensor & label support universal coding and unique coding. Small size is better for mounting.

Product feature

- Self-diagnose and cross-diagnose design: periodic mutual diagnose improve the safety level.
- Independent and redundant output: In case any risk caused by single loop failure.
- Magnetic holding force can reach 15N, which can replace the door magnet.

SSR22 Contactless Safety Door Switch

Product parameter

Standard	ISO 13849-1 (Cat. 4/PLe) ; IEC/EN60947-5-1 ; IEC/EN60947-5-3
Power supply	DC24V±15%
Capacity	<1W
Risk time	50ms
Response time	50ms
Magnetic holding force	>15N
Operating frequency	1Hz
OSSD output	PNP or NPN signal. Load below 200mA, residual voltage below 1V (except voltage caused by cable extension), leakage current below 1mA
Protective circuit	Overvoltage protection, power supply reverse polarity protection and overcurrent protection.
Coding mode	Universal coding, unique coding
Enclosure rating	IP65
Hosing sectional size	48*30mm
Vibration resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20 times each at X, Y and Z directions.
Working temperature	-10°C~+55°C (No freezing)
Storage temperature	-30°C~+70°C (No freezing)
Working humidity	When 20°C, the humidity max <85%

Model selection (e.g. :SSR22-00NC-3)

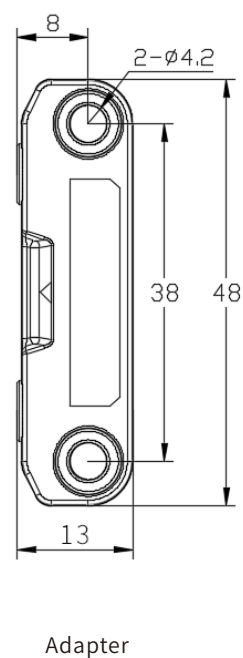
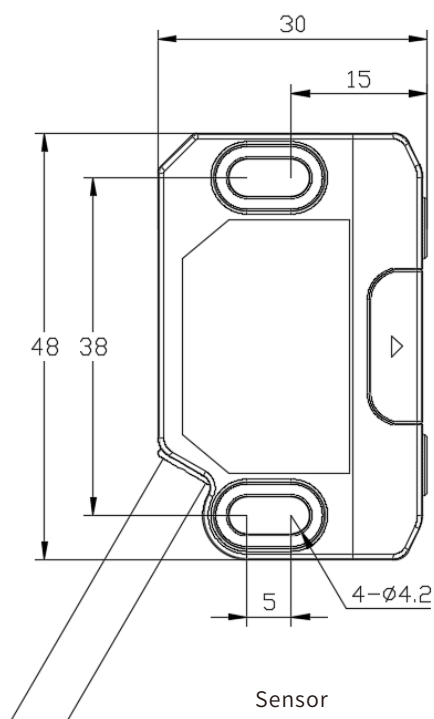
Product series	Configuration	Coding method	Output	Connector	Cable length
SSR22	— 				— 
	0: Basic mode 1: Standard mode 2: Advanced mode	0: Universal coding 1: Unique coding	N: NPN P: PNP	C: M12 connector No mark: leading wire	3: 3m 5: 5m 10: 10m 20: 20m

Function of configuration					
	Safety output	Cascade	EDM function	Reset	AUX output
Basic mode	●	—	—	—	—
Standard mode	●	●	—	—	—
Advanced mode	●	●	●	●	●

Selection table

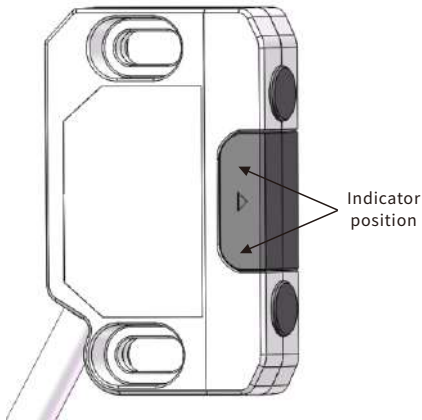
Mode	Output	Coding mode	Model
Basic mode	NPN	Universal coding	SSR22-00N
		Unique coding	SSR22-01N
	PNP	Universal coding	SSR22-00P
		Unique coding	SSR22-01P
Standard mode	NPN	Universal coding	SSR22-10N
		Unique coding	SSR22-11N
	PNP	Universal coding	SSR22-10P
		Unique coding	SSR22-11P
Advanced mode	NPN	Universal coding	SSR22-20N
		Unique coding	SSR22-21N
	PNP	Universal coding	SSR22-20P
		Unique coding	SSR22-21P

Product size



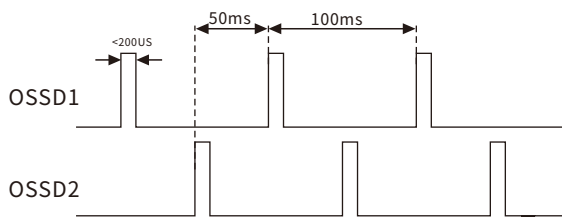
SSR22 Contactless Safety Door Switch

Indicator status

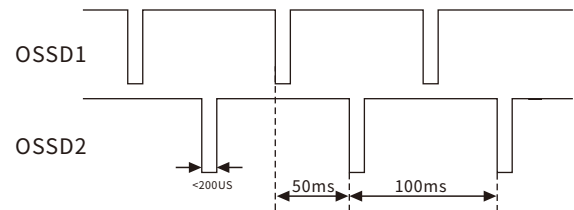


Indicator Status	Indicator
EEPROM error/SPI error	Red 4Hz blink
Output error/ EDM error	Red 1Hz blink
Voltage error	Red double blink
Unique coding unmatched	Red & green blink alternately at 4Hz
No error, No RFID, no output	Red ON
No error, RFID, cascade, waiting for reset signal	Green 4Hz blink
No error, RFID, not cascade	Green 1Hz blink
No error, RFID, cascade signal error	Green double blink
No error, all condition okay, with output	Green ON

Timing chart



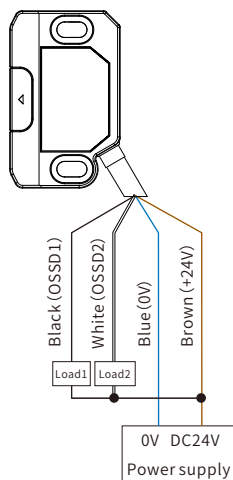
NPN



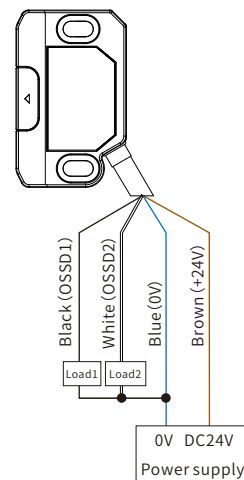
PNP

Wiring diagram

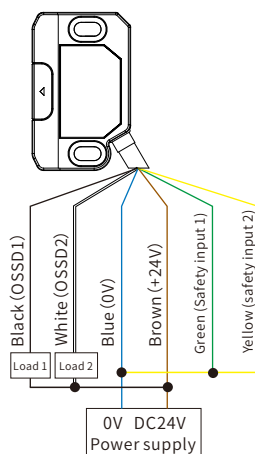
SSR22 Basic mode (NPN)



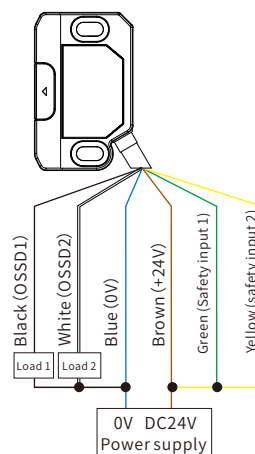
SSR22 Basic mode (PNP)



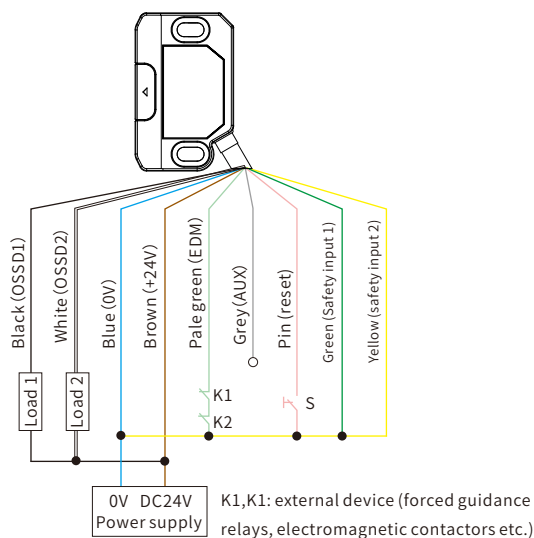
SSR22 Standard mode (NPN)



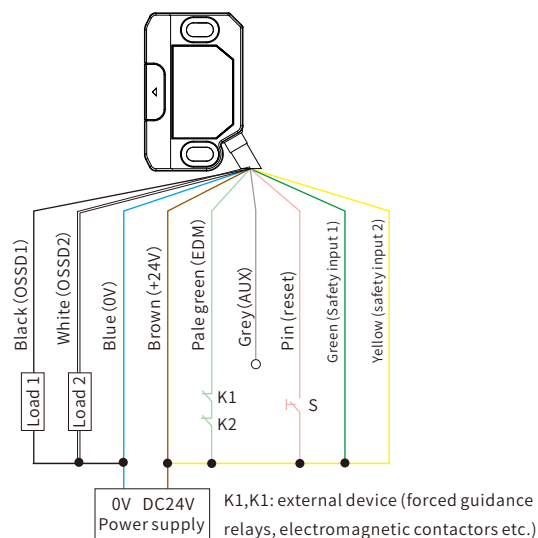
SSR22 Standard mode (PNP)



SSR22 Advanced mode (NPN)



SSR22 Advanced mode (PNP)



Wire details

Color	Function	Wire introduction
Brown	Power supply positive	Connect to power supply 24V.
Blue	Power supply negative	Connector to power supply 0V.
Black	Safety output 1	Connect safety PLC or interface of other safety input.
White	Safety output 2	
Green	Safety input 1	Cascade: connect to safety input of switch.
Yellow	Safety input 2	
Pale green	EDM	External relay or solenoid valve monitoring device.
Pin	Reset	Connect to reset button.
Grey	AUX	Connect to PLC.

SSG11 Series

Contactless Magnetic Switch

Product introduction

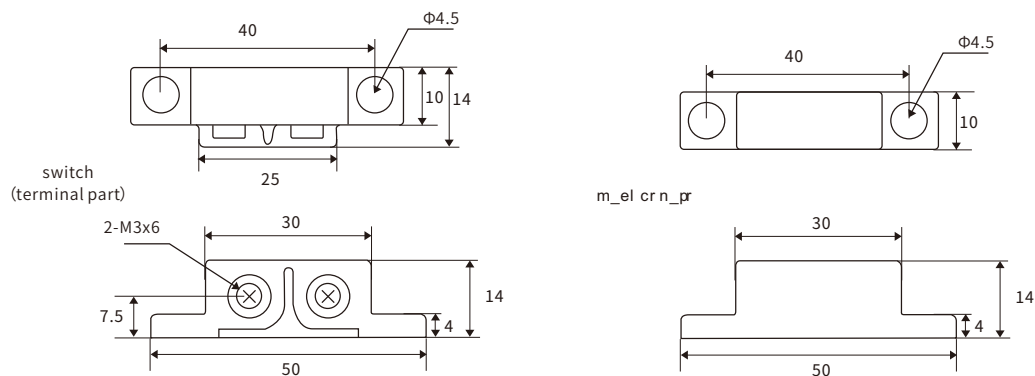
The proximity switch with 15mm response distance to start the magnetic spring to switch contacts with a permanent magnetic is suitable for detecting door close/open. With advantage easy to install and sensitive detection.



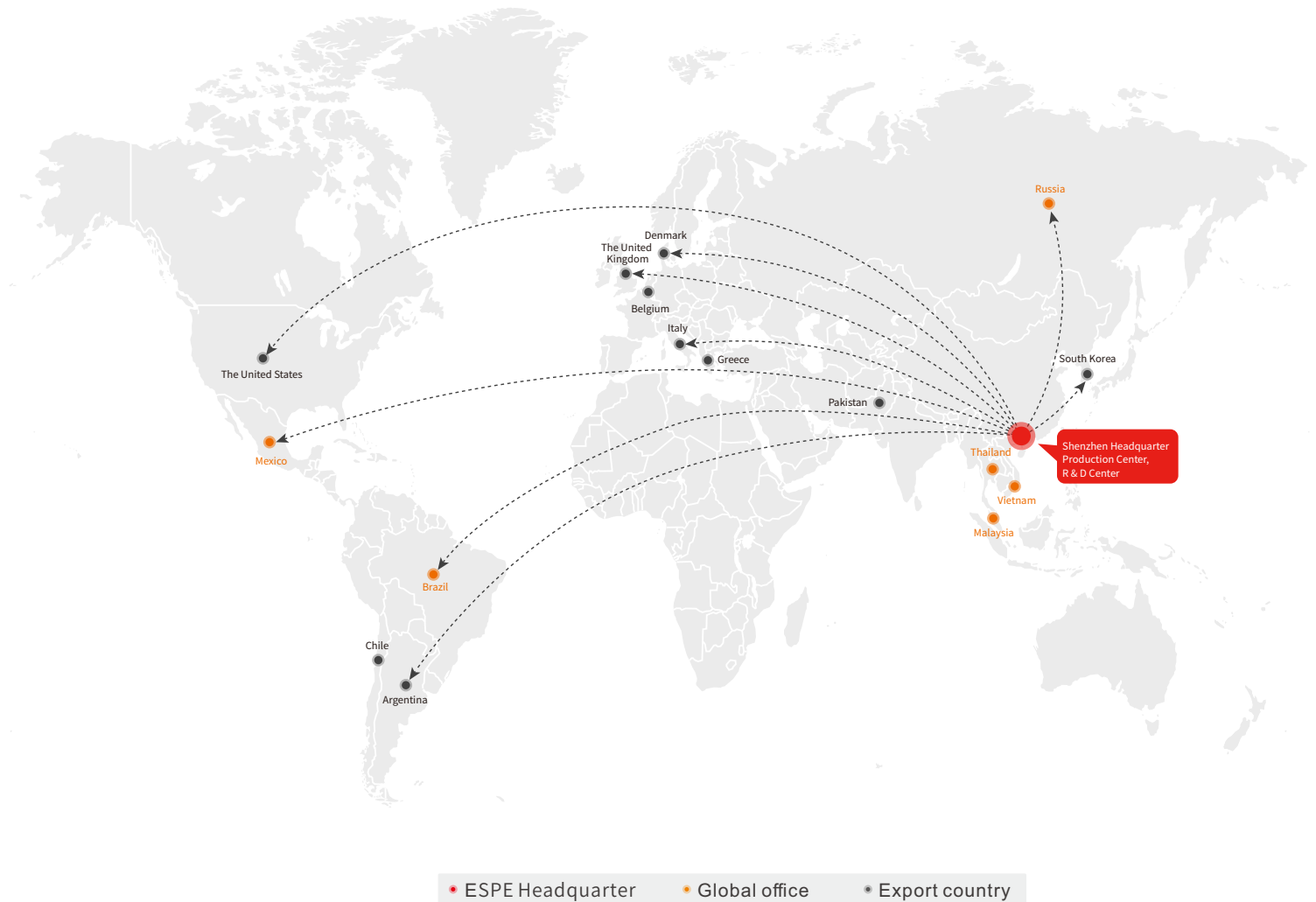
Product parameter

Model	SSG11
Detection head size	50mmx14mmx14mm
Type	Magnetic reed switch/ proximity conduction
Detection distance	15mm
Contacts capacity (AC voltage is prohibited)	Max. voltage: DC100v; Max. current DC0.1A, Max. contact capacity: 10W
Response frequency	<20Hz
Working temperature	-20~+60°C
Storage temperature	-20~+60°C
Working humidity	35~85%RH
Storage humidity	35~85%RH
Contact withstand voltage	DC250V 1min (leakage 1mA)
Vibration resistance	Duranc: 10-55Hz double amplitude 1.5mm 2h each in X, Y and Z direction
Compact resistance	Duranc: 300m/s. 3 times each in X,Y and Z direction
Protection level	IEC:IP40
Connection method	Terminal type
Material	ABS

Product size



Explore across ocean and continent



Shenzhen ESPE Technology Co., Ltd

Website: www.espectech.com

Address: 401A, 501A, 502B building 2, Hongxin Industrial Zone, Guanlan, Longhua, Shenzhen, China

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