

NEWMAZZ

SHENZHEN NEWMAZZ SAFETY TECHNOLOGY CO., LTD.

SAFETY DOOR SWITCHES 2026 PRODUCT SELECTION MANUAL

Making smart manufacturing safer



MA1



MA2



MA3



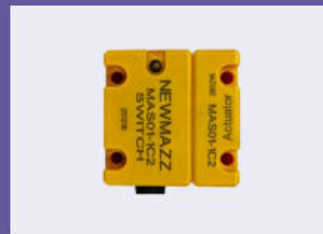
MAZ-K2



MA6



MA50



MAS01



MAS02



MAS03



MA-GLS



MAS11



MA9Z

COMPANY PROFILE

NEWMAZZ specializes in the research, development, production and sale of industrial safety products. Its capabilities include product and mold design, manufacturing, injection molding and assembly.

The source catalog lists national-standard certification, CE, CCC, TUV Rheinland, SIL4, RoHS and UL among its product certifications. Products have independently owned intellectual property and are used on equipment safety doors in consumer electronics, semiconductors, medical equipment, new energy, machine tools, automotive, petrochemicals, steel, electric power, water conservancy and wind power.

As an industrial safety product manufacturer, NEWMAZZ supports smarter manufacturing. Its professional team provides technical support and application solutions.

OUR PURPOSE Advance safety together. Support safe production worldwide. Put customers first and specialize in safety products. Contribute to smart manufacturing. Build better working and living environments.



COMPANY HONORS

CERTIFICATIONS



PRODUCT CATALOG

2026 English edition

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SAFETY DOOR SWITCH

SAFETY-DOOR SWITCH

MA1 SERIES



Model coding

Switch model

MA1 1 2 3

1. Conduit / connector size

1: Pg13.5 2: M20

2. Built-in contacts

A: 1NC/1NO (Slow-action) C: 2NC/1NO (Slow-action)
B: 2NC (Slow-action) D: 3NC (Slow-action)

3 ·Head installation direction

F: Four mounting directions are available (front mounting when delivered) /Plastic
D: Four installation directions are available (front installation at delivery) / Metal
NOTE: Separate orders of switch heads or switch components are not accepted.
(Actuator key sold separately)

Actuator key

MAZ-D 1

1·Actuator key type

1: Horizontal installation 3: Adjustable installation (horizontal)
2: Vertical installation 4: Adjustable installation (horizontal/vertical)

Multi-contact safety door switch

- . This product series has multiple contact structure options.
- . Suitable for standard loads and micro loads.
- . The installation and wiring are simple, saving labor and easy to replace.
- . A variety of metal heads are available.



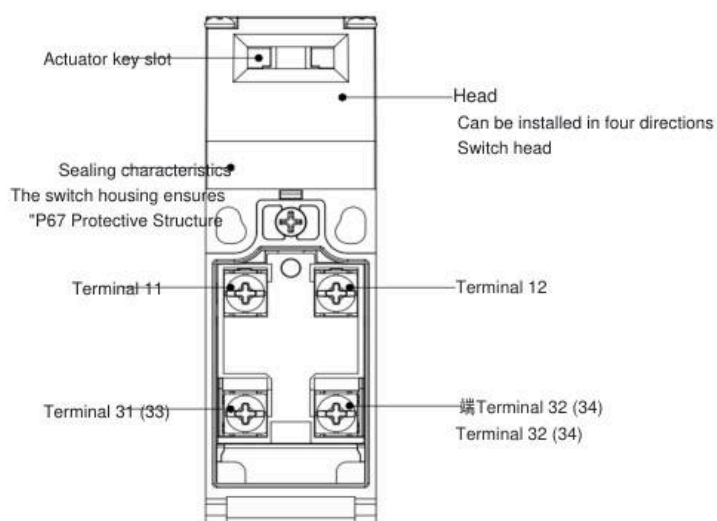
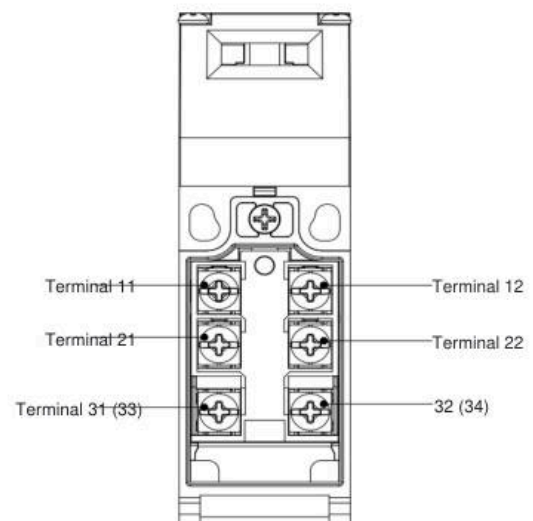
Selection table

. Switch (actuator key sold separately)

To order a model not listed in this table, please contact your NEWMMAZZ sales representative.

Head material	Contact configuration		Conduit entry size	Model
Plastic	Slow-action	1NC/1NO	Pg13.5	MA1-1AF
			M20	MA1-2AF
		2NC	Pg13.5	MA1-1BF
			M20	MA1-2BF
		2NC/1NO	Pg13.5	MA1-1CF
			M20	MA1-2CF
		3NC	Pg13.5	MA1-1DF
			M20	MA1-2DF
Metal	Slow-action	1NC/1NO	Pg13.5	MA1-1AD
			M20	MA1-2AD
		2NC	Pg13.5	MA1-1BD
			M20	MA1-2BD
		2NC/1NO	Pg13.5	MA1-1CD
			M20	MA1-2CD
		3NC	Pg13.5	MA1-1DD
			M20	MA1-2DD

. Structure and names of each part



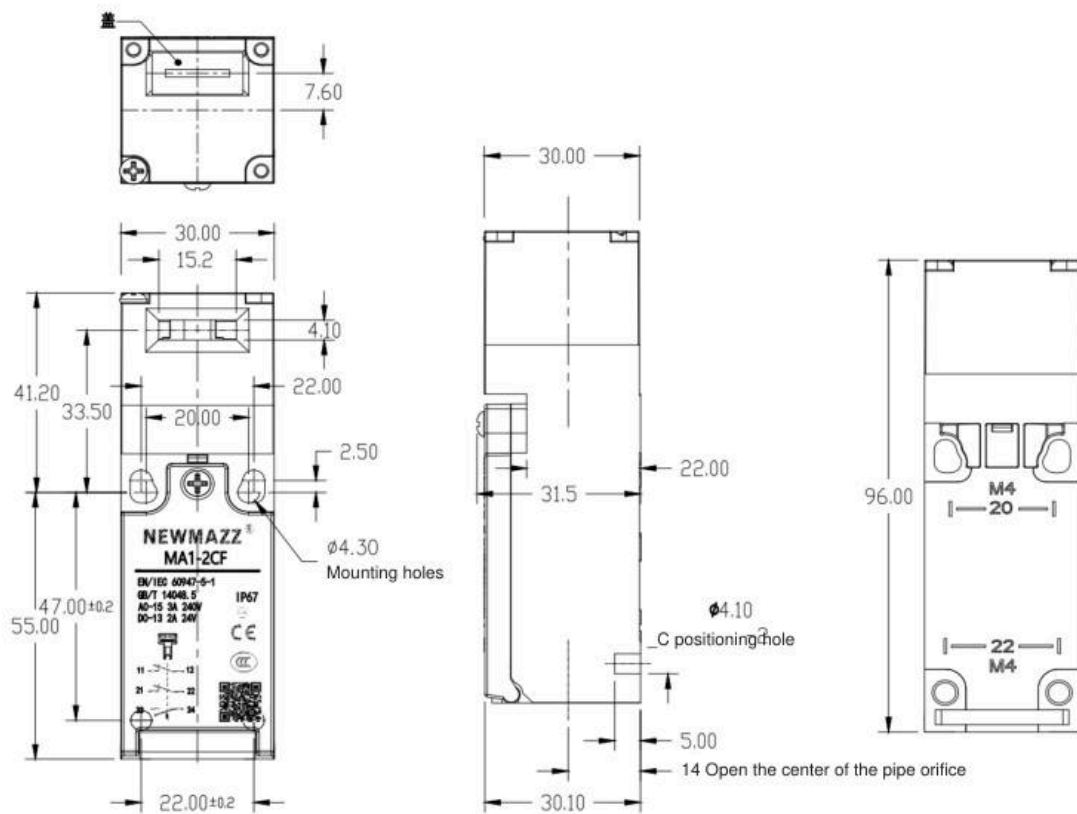
Note: The terminal arrangement of M12 conduit type is the same as this

Specifications

. Electrical characteristics

Safety level			
Certification		CCC、CE	
Standards		EN60947-5-1、GB14048.5、IEC 61508、EN ISO 14119	
Protection level		IP67	
Material		Flame-retardant PA66	
Service life	Mechanical	More than 1 million times	
	Electrical	150,000 cycles min.	
Usage type		AC-15	DC-13
Rated operating (Ue) voltage		240V	24V
Rated operating (Ie) current		3A	2A
Electrical characteristics			
Contact resistance		25 mOhm max.	
Rated insulation voltage (Ui)		300V	
Level of protection against electric shock		Class II (double insulation)	
Pulse withstand voltage (EN60947-5-1)		2.5 kV: same terminals; 4 kV: different terminals; 6 kV: terminals to non-live metal.	
Insulation resistance		100 MOhm min. (at 500 VDC)	
Short circuit protection device		10 A, 250 V fast-blow fuse required	
Vibration resistance		10-55HZ double amplitude 1, 5mm	
Impact resistance	Durability	1000m/s ²	
	Malfunction	300m/s ²	
Conditional short circuit current		100A (EN60947-5-1)	
Contact spacing		2x2mm or more	
Operating characteristics			
Positive-opening force		Minimum 60N	
Pre-travel for positive opening		10 mm or more	
Operating speed		0.1 m ~ 0.5m/s	
Allowed operating frequency		Maximum 20 operations/minute	
Environment			
Pollution degree (use environment)		3 (EN60947-5-1)	
Operating ambient temperature		- 10 C ~ + 70 C no icing	
Operating environment humidity		85%RH	

Dimensions / operating characteristics



Models and contact arrangements

The illustration shows the locked state when the actuator key is inserted.

Model	Contact	Contact arrangement	Action mode
MA1-1AF MA1-2AF MA1-1AD MA1-2AD	1NC/NO		Insert the operating key Locked position 11-12 输出值设置 33-34 触点ON: 接触 触点OFF: 接触 Contact open
MA1-1BF MA1-2BF MA1-1BD MA1-2BD	2NC		Enter the actuator key Locked position 11-12 Travel 31-32 Ground Delete Ground
MA1-1CF MA1-2CF MA1-1CD MA1-2CD	2NC/1NO		Inserted position Locked position 11-12 Withdrawn position 21-22 #Contact 33-34 Contact open
MA1-1DF MA1-2DF MA1-1DD MA1-2DD	3NC		Insert the actuator key Locked position 11-12 行程 21-22 "The Decree of Ascension to the Throne" 31-32 触点ON: 接触 触点OFF: 接触 Contact closed

Solenoid-locking safety door switch

ELECTROMAGNETIC SAFETY-DOOR SWITCH

MA2 series

Safety protection forced locking

- EN 60947-5-1/IEC60947-5-1
- GB/T 14048.5
- EN ISO 14119
- IEC 61508
- EN ISO 13849-1



Multi-contact electromagnetic locking safety door switch

- . Built-in multiple contact structure options.
- . Locking force is 1300N
- . A67 protection level.
- . A variety of metal heads are available.
- . Available in general load or micro load.



Model coding

Switch model

MA2 

1 -Conduit port/connector size

1: Pg13.5

2: M20

2. Switch contacts

A : 1NC/1NO (slow-action contact) + 1 NC/I NO (slow-action contact)

B : 1NC/1NO (slow-action contact) + 2NC (slow-action contact)

C: 2NC (slow-action contact) + INC/INO (slow-action contact)

D: 2NC (slow-action contact) + 2NC (slow-action contact)

E: 2NC/1NO (slow action point) + 1 NC/I NO (slow action contact)

F: 2NC/1NO (slow-action contact) + 2NC (slow-action contact)

G: 2NC/1 NO (slow contact) + 2NC/1 NO (slow contact)

H: 3 N C (slow-action contact) + INC/INO (slow-action contact)

J: 3 N C (slow-action contact) + 2NC (slow-action contact)

: 3 N C (slow-action contact) + 3 N C (slow-action contact)

K: 3NC (slow-action contact) + 2NC/1NO (slow-action contact)

L: 2NC/1NO (slow-action contact) + 3NC (slow-action contact)

3 -Head installation direction

F: Four mounting directions are available (front mounting when delivered) /Plastic

D: Four installation directions are available (front installation at delivery) / Metal

4-Door lock/release method

A: Mechanical lock/DC24V electromagnetic release

B: Mechanical lock/ACI 10V electromagnetic release

G: DC24V electromagnetic lock/machine lock

H: ACI 10V electromagnetic lock/machine lock

5.Release key position

F: Top

S: front

6. Indicator light

Blank: Standard DC24V (green LED indicator)

B: DC24V (orange LED indicator)

Actuator key

MAZ-D 

1. Actuator key type

1: Horizontal installation

2: Vertical installation

3: Adjustable installation (horizontal)

4: Adjustable installation (horizontal/vertical)

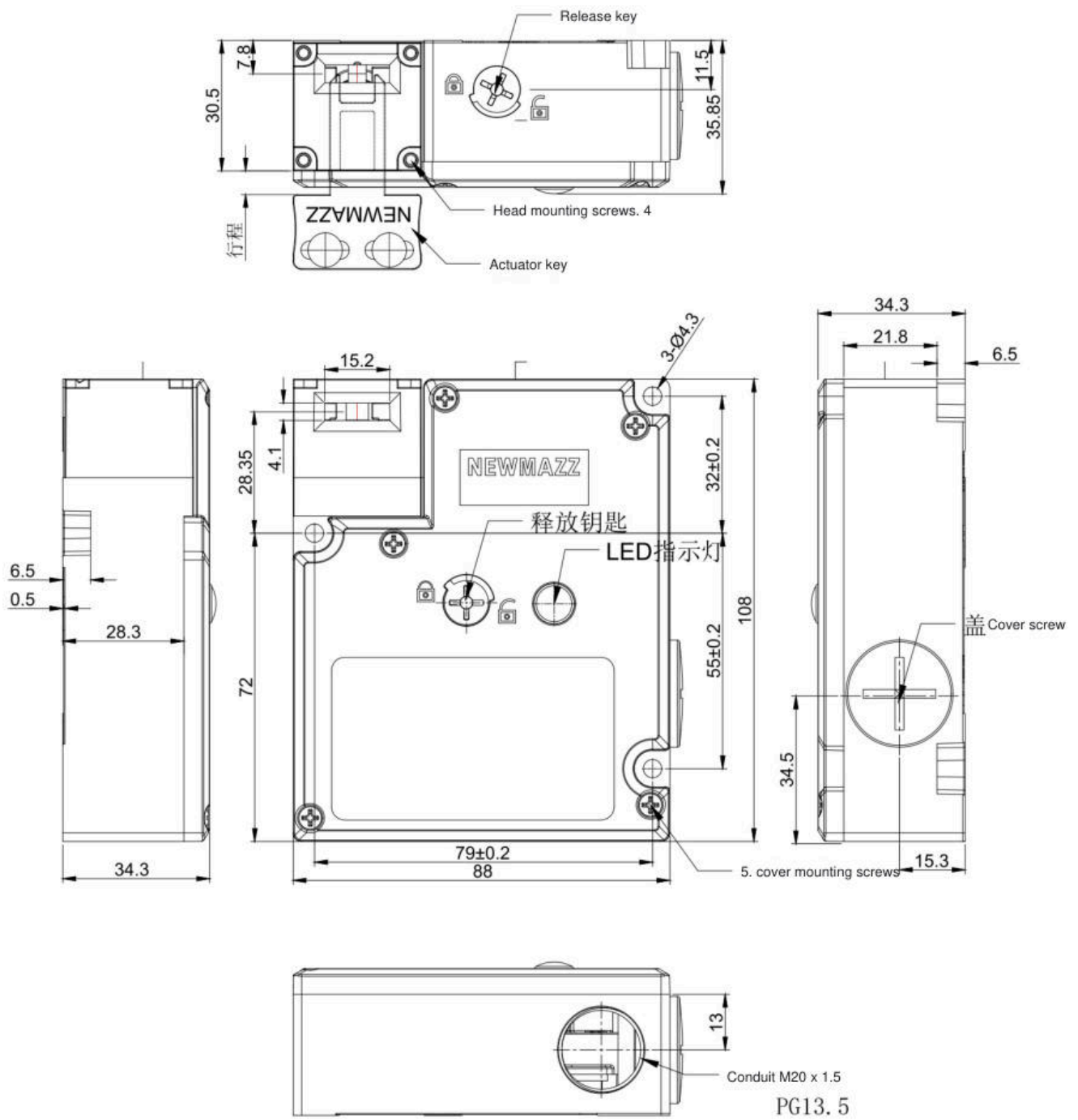
Selection table

. Switch (actuator key sold separately)

To order a model not listed in this table, please contact your NEWMMAZZ sales representative.

Head material	Solenoid coil Voltage/indicator light	Lock Release method	Contact type (Door monitoring + lock monitoring)	Conduit entry size	Model
Plastic	Electromagnet: DC24V Green LED	Mechanical locking Solenoid release	1NC/1NO+1NC/1NO	Pg13.5	MA2-1AFAS
				M20	MA2-2AFAS
			1NC/1NO+2NC	Pg13.5	MA2-1BFAS
				M20	MA2-2BFAS
			2NC+1NC/1NO	Pg13.5	MA2-1CFAS
				M20	MA2-2CFAS
			2NC+2NC	Pg 1 a coin	MA2-1DFAS
				M20	MA2-2DFAS
			2NC/1NO+1NC/1NO	Pg13.5	MA2-1EFAS
				M20	MA2-2EFAS
			2NC/1NO+2NC	Pg13.5	MA2-1FFAS
				M20	MA2-2FFAS
			2NC/1NO+2NC/1NO	Pg13.5	MA2-1GFAS
				M20	MA2-2GFAS
			3NC+1NC/1NO	Pg13.5	MA2-1HFAS
				M20	MA2-2HFAS
			3NC+2NC	Pg13.5	MA2-1IFAS
				M20	MA2-2IFAS
			3NC+3NC	Pg13.5	MA2-1JFAS
				M20	MA2-2JFAS
			3NC+2NC/1NO	Pg13.5	MA2-1KFAS
				M20	MA2-2KFAS
			2NC/1NO+3NC	Pg13.5	MA2-1LFAS
				M20	MA2-2LFAS
		Solenoid locking Mechanical release	1NC/1NO+1NC/1NO	Pg13.5	MA2-1AFGS
				M20	MA2-2AFGS
			1NC/1NO+2NC	Pg13.5	MA2-1BFGS
				M20	MA2-2BFGS
			2NC+1NC/1NO	Pg13.5	MA2-1CFGs
				M20	MA2-2CFGs
			2NC+2NC	Pg13.5	MA2-1DFGS
				M20	MA2-2DFGS
			2NC/1NO+1NC/1NO	Pg13.5	MA2-1EFGS
				M20	MA2-2EFGS
			2NC/1NO+2NC	Pg13.5	MA2-1FFGS
				M20	MA2-2FFGS
			2NC/1NO+2NC/1NO	Pg13.5	MA2-1GFGS
				M20	MA2-2GFGS
			3NC+1NC/1NO	Pg13.5	MA2-1HFGS
				M20	MA2-2HFGS
			3NC+2NC	Pg13.5	MA2-1IFGS
				M20	MA2-2IFGS
			3NC+3NC	Pg13.5	MA2-1JFGS
				M20	MA2-2JFGS
			3NC+2NC/1NO	Pg13.5	MA2-1KFGS
				M20	MA2-2KFGS
			2NC/1NO+3NC	Pg13.5	MA2-1LFGS
				M20	MA2-2LFGS

Appearance and installation dimensions (unit: mm)



Specifications

Electrical characteristics

Solenoid coil		LED indicator	
Rated operating voltage	DC24V	Rated operating voltage	DC24V
Power	4.8W	Rated current	Approx. 1mA
Rated current	Approx. 200mA	Luminous color (LED)	Green
Insulation	Class B (130 C)		
Safety level			
Certification		CCC, CE, Rhine V, S "L 3	
Standards		EN60947-5-1、GB14048.5、IEC 61508、EN ISO 14119	
Protection rating		IP67	
Material		Flame-retardant PA	
Service life	Mechanical	1,000,000 cycles min.	
	Electrical	150,000 cycles min. (AC 240 V, 3 A, resistive load)	
Usage type		AC-15	DC-13
Rated operating voltage (Ue)		240V	24V
Rated operating current (Ie)		3A	2A
Electrical characteristics			
Contact resistance		25 mOhm max.	
Rated open thermal current (Ith)		10A	
Rated insulation voltage (Ui)		300V	
Level of protection against electric shock		Class II (double insulation)	
Pulse withstand voltage (EN60947-5-1)		2.5 kV: same terminals; 4 kV: different terminals; 6 kV: terminals to non-live metal.	
Insulation resistance		100 MOhm min.	
Short circuit protection device		10 A, 250 V fast-blow fuse required	
Vibration resistance		10-55HZ double amplitude 1. 5mm	
Impact resistance	Durability	1000m/s ²	
	Malfunction	300m/s ²	
Conditional short circuit current		100A (EN 60947-5-1)	
Contact spacing		2 x 2mm or more	
Operating characteristics			
Positive-opening force		Minimum 60N	
Pre-travel for positive opening		10mm or more	
Operating speed		0.1m ~ 0.5m/s	
Allowed operating frequency		Maximum 30 operations/minute	
Locking force		1300N	
Environment			
Pollution degree (use environment)		3 (EN60947-5-1)	
Operating ambient temperature		- 10 C ~ + 55 C no icing	
Operating environment humidity		Below 95% RH	

Models and contact arrangements

Shown with actuator inserted and locked. Terminal pairs 12/41, 22/51 and 32/61 are internally connected.

Model	Contacts Door detection + lock monitoring	Contact arrangement		Operating sequence
		Door monitoring	Lock monitoring	White: contact open Purple: contact closed
MA2- □AF□□	1NC/1NO+1NC/1NO			
MA2- □BF□□	1NC/1NO+2NC			
MA2- □CF□□	2NC+1NC/1NO			
MA2- □DF□□	2NC+2NC			
MA2- □EF□□	2NC/1NO+1NC/1NO			
MA2- □FF□□	2NC/1NO+2NC			
MA2- □GF□□	2NC/1NO+2NC/1NO			
MA2- □HF□□	3NC+1NC/1NO			
MA2- □IF□□	3NC+2NC			
MA2- □JF□□	3NC+3NC			
MA2- □KF□□	3NC+2NC/1NO			
MA2- □LF□□	2NC/1NO+3NC			

Solenoid-locking safety door switch

ELECTROMAGNETIC SAFETY-DOOR SWITCH

MA3 series

Safety protection forced locking

- TUV EN 60947-5-1/IEC60947-5-1
- GB/T 14048.5
- IEC 61508
- EN ISO 14119
- EN ISO 13849-1
- UL 508
- CSA C22.2No.14



Multi-contact electromagnetic locking safety door switch

To select the built-in multi-contact structure.

锁 The fixed force is 1300N.

| P67 protection rating,

A variety of metal heads are available,

To usable general load or micro load.



Model coding

Switch model

MA3 - □□□□□□□□

1. Conduit orifice size

1: Pg13.5

2: M20

3: M16

2. Switch contacts

A: 1NC (slow-action contact) + 1 NO (slow-action contact)

B: 2NC (Slow-action contact) + INC/INO (slow-action contact)

C: 1NC (contact) + 1 NC (slow-action contact)

D: 1 NC (slow-action contact) + 2NC ("contact)

E: 2NC (slow-action contact) + 2NO (slow-action contact)

F: 1NC (slow training of concubines) + 1 NC/I NO (slow-action contact)

G: 2NC (slow-action contact) + 2NC (slow-action contact)

H: INC/I NO (slow contact) + 1NO1 | C (slow contact)

I: 3NC (slow-action contact) + INO (slow-action contact)

J: 3NC (slow-action contact) + 1 NC (slow-action contact)

K: 2NC/1 NO (slow-action contact) + 1NO (slow-action contact)

L: 1 NC (slow-action contact) + 3NC (slow-action contact)

M: 1 NC/I NO (slow-action contact) + 2NC (slow-action contact)

N: INC/I NO (slow-action contact) + 2NO (slow-action contact)

3. Head installation direction

F: 400, installation direction optional (front installation when delivered) / plastic

D: Four, safe. Optional (delivered with front mounting) / metal

4. Lock / release method

A: Mechanical lock/DC24V electromagnetic release

B: Mechanical lock/ACI 10V electromagnetic release

G: DC24V electromagnetic lock/reel release

H: ACIIOV electromagnetic lock/phase amplification

5. Release key position

Blank: front

F: Back

6. Indicator light

Blank: Jia type DC24V (green LED finger)

B: DC24V (orange LED refers to ä\$ff)

7. Release key type

Blank: Standard type

H: Special release key (release key included)

Actuator key

MAZ-D []

1. Actuator key type

1: Horizontal installation

2: Vertical installation

3: Adjustable installation (horizontal)

4: Adjustable installation (horizontal/vertical)

Note: Individual ordering of switch head switch parts is not accepted-

(Actuator key sold separately)

Selection table

. Switch (actuator key sold separately)

To order a model not listed in this table, please contact your NEWMAZZ sales representative.

Head material	Solenoid coil Voltage/indicator light	Lock Release method	Contact type (lock monitoring + door monitoring)	Conduit entry size	Model
Plastic	Electromagnet: DC24V Green LED	Mechanical locking Solenoid release	1NC+1NO	Pg13.5	MA3-1AFA
				M20	MA3-2AFA
				M16	MA3-3AFA
			2NC+1NC/1NO	Pg13.5	MA3-1BFA
				M20	MA3-2BFA
			1NC+1NC	Pg13.5	MA3-1CFA
				M20	MA3-2CFA
				M16	MA3-3CFA
			1NC+2NC	Pg13.5	MA3-1DFA
				M20	MA3-2DFA
			2NC+2NO	Pg13.5	MA3-1EFA
				M20	MA3-2EFA
			1NC+1NC/1NO	Pg13.5	MA3-1FFA
				M20	MA3-2FFA
			2NC+2NC	Pg13.5	MA3-1GFA
				M20	MA3-2GFA
			1NC/1NO+1NC/1NO	Pg13.5	MA3-1HFA
				M20	MA3-2HFA
			3NC+1NO	Pg13.5	MA3-1IFA
				M20	MA3-2IFA
			3NC+1NC	Pg13.5	MA3-1JFA
				M20	MA3-2JFA
		Solenoid locking Mechanical release	1NC+1NO	Pg13.5	MA3-1AFG
				M20	MA3-2AFG
				M16	MA3-3AFG
			2NC+1NC/1NO	Pg13.5	MA3-1BFG
				M20	MA3-2BFG
			1NC+1NC	Pg13.5	MA3-1CFG
				M20	MA3-2CFG
				M16	MA3-3CFG

Head material	Solenoid coil Voltage/indicator light	Lock Release method	Contact type (lock monitoring + door monitoring)	Conduit entry size	Model
Plastic	Electromagnet: DC24V Green LED	Solenoid locking Mechanical release	1NC+2NC	Pg13.5	MA3-1DFG
				M20	MA3-2DFG
			2NC+2NO	Pg13.5	MA3-1EFG
				M20	MA3-2EFG
			1NC+1NC/1NO	Pg13.5	MA3-1FFG
				M20	MA3-2FFG
			2NC+2NC	Pg13.5	MA3-1GFG
				M20	MA3-2GFG
			1NC/1NO+1NC/1NO	Pg13.5	MA3-1HFG
				M20	MA3-2HFG
			3NC+1NO	Pg13.5	MA3-1IFG
				M20	MA3-2IFG
Metal	Electromagnet: DC24V Green LED	Mechanical locking Solenoid release	2NC+1NC/1NO	M20	MA3-2BDA
					MA3-2EDA
			2NC+2NC	M20	MA3-2GDA
					MA3-2HDA
			3NC+1NO	M20	MA3-2IDA
					MA3-2JDA
		Solenoid locking Mechanical release	2NC+1NC/1NO	M20	MA3-2BDG
					MA3-2EDG
			2NC+2NC	M20	MA3-2GDG
					MA3-2HDG
			3NC+1NO	M20	MA3-2IDG
					MA3-2JDG

MA3 -Dimensional drawing



Specifications

. Electrical characteristics

Solenoid coil		LED indicator	
Rated operating voltage	DC24V	Rated operating voltage	DC24V
Power	max. 3.8w (Temporarily max. 15.1w after lock control)	Rated current	Approx. 1mA
Rated current	Approx. 200mA	Luminous color (LED)	Green
Insulation	Class B (130 C)		
Safety level			
Certification		CCC, CE, TUV Rheinland, cTUVus, SIL3	
Standards		EN60947-5-1、GB14048.5、IEC 61508、EN ISO14119、UL 508 CSA C22.2 No.14	
Protection rating		IP67	
Material		Flame-retardant PA66	
Service life	Mechanical	10,000 cycles min.	
	Electrical	More than 150,000 times (AC240V 3A, resistive load)	
Usage type		AC-15	DC-13
Rated operating voltage (Ue)		240V	24V
Rated operating current (Ie)		3A	2A
Electrical characteristics			
Contact resistance		25 mOhm max.	
Rated open thermal current (Ith)		10A	
Rated insulation voltage (Ui)		300V	
Level of protection against electric shock		Class II (double insulation)	
Pulse withstand voltage (EN60947-5-1)		2.5 kV: same terminals; 4 kV: different terminals; 6 kV: terminals to non-live metal.	
Insulation resistance		100 MOhm min.	
Short circuit protection device		10 A, 250 V fast-blow fuse required	
Vibration resistance		10-55HZ double amplitude 1. 5mm	
Impact resistance	Durability	1000m/s ²	
	Malfunction	300m/s ²	
Conditional short circuit current		100A (EN60947 1)	
Contact spacing		2x2mm or more	
Operating characteristics			
Positive-opening force		Minimum 60N	
Pre-travel for positive opening		10mm or more	
Operating speed		0.1m ~ 0.5m/s	
Allowed operating frequency		Maximum 30 operations/minute	
Locking force		1300N	
Environment			
Pollution degree (use environment)		3 (EN60947-5-1)	
Let the ambient temperature		- 10 C ~ + 55 C no icing	
Make the environment humidity		Below 95% RH	

Models and contact arrangements

The illustration shows the locked state when the actuator key is inserted.

Model	Contact (Lock monitoring + door opening and closing detection)	Contact arrangement		Action mode Midpoint OFF: disconnect [Contact ON: closed]
		Door monitoring	Lock monitoring	
MA3- □AF□	1NC+1NO			
MA3- □BF□	2NC+1NC/1NO			
MA3- □CF□	1NC+1NC			
MA3- □DF□	1NC+2NC			
MA3- □EF□	2NC+2NO			
MA3- □FF□	1NC+1NC/1NO			
MA3- □GF□	2NC+2NC			
MA3- □HF□	1NC/NO+1NC/NO			
MA3- □IF□	3NC+1NO			
MA3- □JF□	3NC+1NC			
MA3- □KF□	2NC/1NO+1NO			
MA3- □LF□	1NC+3NC			
MA3- □MF□	1NC/1NO+2NC			

MAZ-K2 with MA2 + MA3 series

MAZ-K2 WITH MA2+MA3 SERIES



Model: MAZ-K2/ MAZ-K2-Q

Main body mounting seat material: PA66 fireproof/aluminum alloy

Slide material: PA66 fireproof

Plug material: PA66 fireproof

Handle material: aluminum alloy or PA66 fireproof

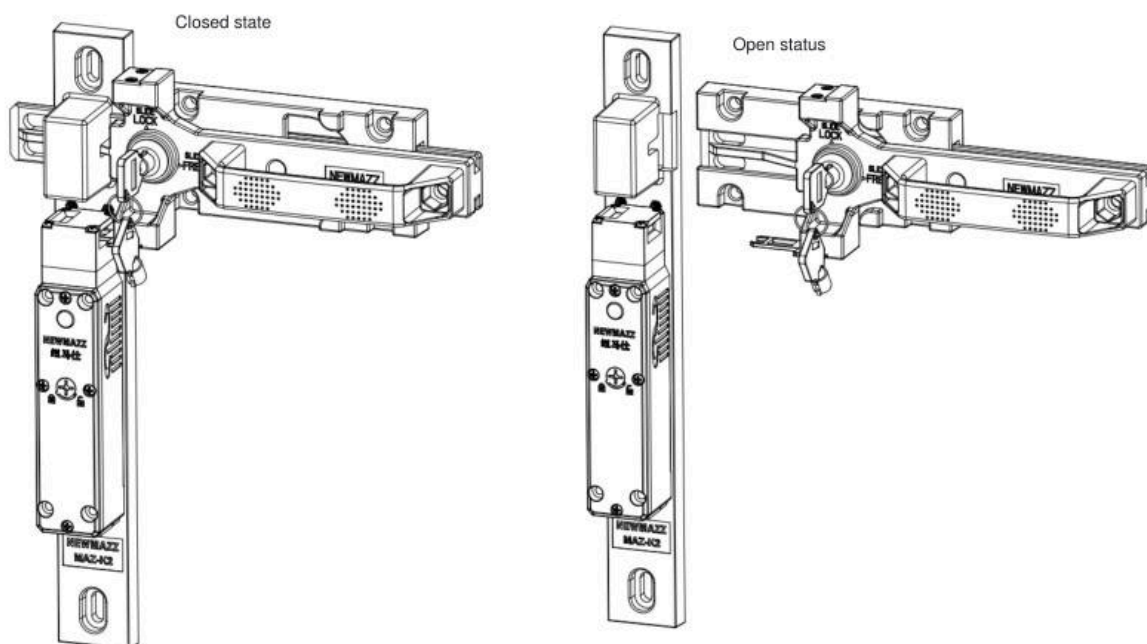
Weight: 0.63kg/1.13kg

Installation method: left or right side of door or guardrail

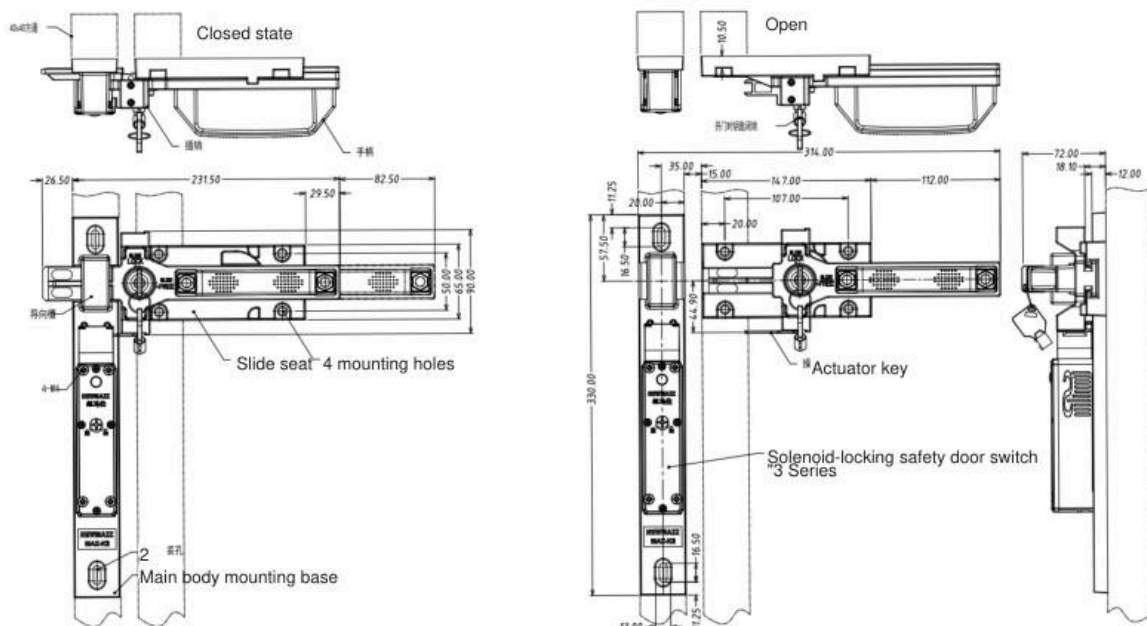
Applicable products: MA1, MA2, MA3 series

MAZ-K2 + MA3 - 3D view

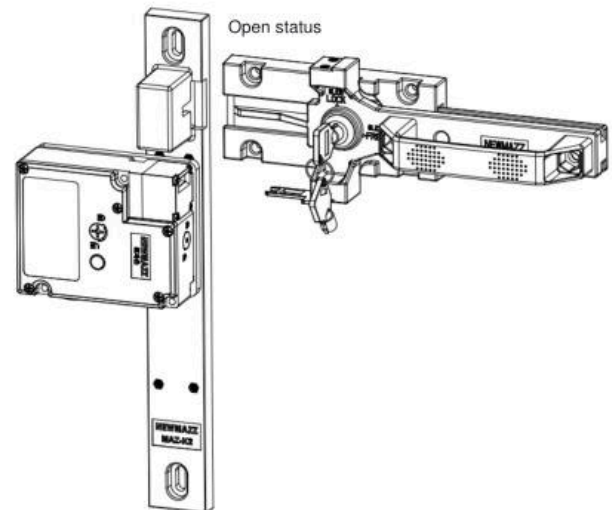
3D view



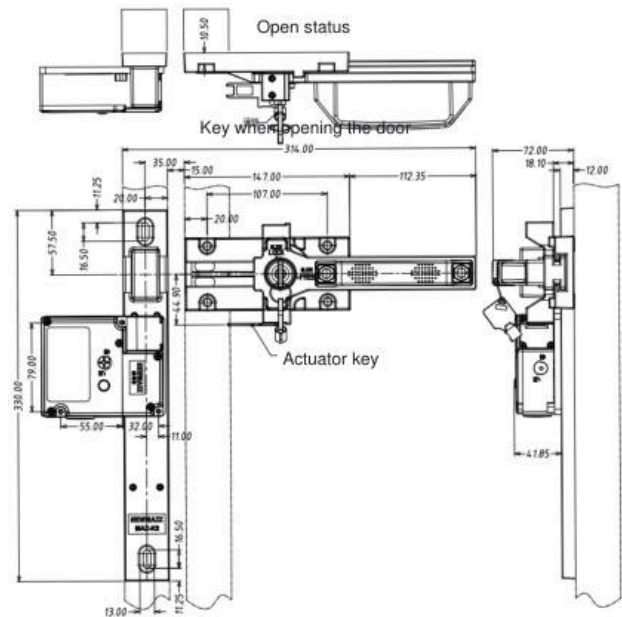
MAZ-K2 + MA3 - 3D view



MAZ-K2+MA2-right door opening-3D diagram



MAZ-K2+MA2-left and right door opening-Dimensional drawing



Actuator keys

Note: unless otherwise noted, Otherwise, all dimensions are ± 0 . Specified tolerance of 4mm.

MAZ-D1

Actual picture of actuator key



MAZ-D2

Actual picture of actuator key



MAZ-D3

Actual picture of actuator key



MAZ-D4

Actual picture of actuator key

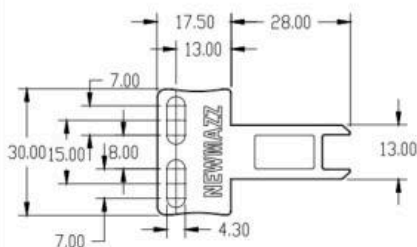


MAZ-K6

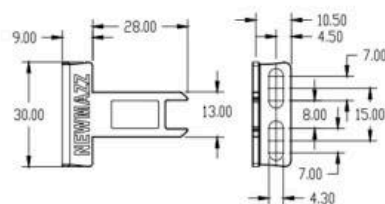
Actual picture of actuator key



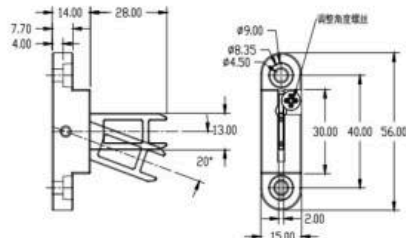
MAZ. Dimensional drawing of D1 actuator key



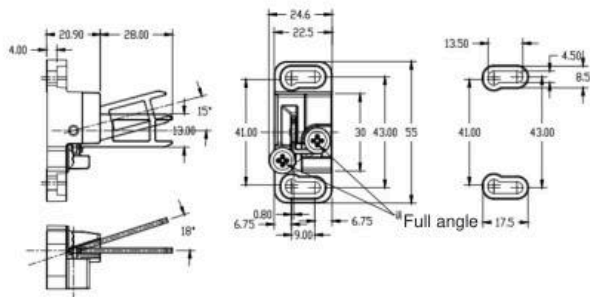
MAZ. D2 actuator key dimension diagram



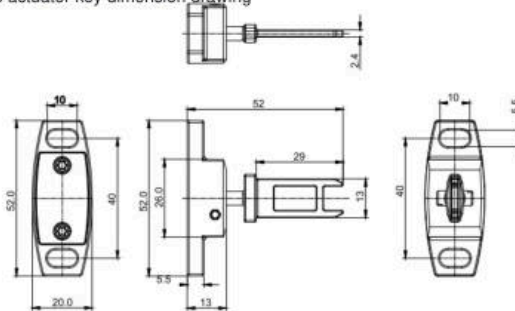
MAZ. D3 actuator key dimension diagram



MAZ-D4-actuator key dimension drawing



MAZ-K6 actuator key dimension drawing



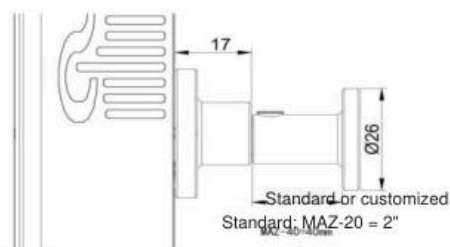
Rear unlocking assembly

MAZ-20

MAZ-40

MAZ-20 MAZ-40

Dimensional drawing of the back unlocking component



MA6 compact bolt-type electronic lock switch

MA6 SMALL BOLT TYPE ELECTRONIC LOCK



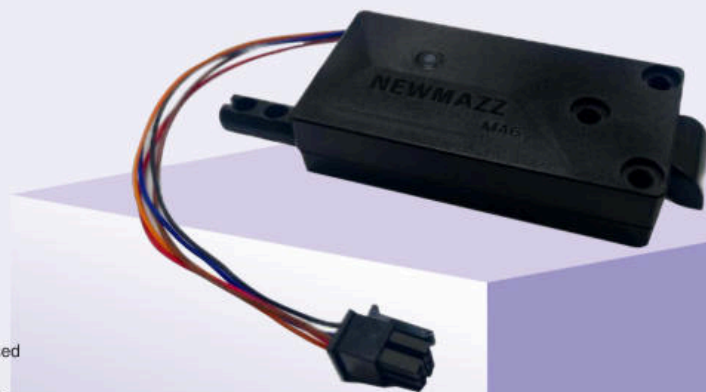
Comply with ROHS standards

- . microprocessor controlled motor
- . Minimum power consumption
- . Can be installed on both sides
- . Built-in solid state relay to provide door (Latch) turns on/off the output signal

Model standard M A 6 -

Mounting method Manual unlocking device Unused

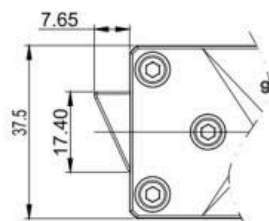
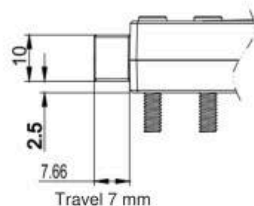
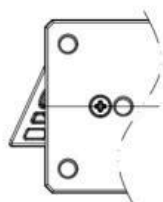
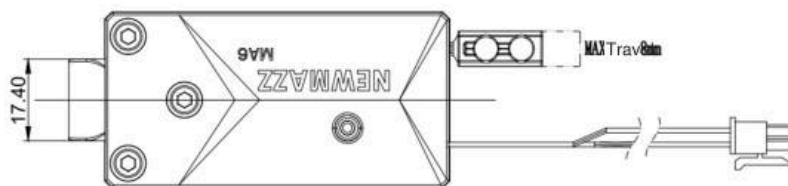
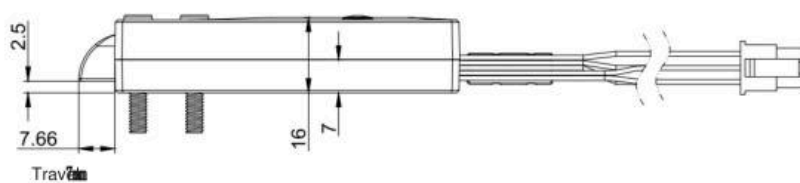
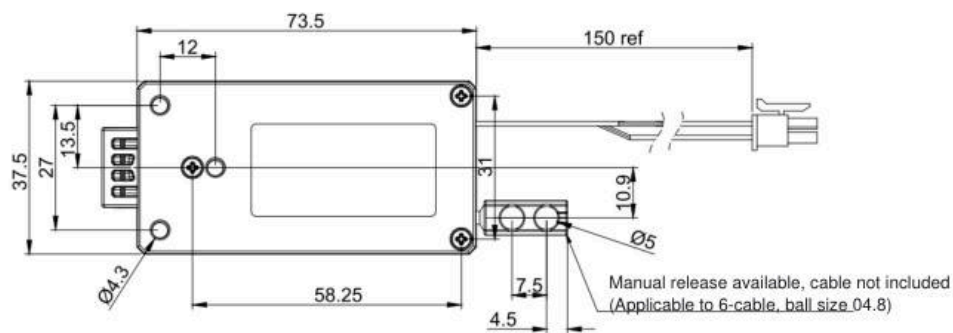
F: Install the lock tongue on the front side 1: With manual unlocking None
 S: Side mounted negative 2: Without manual unlocking tongue



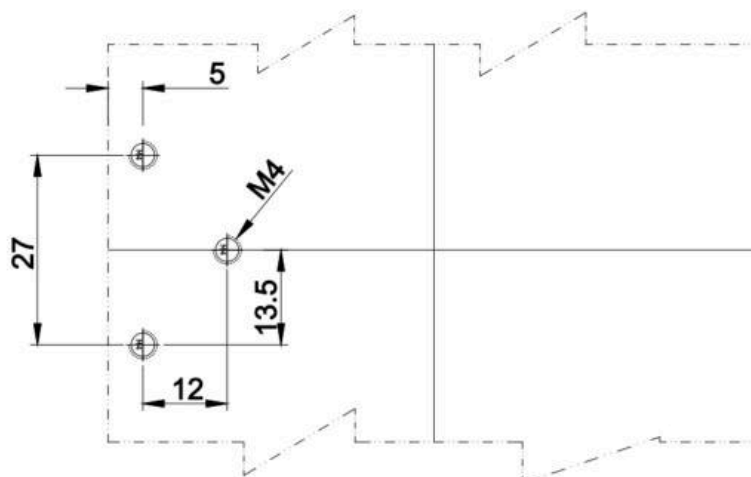
Performance parameters

Compliance	RoHS
Operating voltage	24VDC + 15%
Operating current	Below 600mA
Control output	Lock tongue working: As long as the signal is maintained at 24VDC, the lock tongue retracts until the disconnect signal disappears or remains for at least 2 seconds. The maximum current when the input signal voltage is 4vDC is 2.5 mA
When the lock tongue is extended	0VDC
Contact rating	130mA
Response time	60ms
Maximum lock tongue release force	110N
Operating frequency	0.5HZ
Operating temperature	0 ~ +60°C
Relative humidity	5 ~ 95%
Material	UL certified thermoplastics

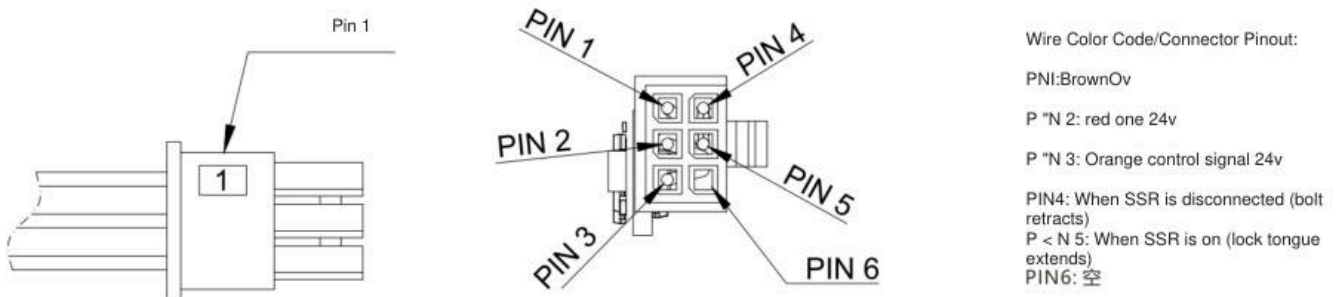
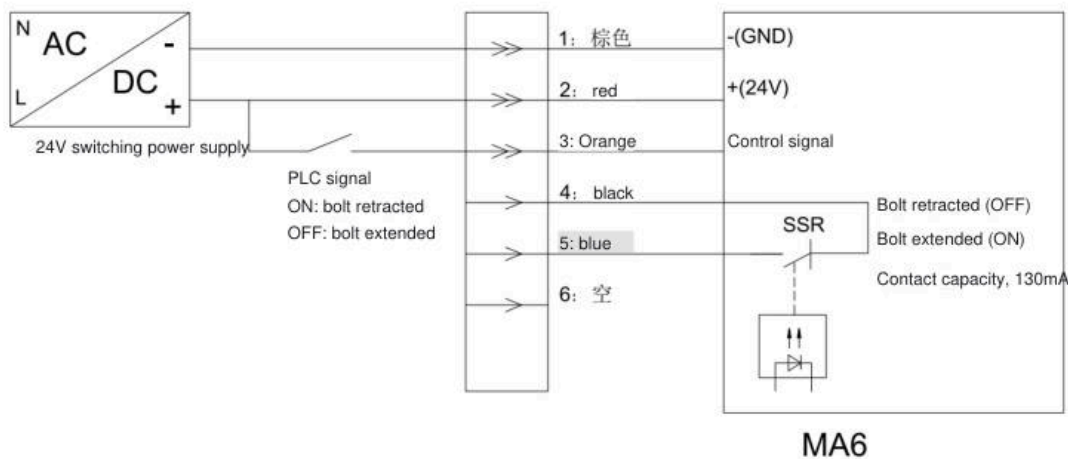
Dimensions and mounting



Panel mounting hole dimensions



Wiring diagram



Safety instructions

- Do not use this product in an environment containing flammable or explosive gases.
- Please wire correctly and confirm the normal operation of the system with this product before using it. Incorrect wiring may result in loss of safety functions.
- After the installation of MA6 is completed, qualified professionals must be asked to confirm the installation situation and perform commissioning and maintenance. The above professionals must have corresponding qualifications to ensure system design, Safety in all aspects of installation, operation, maintenance and disposal.
- Installation and installation confirmation must be carried out by professionals who are familiar with the mechanical equipment on which MA6 is to be installed.
- Please be sure to perform daily inspections and inspections every 6 months on the MA6, otherwise serious injury may occur due to system malfunction.
- Do not disassemble, repair or modify this product, otherwise it may result in loss of safety functions.
- Do not apply any AC voltage or DC voltage exceeding the rated value to MA6.
- To avoid electric shock accidents, please use a DC power supply that meets the following requirements.
DC power supply using double or reinforced insulation measures. For example: DC power supply according to IEC/EN 60950 or EN 50178 standard or transformer according to EC / EN 61 558 standard.
DC power supply that meets the requirements for Class 2 circuits or voltage-limiting/current-limiting circuits specified in IJ L 508.

MA50 SAFETY DOOR SWITCH



Product introduction

- . Safety door lock is a safety device used to lock and monitor movable mechanisms such as safety fence doors and protective covers.
- MA50 safety door locks have a high-strength structure for high tensile loads. RFID technology provides secure identification between the sensor and tag.
- Universal coding and unique coding methods can be used between labels; small size and easy to install.

Product features

- . Multiple functions: It has both mechanism locking and monitoring functions.
- . Multiple encoding methods: unique encoding and standard coding methods are optional;
- . Adopting self-inspection and cross-mutual inspection design: periodic double mutual inspection improves safety.
- . Independent redundant dual outputs: Prevent single circuit failure from causing safety hazards;
- . Compact appearance: cross-sectional size 29. 7mm * 29. 7mm;
- Flexible mounting: fits directly on aluminum frames up to 30 mm without additional brackets.

Technical specifications

Standards		EN ISO 13849-1 (Category 4/PL e) 、EN ISO 14119、EN IEC 60947-5-2、EN IEC 60947-5-3
Certification		CE
Locking method		Mechanical lock/electromagnetic lock
Response time	Lock Unlock	<250ms
	Unlock lock	<300ms
Lock	Locking force Fzh	≥2000N
	The lock bolt is inserted into the flat	≤2mm
	Mechanical durability	> 1 million times (door operation speed 1m/s)
	Operating frequency	1Hz
	Minimum radius of revolving door	≥250mm
	Manual unlock	Front, back
Safety output (OSSD output)	Output signal	NPN*2/PNP*2
	Maximum load current	≤200mA
	Residual voltage (ON)	< 2.5V (cable 5m)
	Voltage when OFF	<2V (cable 5m)
	Leakage current	≤0.5mA
	Maximum load capacity	2uF
	Load wiring resistance	≤2.5Ω
Auxiliary output (AUX output)	Output signal	NPN*1/PNP*1
	Maximum load current	50mA
	Residual voltage (ON)	≤2.5V@50mA
External input (Circuit breaking current)	Safety input	5mA*2
	Reset/EDM input	Approx. 10mA*1
	Lock control input	Approx. 10mA*1
Power supply	Operating voltage	DC 24V±20%
	Power consumption	3.6W ^{*1}
Protection		Power supply anti-reverse connection, output short-circuit protection, output anti-reverse connection
Environmental resistance	Enclosure protection level IP65	
	Working environment temperature	Diao 0, 55 C (no freezing)
	Storage ambient temperature	- 25, 70 C (no freezing)
	Working environment humidity	5~95%RH
	Storage environment humidity	5~95%RH
	Vibration resistance	10, 55Hz, double amplitude 2.0mm, 5 minutes in each direction of x, Y, Z (IEC 60947-5-3)
	Impact resistance	30G, 6 times in each direction of x and Z (IEC 60947-5-3)
Cascade connection		Up to 20 units
Startup time		1.5s
Material		Nylon, zinc alloy, stainless steel

Note: 1. Excluding power consumption load current. The moment the lock control input is turned on, the power consumption will temporarily increase (maximum QW, about 50ms).

Selection instructions

MA50 - □□□□□ - □

Lead length	3-3m, 5-5m, 10-10m, 20-20m
Lead method	M12 connector Direct lead
Output mode	N-NPN P-PNP
Coding method	0. standard coding 1-unique code
Configuration type	0. Standard type 1. Advanced type
Locking method	0-electromagnetic lock 1-Mechanical lock
Product series	MA50 safety door switch

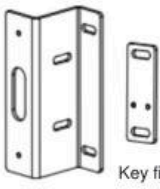
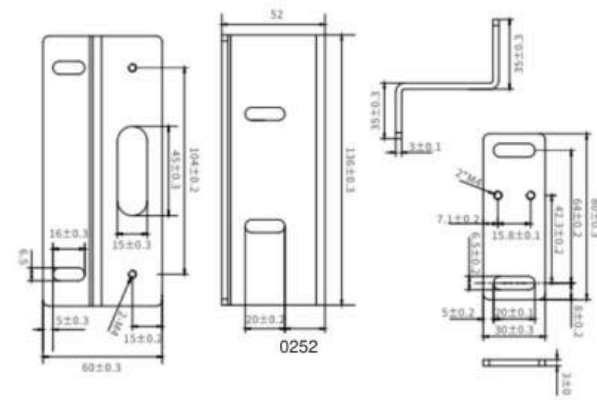
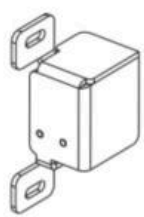
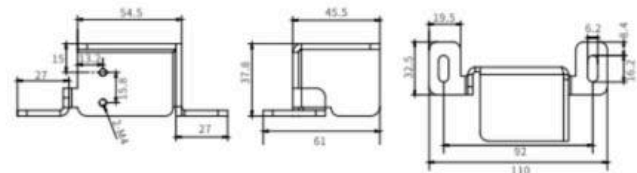
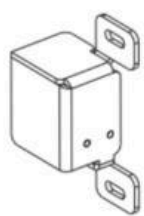
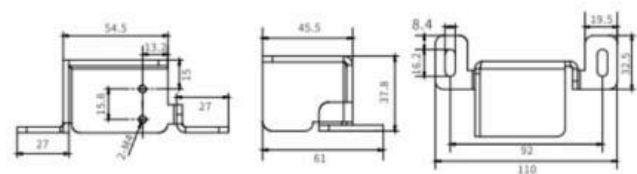
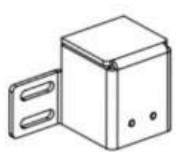
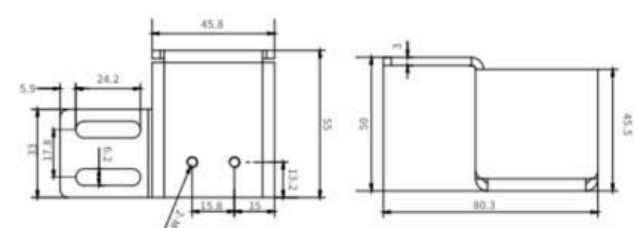
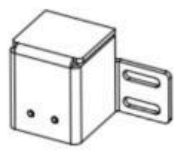
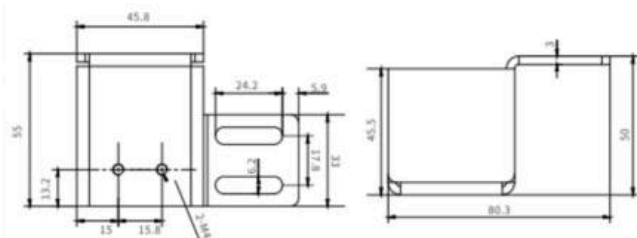
Description of Standard and Advanced Types

	Safety output channel	AU x output pins	Safety input channel	Lock input channel	EDM	Reset
Standard type	●	●	●	●	—	—
Advanced type	●	●	●	●	●	●

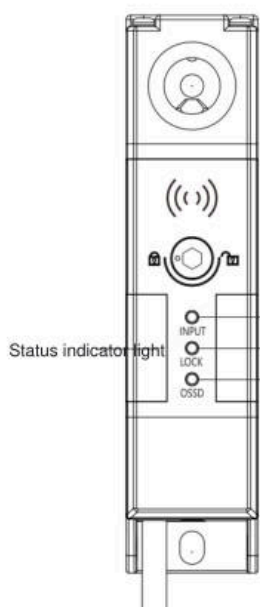
Selection list

Model name	Locking method	Configuration	Output mode	Coding method
MA50-000N	Solenoid locking	Standard type	NPN	Standard coding
MA50-001N			NPN	Unique coding
MA50-000P			PNP	Standard coding
MA50-001P			PNP	Unique coding
MA50-010N		Advanced type	NPN	Standard coding
MA50-011N			NPN	Unique coding
MA50-010P			PNP	Standard coding
MA50-011P			PNP	Unique coding
MA50-100N			PNP	Unique coding
MA50-100N	Mechanical locking	Standard type	NPN	Standard coding
MA50-101N			NPN	Unique coding
MA50-100P			PNP	Standard coding
MA50-101P			PNP	Unique coding
MA50-110N		Advanced type	NPN	Standard coding
MA50-111N			NPN	Unique coding
MA50-110P			PNP	Standard coding
MA50-111P			PNP	Unique coding

Bracket selection

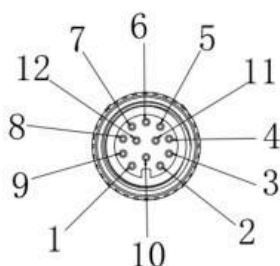
Illustration	Bracket name	Model	Dimensions
 <p>Key fixati</p> <p>Lock body fixed</p>	Inboard mounting bracket (fixed internal mounting)	MA11-B01 fixed use)	 <p>52</p> <p>104±0.2</p> <p>45±0.2</p> <p>16±0.3</p> <p>15±0.3</p> <p>5±0.3</p> <p>15±0.3</p> <p>60±0.3</p> <p>20±0.2</p> <p>0252</p> <p>38±0.3</p> <p>3±0.1</p> <p>7.1±0.2</p> <p>15.8±0.1</p> <p>2.0±0.2</p> <p>50±0.1</p> <p>30±0.3</p> <p>1.0±0.2</p> <p>35±0.3</p> <p>2.0±0.2</p> <p>40±0.2</p> <p>1.0±0.2</p>
	Left-hand sliding bracket (sliding-door actuator mounting)	MA11-BL01	 <p>54.5</p> <p>15</p> <p>13.2</p> <p>15.8</p> <p>27</p> <p>45.5</p> <p>37.8</p> <p>61</p> <p>19.5</p> <p>32.5</p> <p>92</p> <p>110</p> <p>16.2</p> <p>16.4</p>
	Right-hand sliding bracket (sliding-door actuator mounting)	MA11-BR01	 <p>54.5</p> <p>13.2</p> <p>15</p> <p>15.8</p> <p>27</p> <p>45.5</p> <p>37.8</p> <p>61</p> <p>8.4</p> <p>16.2</p> <p>19.5</p> <p>32.5</p> <p>92</p> <p>110</p>
	Left-hand swivel bracket (hinged-door actuator mounting)	MA11-BL02	 <p>45.8</p> <p>5.9</p> <p>24.2</p> <p>13.2</p> <p>13.2</p> <p>15.8</p> <p>15</p> <p>55</p> <p>50</p> <p>80.3</p> <p>45.5</p>
	Right-hand swivel bracket (hinged-door actuator mounting)	MA11-BR02 3)	 <p>45.8</p> <p>5.9</p> <p>24.2</p> <p>13.2</p> <p>13.2</p> <p>15.8</p> <p>15</p> <p>55</p> <p>45.5</p> <p>80.3</p> <p>50</p>

Indicator light description



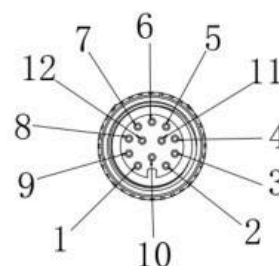
Indicator name	Real lamp color	Status description
Output indicator	Red, green	OSSD output: green OSSD off: red OSSD error: flashing red (2Hz) EDM error: flashing red (1Hz)
Lock indicator light	Green	Door lock locked: lit Locking abnormality: 2Hz flashing (electromagnet error, optocoupler error) No RFID when locked: 1Hz flicker Try to lock: double flash Try to unlock: double flash Unlocked: OFF
Input indicator	Orange	Normal input: lit No input (waiting for input): Off Waiting for RSET reset: 1Hz flashing Safety input error: 2Hz flashing
Working status indicator light	Green, red, orange	OSSD has output: the green light is always on OSSD has no output: the red light is always on Voltage error: Orange light flashes at 1Hz The unique code does not match: red and orange flashing

Cable plug serial number definition



M12 waterproof aviation female connector standard wire sequence

1. Brown-positive VCC;
2. Blue, Negative GND;
3. Gray - AUX output;
4. Black-OSSD1;
5. White-OSSD2;
6. -safety input 1;
7. Yellow. safe input 2;
8. Red one lock control;
9. Light green - do not use;
10. Pink is not used;
11. 空;
12. 空;

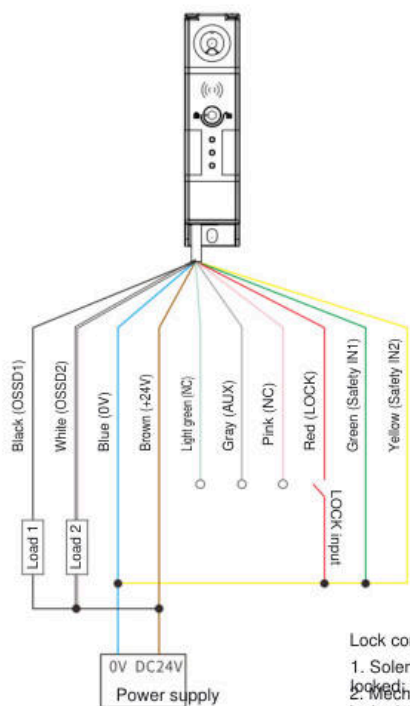


M12 waterproof aviation female plug advanced type line sequence

1. Brown-positive VCC;
2. Blue-negative GND;
3. Gray - AU x output;
4. Black-OSSD1,
5. White-OSSD2;
6. Green - safety input 1,
7. Yellow. safe input 2;
8. Red one lock control;
9. Light green-EDM;
10. Pink-Reset;
11. 空;
12. 空;

Wiring diagram

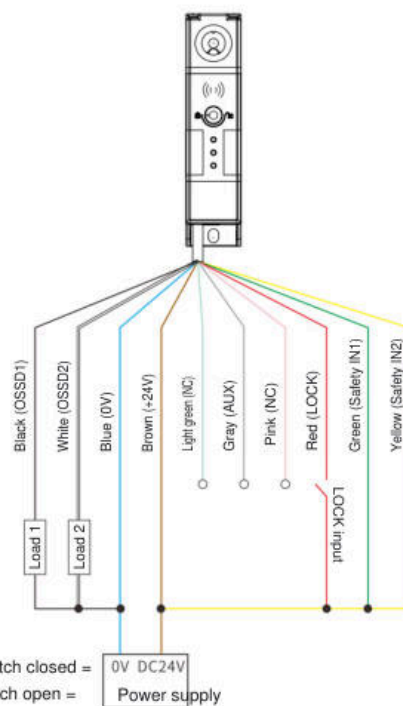
MA50 standard type (NPN, no cascade)



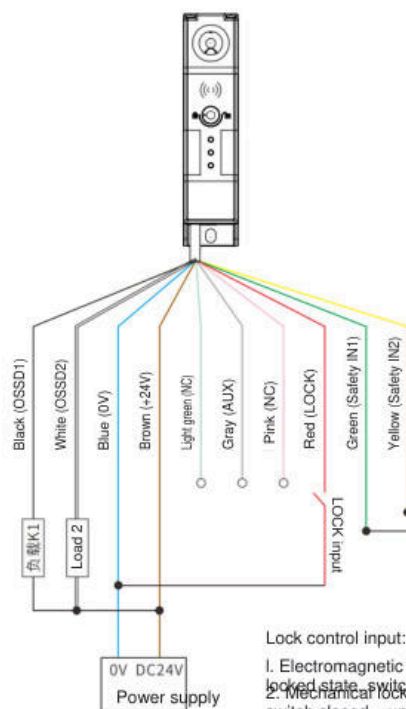
Lock control input:

1. Solenoid locking, mechanical release: switch closed = locked; switch open = unlocked.
 2. Mechanical locking, solenoid release: switch open = locked; switch closed = unlocked.

MA50 standard type (PNP, no cascade)

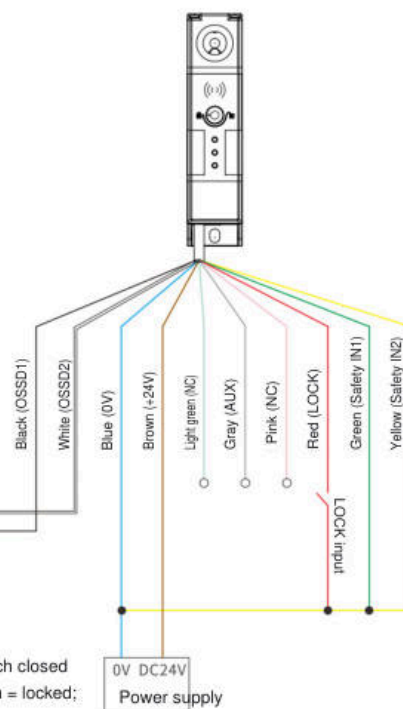


MA50 standard type (NPN, cascade)

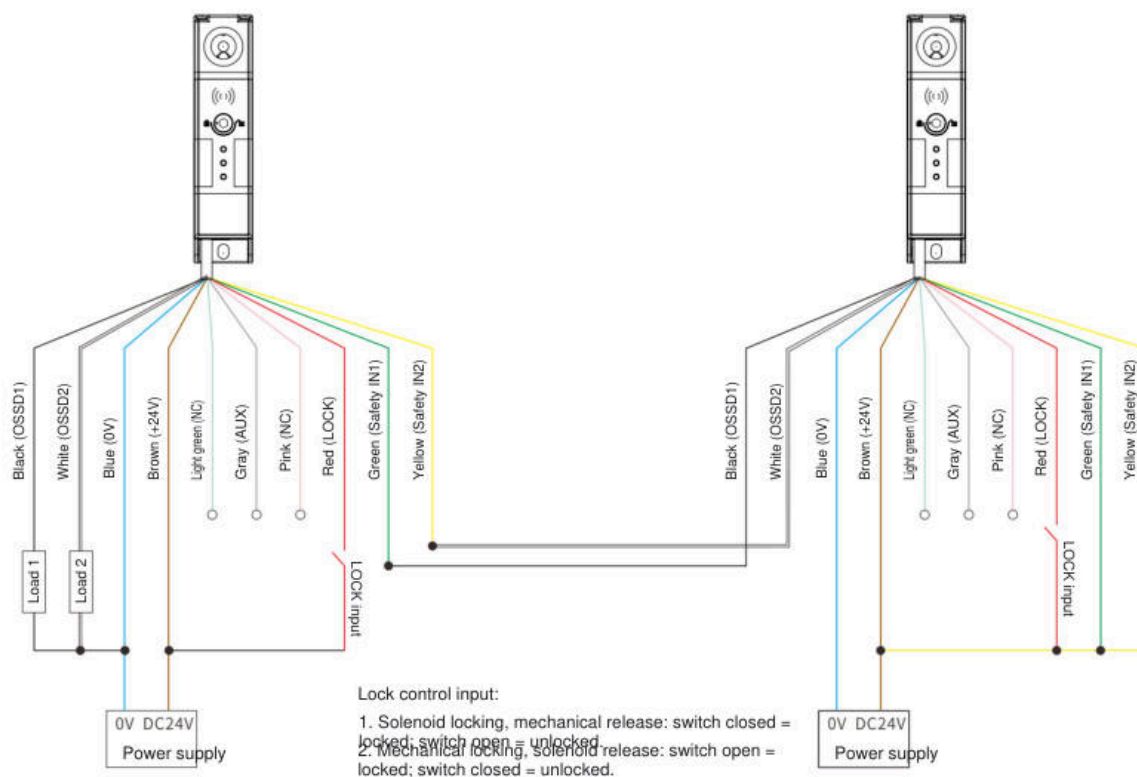


Lock control input:

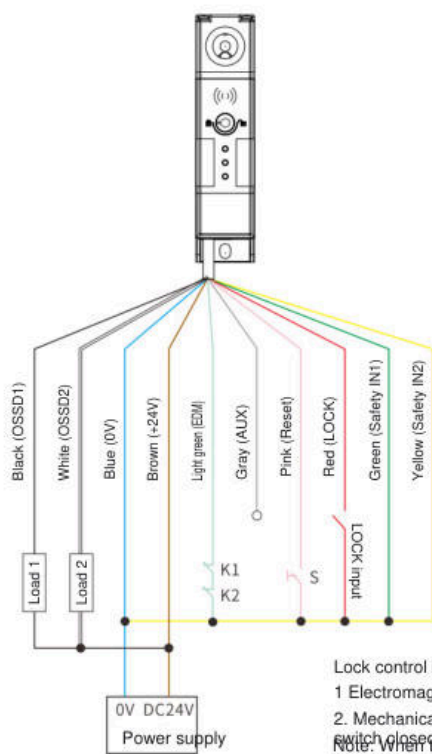
1. Electromagnetic locking, mechanical release: switch closed = locked state; switch open = unlocked state.
 2. Mechanical locking, solenoid release: switch open = locked; switch closed = unlocked.



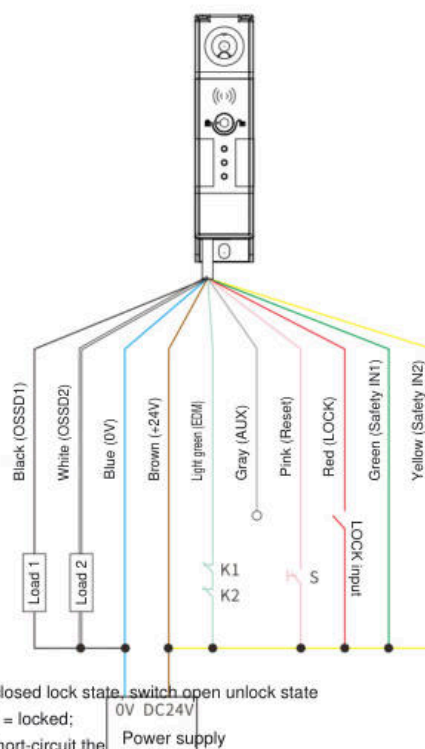
MA50 standard type (PNP, cascade)



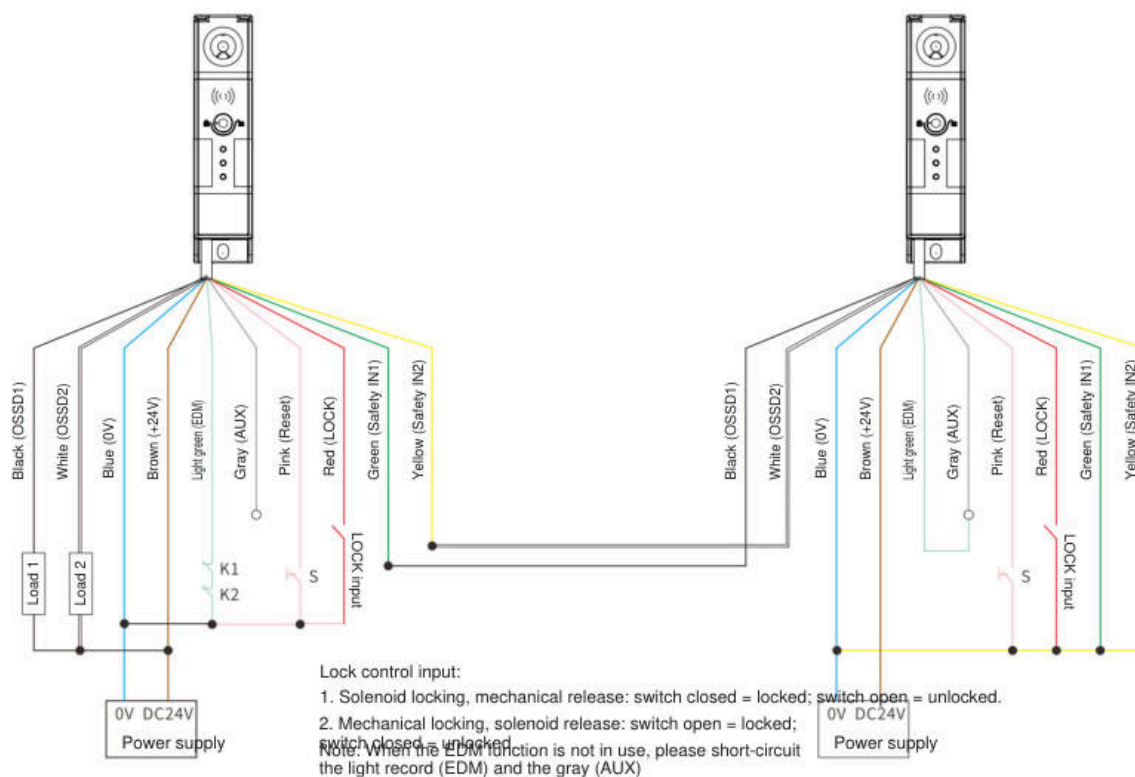
MA50 advanced type (NPN, no cascade)



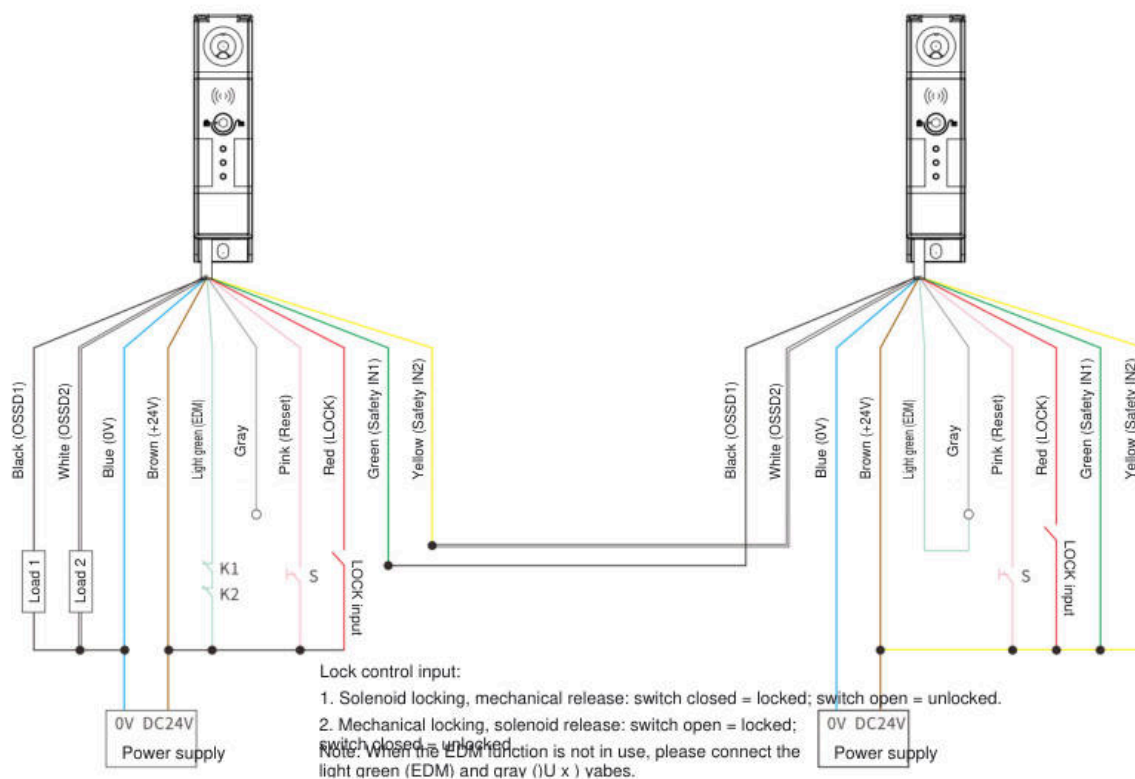
MA50 Advanced Type (PNP, no cascade)



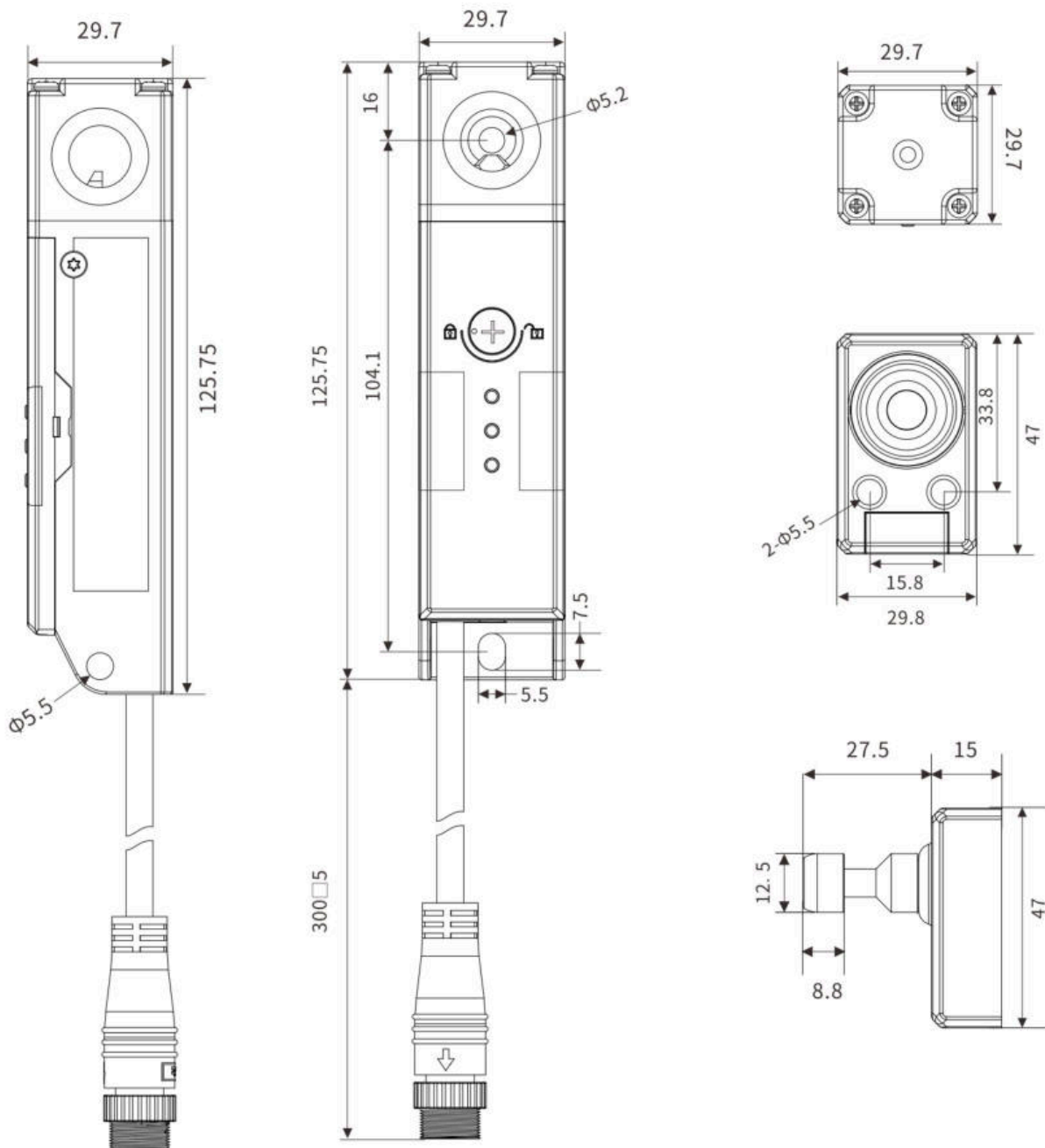
MA50 advanced type (NPN, cascade)



M A 5 0 advanced type (PNP, cascade)

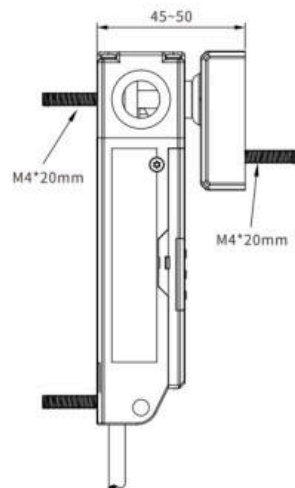


Dimensional drawing

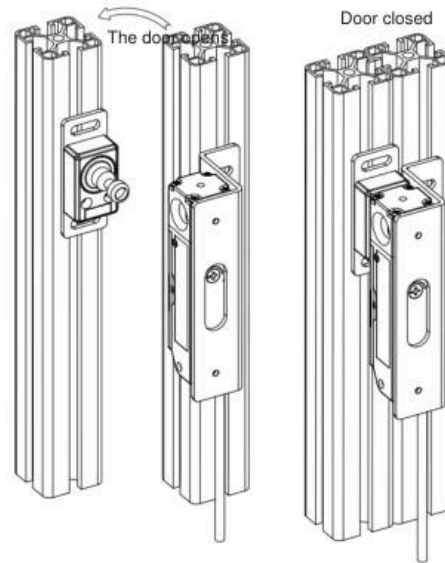


Installation diagram

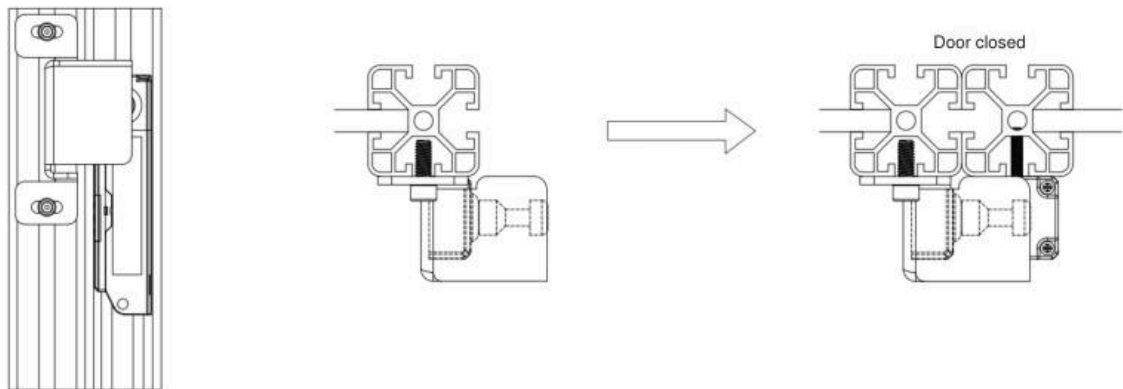
Installation without bracket



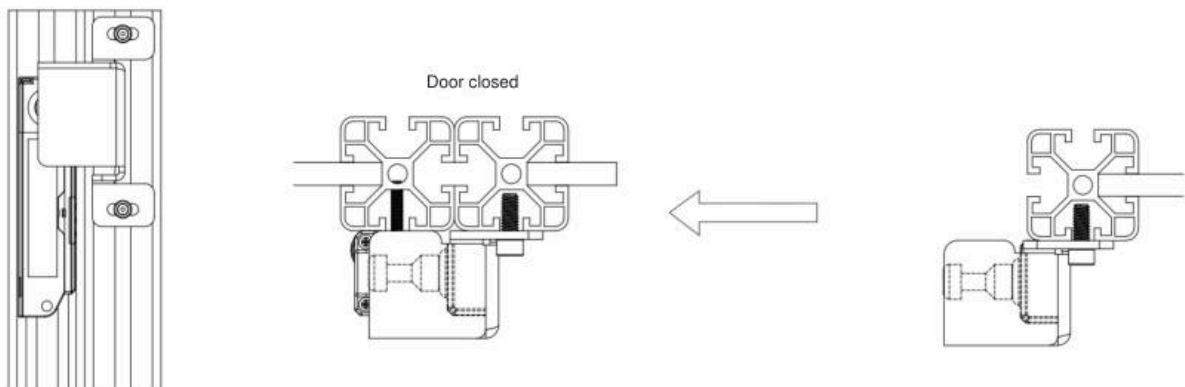
Internal bracket installation



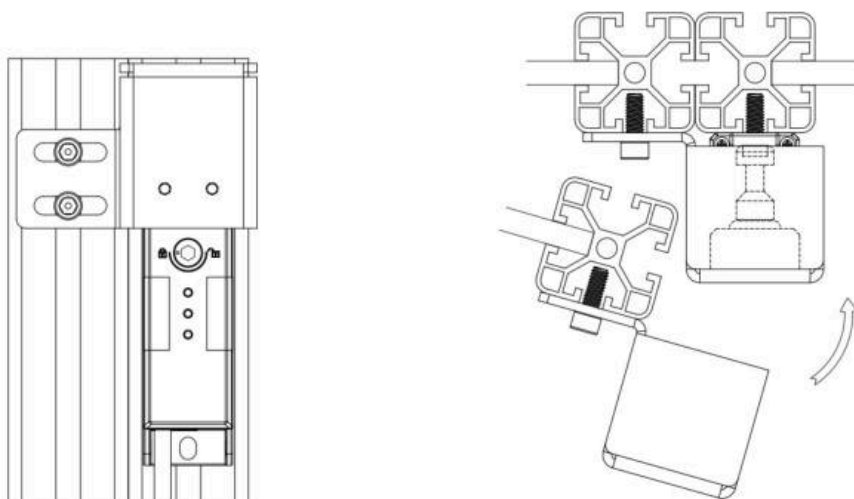
Left-hand sliding bracket installation



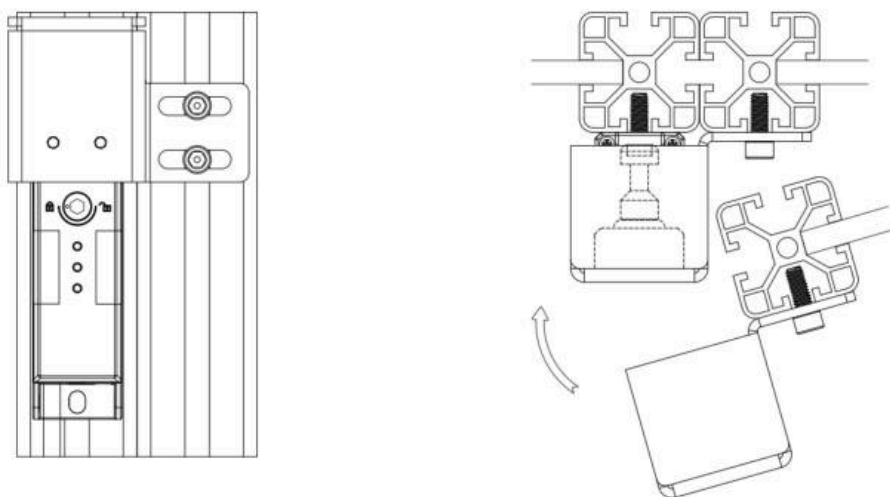
Right-hand sliding bracket installation



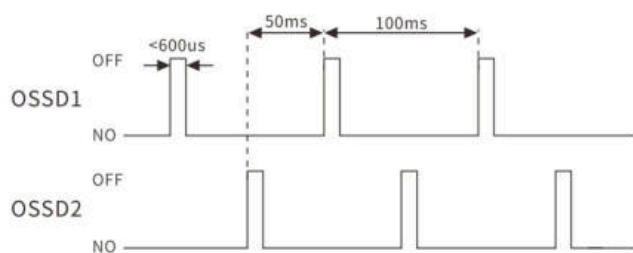
Left-hand rotating bracket installation



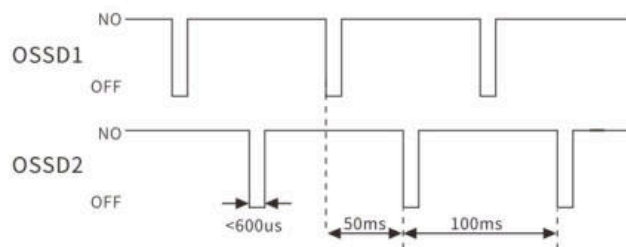
Right opening swivel bracket installation



Timing diagram



N P N output diagnostic timing



PNP output diagnostic timing

Small contactless RFID door switch

MAS01 series

SMALL NON-CONTACT RFID DOOR SWITCH MAS01 SERIES

Model standard

M A S 0 1 · 1 2 3

Standard type (switch/actuator)

- . Normally closed type
- . Normally open

Output type

- . C: Dual NPN output
- . D: Dual PNP output
- . CN: Dual cascade NPN output
- . DP: Dual cascaded PNP output

Cable length

- 1: 1m
- 2: 2m
- 5: 5m

Coding method

- . 0: Standard coding
- . 1: unique code



Product features

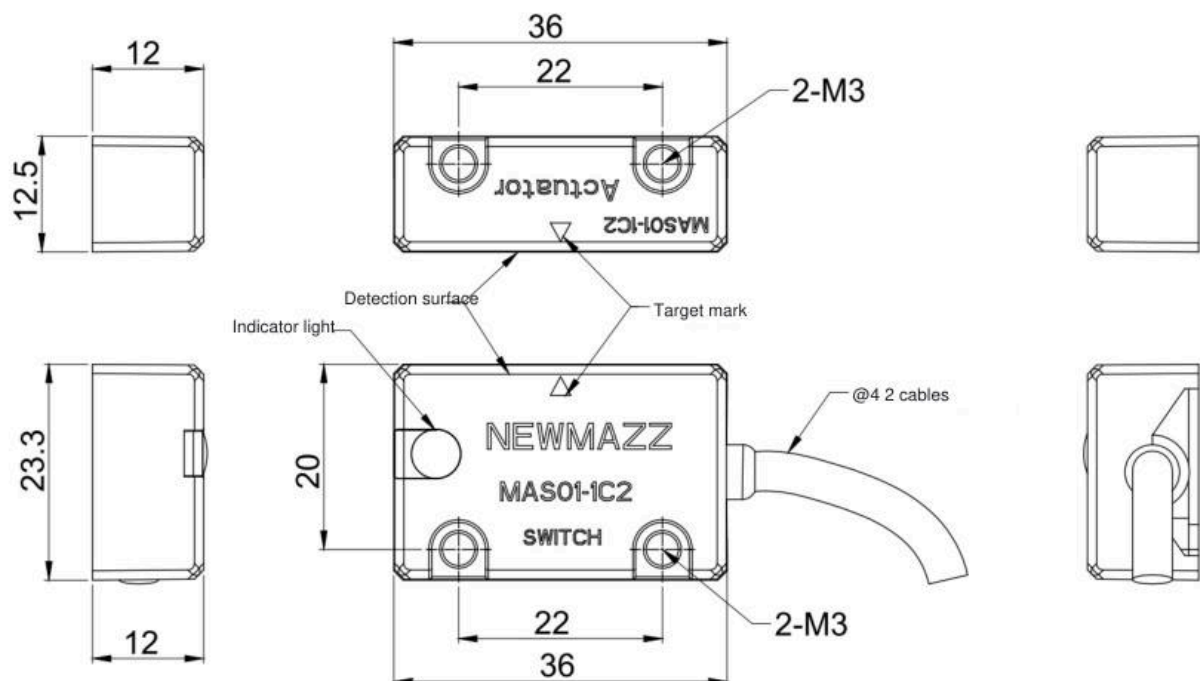
- . Comply with ISO 13849-1 safety level standard.
- . The use of safe dual-channel output technology can reach the safety level PLe, which can effectively prevent missed or false alarms.
- . Can connect up to 30 switches, making it ideal for medium to large equipment applications.
- . Switch products provide LED display mode, which can effectively shorten fault diagnosis time.
- . It has the characteristics of detection confidentiality (unique code can be provided), strong anti-interference, safety and reliability.
- . Can be installed on both sides.



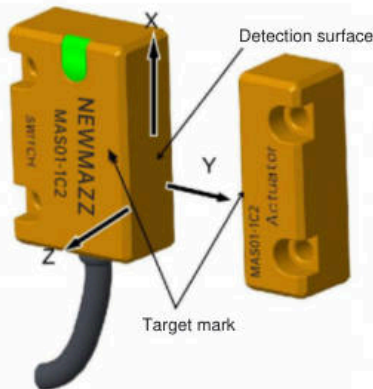
Performance parameters

Safety standards	ISO 13849-1 IEC/EN60947-5-3
Safety category	Category 4 switch in compliance with SO 13849-1/suitable for PLe/PLd
Horizontal working distance	0 Omm conduction
Vertical working distance	Conductivity 0 to 8mm
Operating voltage	24VDC+15%
Operating current	30mA
Output current	150mA
Response time	60ms
Protection level	] P650P67/68 can be customized)
Operating frequency	1HZ
Operating temperature	-10~+55°C
Relative humidity	5~95%
Material	UL certified thermoplastics

Dimensions and mounting



Detection range



Direction	Deviation from target mark	Power-on detection range	Disconnect
Horizontal alignment	Deviation in x direction + 4mm] District flash	Sensing distance in Y direction 0 0mm	Sensing distance in Y direction > 25mm
	Deviation in x direction >5mm and <-5mm	Cannot be used outside the range	Cannot be used outside the range
Vertical alignment	Deviation in x direction + 4mm Within the interval	Z direction sensing distance 0 to 8mm	Sensing distance in z direction > 23mm
	Deviation in x direction > 5mm and < 5mm	Cannot be used outside the range	Cannot be used outside the range

Note: 1. The operating distance is the distance between the switch and the detection surface of the actuator.

2. The data in the graph is typical data obtained when the ambient temperature is 23°C. Actual operating values may vary. Action distance
Distance may be affected by metal objects, magnetism and temperature in the working environment.

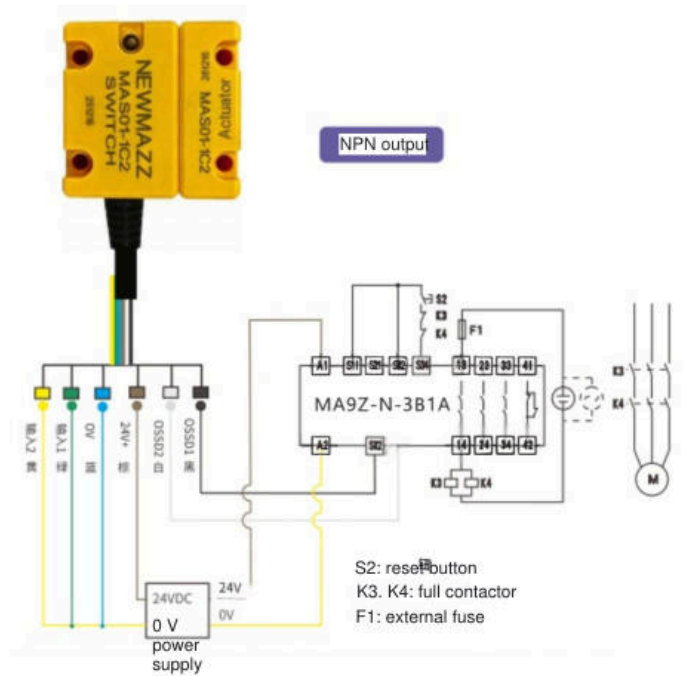
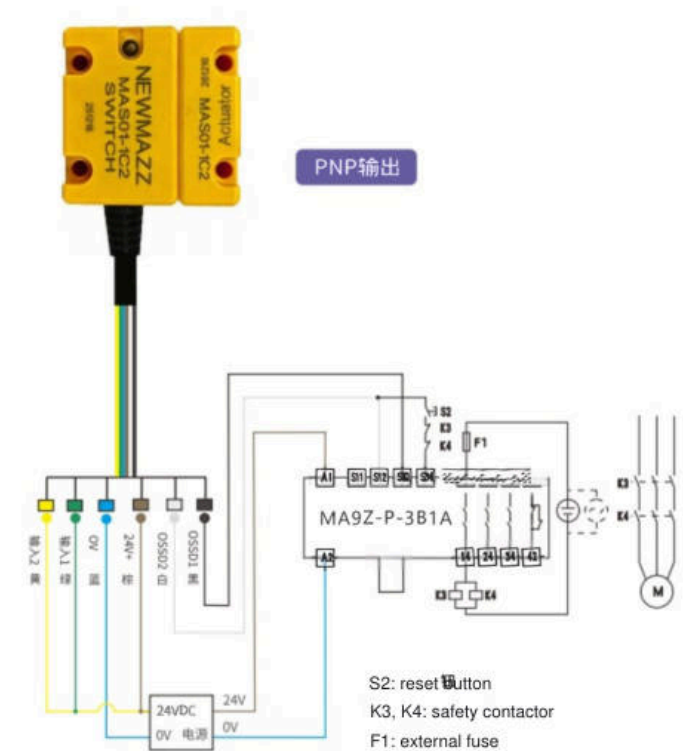
3. In addition to the detection surfaces of switches and actuators, detection actions may be triggered in other places. Therefore, before using switches and actuators,
It is said that the target mark is aligned in the direction @ so that the detection surface of the switch is facing the detection surface of the excitation.

Wiring diagram (dual output 1

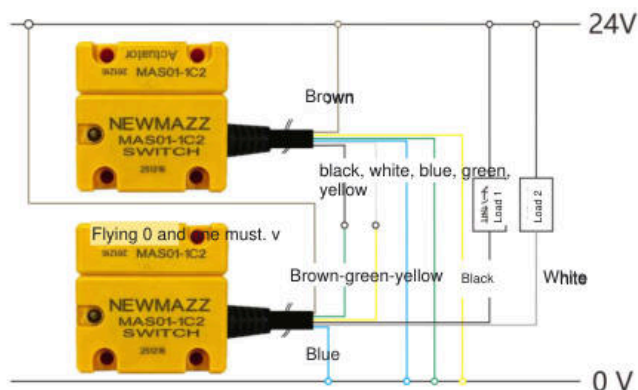
Serial number	Signal definition	Color	Description
1	Output 1	brown	Safety output 1
2	Output 1	blue	Safety output 2
3	Output 1	black	Safety output 1
4	Yu Chu 2	white	Safety output 2
5	Yu Chu 1	Green	Cascade output 1
6	Output 2	Yellow	Cascade output 2



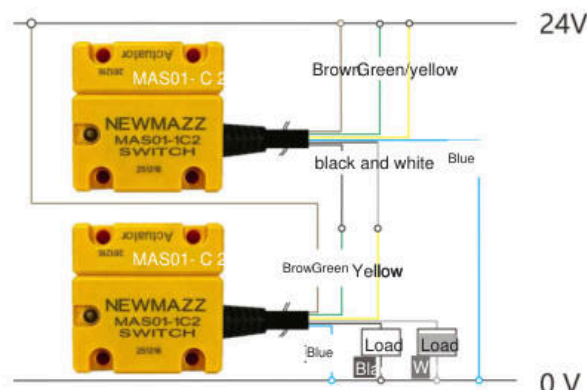
RFID switch and safety relay module wiring diagram (dual output with cascade)



R-D switch and safety relay module wiring diagram (dual output)



R-D switch and safety relay module wiring diagram (dual output with cascade)



Detection range

LED display	Signal status		Status description
	Input	Output	
The red light is always on	Active/inactive	OFF	No actuator or not fully aligned (unique code)
Red light on for 1 second Flash 2 more times (alternating)	Active/inactive	OFF	No actuator or not fully aligned (general coding)
Red light flashes at 4Hz	Valid	OFF	Output overload
Green light flashes at 1 Hz	Invalid	OFF	No input signal (dual output is not applicable)
Green light is always on	Valid	ON	Induction is normal
Red/green alternating	Valid	OFF	Tag not registered

Detection range

When wiring MAS01, power supply to MA9Z should be cut off. Otherwise, the devices connected to this product may operate unexpectedly. Do not use this product in an environment containing flammable or explosive gases. Please wire correctly and confirm the normal operation of the system with this product before using it. Incorrect wiring may result in loss of safety functions. Auxiliary outputs are not safety outputs. Do not use the auxiliary output as a safety output, otherwise the safety function of the MAS01 and peripheral devices will be lost. After the installation of MAS01 is completed, qualified professionals must be asked to confirm the installation situation and perform commissioning and maintenance. The above professionals must have corresponding qualifications to ensure system design, installation, Safety in all aspects including maintenance and disposal. Installation and installation confirmation work must be performed by professionals who are familiar with the mechanical equipment on which MAS01 is to be installed. Please be sure to perform daily inspections and inspections every 6 months on MAS01, otherwise serious injury may occur

due to system malfunction. Do not disassemble, repair or modify this product, otherwise it may result in loss of safety functions. Do not apply any AC voltage or DC voltage exceeding the rated value to MAS01. To avoid electric shock accidents, please use a DC power supply that meets the following requirements. 1. DC power supply using double or reinforced insulation measures. For example: DC power supply compliant with IEC/EN 60950 or EN S0178 standards or transformer compliant with EC/EN61558 standards. 2. A DC power supply that meets the voltage-limiting/current-limiting circuit requirements specified in Class 2 circuit requirements UL 508. Run, MAS01 may only be connected to components or equipment that comply with safety standards corresponding to the required safety level. In addition, it must also be ensured that the entire safety system meets the requirements of the corresponding safety level. Concerning safety level conformance assessment For information, it is recommended to consult only the certification body.

Non-contact safety switch

MAS02 series

MAS02 SERIES



MAS02 series introduction

. The non-contact safety door switch is a safety device used to confirm the opening and closing status of movable protection mechanisms such as safety fence doors and protective covers.

Standard and unique coding options are available. The compact housing is easy to install.

style; compact size, easy to install.

Product performance

. Adopt self-check and cross-check design. Periodic double mutual inspection improves safety.

. Independent redundant dual outputs: Prevent single circuit failure from causing safety hazards.

Technical specifications

Comply with standards	ISO 13849-1/IEC/EN60947-5-3
Working power supply	DC24V + 15%
Power	< 1W
Response time	50ms
Output current	150mA
Safety output (OSSD)	PNP transistor output, load current less than 200mA, residual voltage less than 1 V (except voltage drop caused by cable extension), leakage current less than 1 mA; NPN transistor output, load current 200mA or less, residual voltage 1 V or less (excluding voltage drop due to cable extension), leakage current 1mA or less.
Operating frequency	1HZ
Protection circuit	Power supply overvoltage protection, reverse polarity protection and output overcurrent protection
Coding method	Standard coding / unique coding
Working distance	Level: 0, 10mm conduction
	Vertical: 0, 5mm conduction
Enclosure protection level	IP65
Cross-sectional dimensions	36mmx23mm
Vibration resistance	Frequency 10Hz, 55Hz, amplitude 0. 35 ± 0. 05mm, , 20 times each in Y and Z directions
Working environment temperature	- 10 C ~ 5 C (no condensation)
Storage ambient temperature	- 30 C, 70 C (no condensation)
Working environment humidity	When the temperature is 20 C, the relative air humidity is < 85%

Model description

MAS02-XXX-X

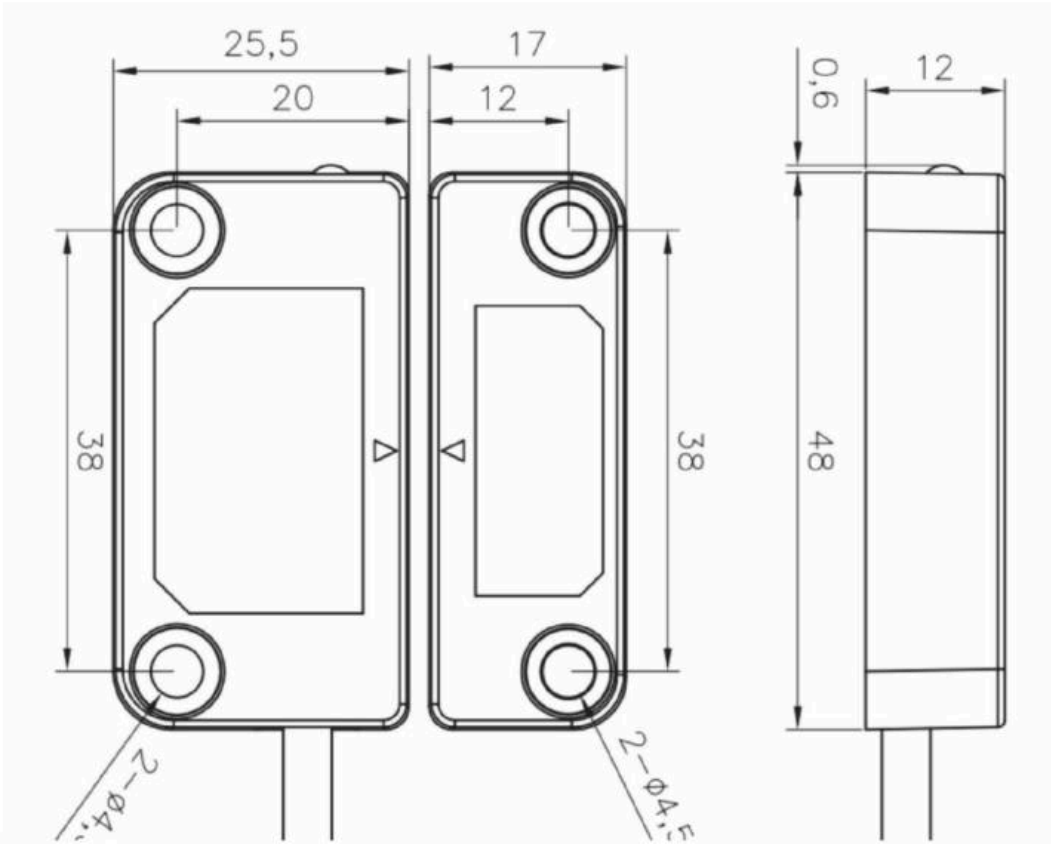
Lead length	1-1m、2-2m
Output mode	N-NPN、P-PNP
Coding method	0 - universal code, 1 - unique code
Configuration type	0 - simple type, 1. Standard type
Product series	MAS02 non-contact switch

Type description		
	Safety output	Cascading function
Simple type	●	—
Standard type	●	●

Model correspondence table

Model	Type	Output mode	Coding method
MASO2-00N	Simple type	NPN	Standard coding
MASO2-01N			Unique coding
MASO2-00P		PNP	Standard coding
MASO2-01P			Unique coding
MASO2-10N	Standard type	NPN	Standard coding
MASO2-11N			Unique coding
MASO2-10P		PNP	Standard coding
MASO2-11P			Unique coding

Dimensions

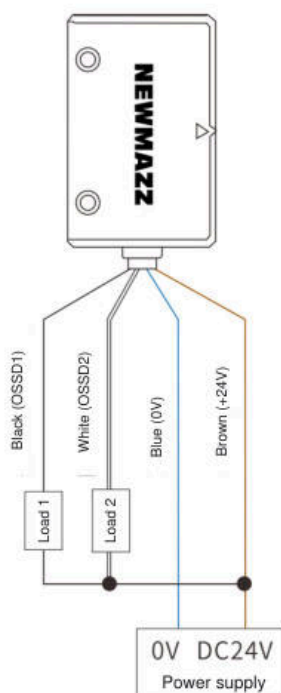


Indicator light description

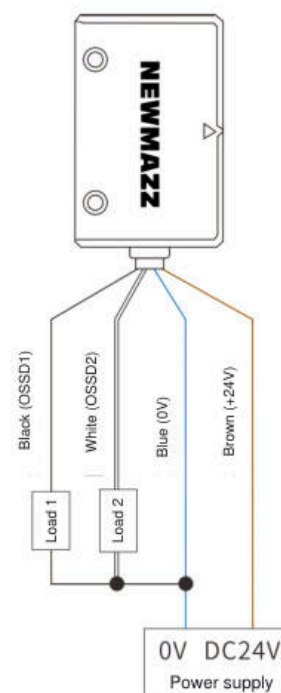
Switch status	Indicator light
Output error	Red light 1HZ flashes
Voltage error	Red light flashes twice
Unique code not paired	Red and green 4HZ flashing alternately
No error, no RFI D, no output	The red light is always on
No errors, with RFI D, no cascade	Green light 1HZ flashes
No error, with RFI D, cascade signal error	Green light flashes twice
No error, normal sensing output	Green light is always on

Wiring diagram

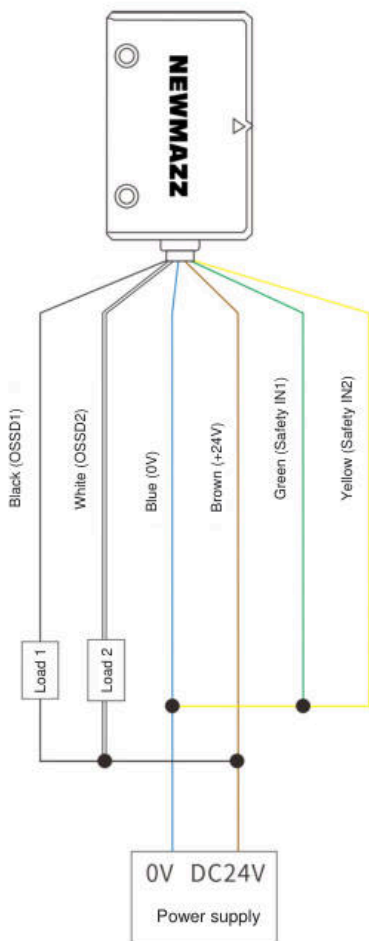
MAS0200 simple type (NP N)



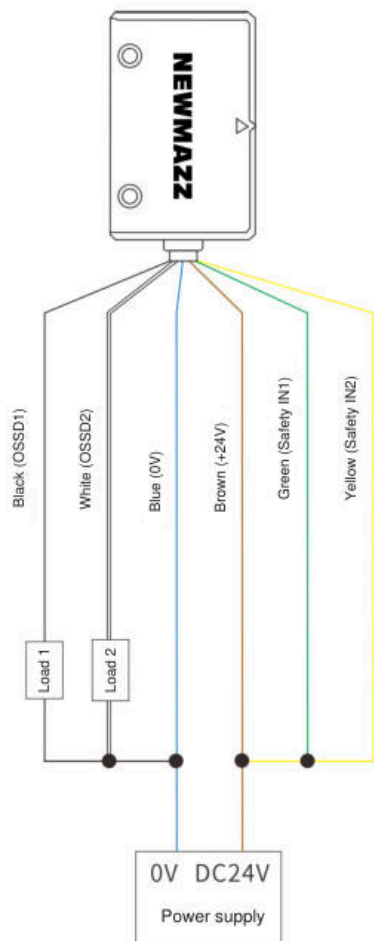
MAS0200 simple type (PNP)



MAS0201 standard type (NPN)



MAS0201 standard type (PNP)



Wire identification

Wire color	Function	Wiring instructions
brown	Positive terminal of power supply	Connect the positive pole of DC power supply 24V
blue	Negative pole of power supply	Connect the negative pole of DC power supply 0V
black	Safety output 1	Connect to safety PLC or other safety input control interface
white	Safety output 2	
Green	Safety input 1	Cascade: Connect the door switch safety input signal (OSSD1 and OSSD2)
Yellow	Safety input 2	

MAS03 series

MAS03 SERIES

High performance safety switch



MAS03 series introduction

. The non-contact magnetic safety switch is a safety device used to confirm the opening and closing status of movable protection mechanisms such as safety fence doors and protective covers.

Standard and unique coding options are available. The compact housing is easy to install.

Compact and easy to install.

Product performance

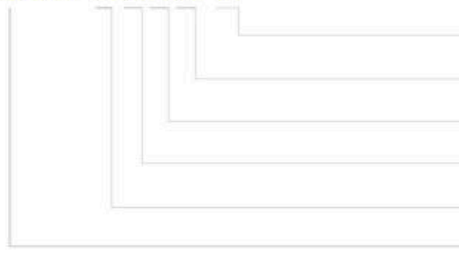
- . Adopt self-inspection and cross-mutual inspection design: periodic double mutual inspection improves safety;
- . Independent redundant dual outputs: Prevent single circuit failure from causing safety hazards;
- . With magnetic holding function: the magnetic holding force can reach 15N, which can replace the door magnet.

Technical specifications

Comply with standards	ISO 13849-1 (Cat. 4/PLc), IEC/EN60947-5-1, IEC/EN60947-5-3
Working power supply	DC24V+15%
Power	<1W
Risk time	50ms
Response time	50ms
Magnetic holding force	>15N
Operating frequency	1Hz
Safety output (OSSD)	PNP transistor output, load current below 200mA, residual voltage below IV (excluding voltage drop due to cable extension), leakage current below 1 mA; NPN transistor output, load current 200mA or less, residual voltage IV or less (excluding voltage drop due to cable extension), leakage current 1 mA or less.
Protection circuit	Power supply overvoltage protection, reverse polarity protection and output overcurrent protection
Coding method	Standard coding / unique coding
Enclosure protection level	IP65
Cross-sectional dimensions	48mmx30mm
Vibration resistance	Frequency 10Hz, 55Hz, amplitude 0.35 + 0.05mm, 20 times each in x, Y and Z directions
Working environment temperature	-10°C - 55°C (no condensation)
Storage ambient temperature	-30°C, 70°C (no condensation)
Working environment humidity	When the temperature is 20°C, the relative air humidity is <85%

Model description

MAS03-XXXX-X



Lead length	3-3m, 5-5m, 10-10m, 20-20m
Lead method	C-M12 plug, no direct lead
Output mode	N-NPN, P-PNP
Coding method	0 - universal code, 1 - unique code
Configuration type	0 - simple type, 1 - standard type, 2 - advanced type
Product series	MAS03 non-contact switch

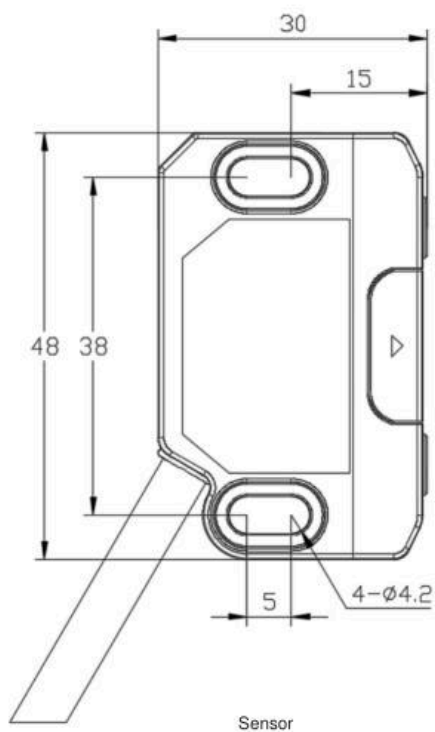
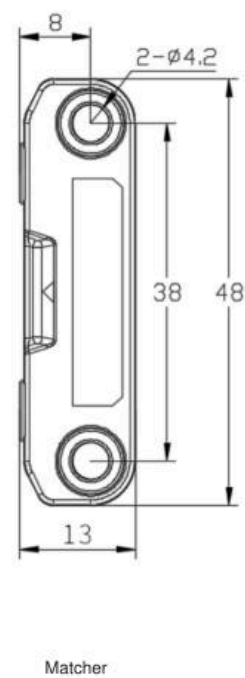
Type description

	Safety output	Cascading function	EDM function	Reset function	Auxiliary output
Simple type	●	—	—	—	—
Standard type	●	●	—	—	—
High-function type	●	●	●	●	●

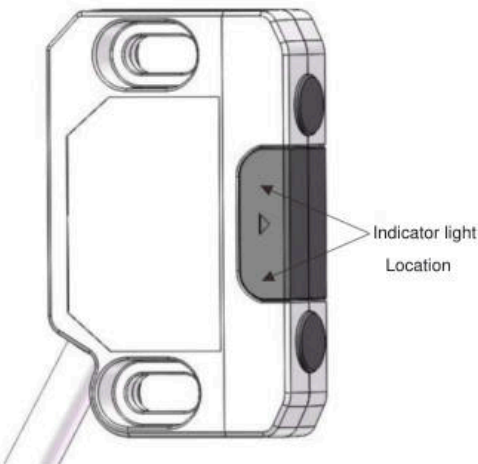
Model correspondence table

Model	Type	Output mode	Coding method
MAS03-00N	Simple type	NPN	Standard coding
MAS03-01N			Unique coding
MAS03-00P		PNP	Standard coding
MAS03-01P			Unique coding
MAS03-10N	Standard type	NPN	Standard coding
MAS03-11N			Unique coding
MAS03-10P		PNP	Standard coding
MAS03-11P			Unique coding
MAS03-20N	Advanced type	NPN	Standard coding
MAS03-21N			Unique coding
MAS03-20P		PNP	Standard coding
MAS03-21P			Unique coding

Dimensional drawing

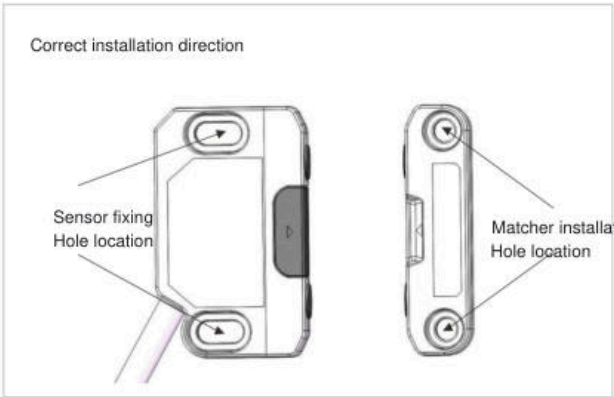
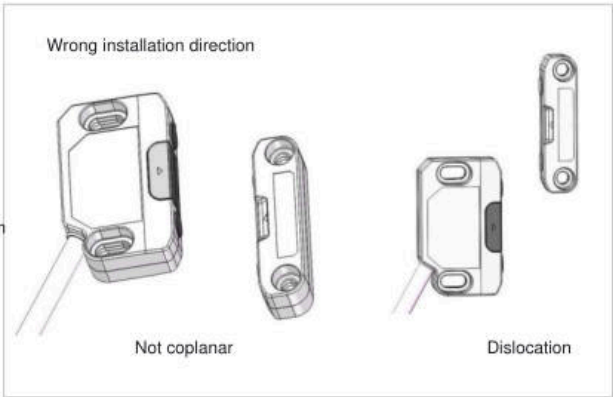


Indicator light description

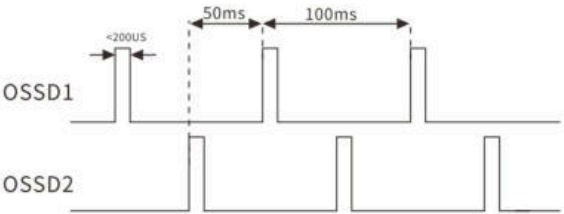


Switch status		Indicator light
E E P R O M Error / S P Error		Red light flashes at 4HZ
Output error/EDM error		Red light 1 H Z flashes
Voltage error		Red light flashes twice
Unique code not paired		Red and green 4HZ flashing alternately
No errors,	RFID absent output	The red light is always on
No errors,	RFID present there is cascade, waiting for reset signal	Green light flashes at 4HZ
No errors,	RFID present not cascade	Green light 1HZ flashes
No errors,	RFID present cascading signal errors	Green light flashes twice
No error, all conditions are met, and there is output		Green light is always on

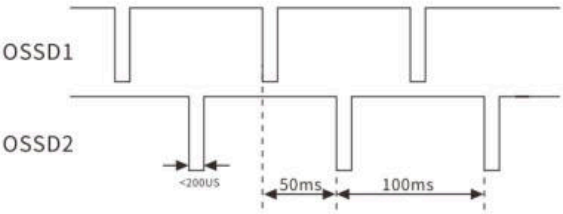
Installation



Timing diagram



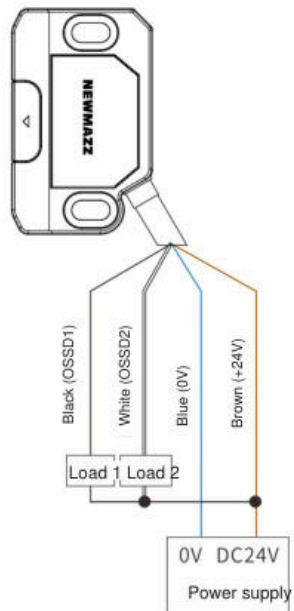
N P N output diagnostic timing



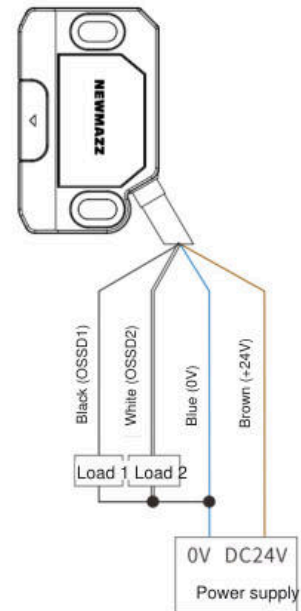
P N P output diagnostic timing

Wiring diagram

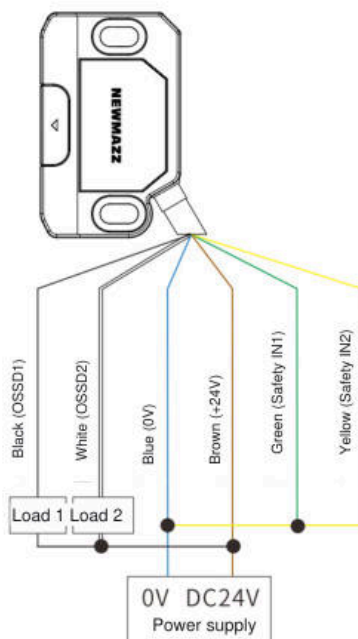
MAS03 simple type (NPN)



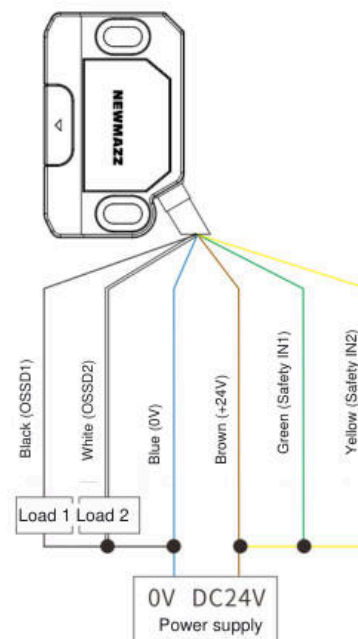
M A S 03 simple type (PNP)



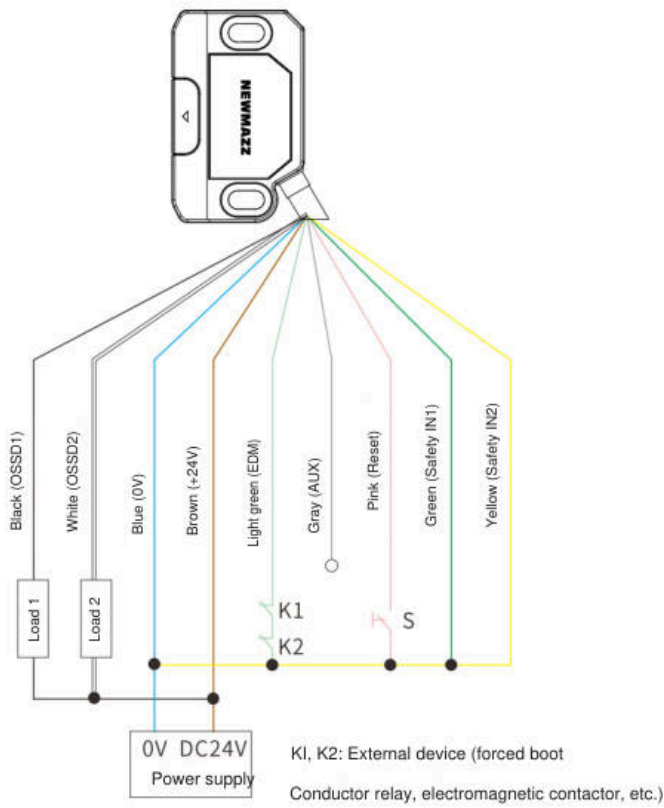
MAS03 standard type (NPN)



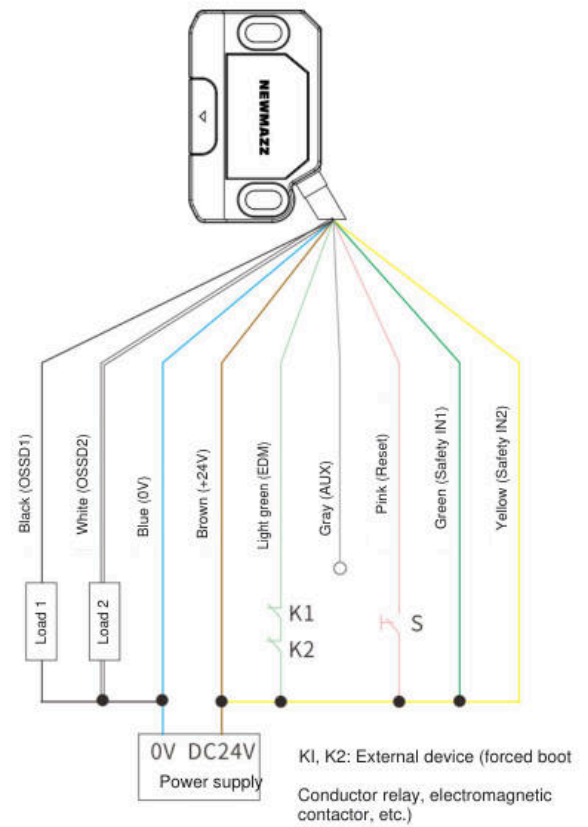
M A S 03 standard type (PNP)



MAS03 high-function type (NPN)



MAS03 high-function type (PNP)



Wire identification

Wire color	Function	Wiring instructions
brown	Positive terminal of power supply	Connect the positive pole of DC power supply 24V
blue	Negative pole of power supply	Connect the negative pole of DC power supply 0V
black	Safety output 1	Connect to safety PLC or other safety input control interface
white	Safety output 2	
Green	Safety input 1	No cascade: connect power supply + 24V Cascading: Connection of switch safety input signals (OSSD1 and OSSD2)
Yellow	Safety input 2	
light green	EDM monitoring	External relay or solenoid valve monitoring
Pink	Reset	Connect the reset switch
Gray	Auxiliary output	Connect PLC



Magnetic proximity sensor

MAGNETIC PROXIMITY SENSOR

- Proximity sensor with permanent magnet actuated reed switch
- Suitable for detecting door opening and closing

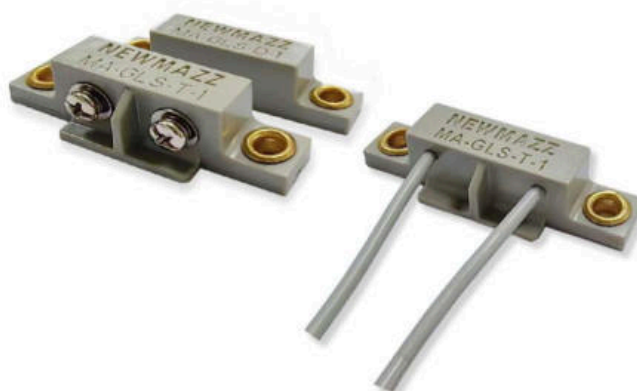
Model coding

Terminal type:

- Complete model MA-GLS-1
- Switch part MA-GLS-T-1
- Magnet part MA-GLS-D-1

Lead type:

- Complete model MA-GLS-1L
- Switch part MA-GLS-T-1L

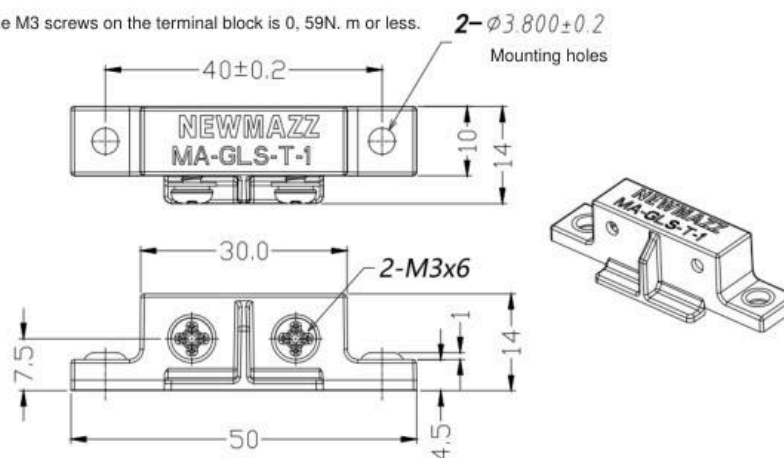


Item \ Model	MA-GLS-1	MA-GLS-1L
Detection distance	15 mm or more	
Contact circuit	1a	
Contact rating AC power cannot be used	Maximum operating voltage : DC100V Maximum operating current: DC0.1A Maximum contact capacity, 1 OW (including opening and closing)	
Contact withstand voltage	DC250V Imin (leakage current 1 mA or less)	
Response frequency	Below 20Hz	
Ambient temperature range	During operation and storage: +20°C and +60°C (no icing or condensation)	
Ambient humidity range	During operation and storage: 35 and 85% RH respectively (no condensation)	
Contact resistance	150 mOhm max.	250 mOhm max. (including wire resistance)
Service life	50 million cycles min. (DC 24 V, 0.1 A resistive load)	
Vibration (durability)	10-55Hz upper and lower amplitude 1.5mm x 2h in each direction of Y, Z	
Impact (durability)	300m/s ² x, 3 times in each direction of Y and Z	
Protective structure	IEC Standard A 40	EC standard "P62
Connection method	Terminal type	Lead type (standard lead length 1 m)
Material	ABS	

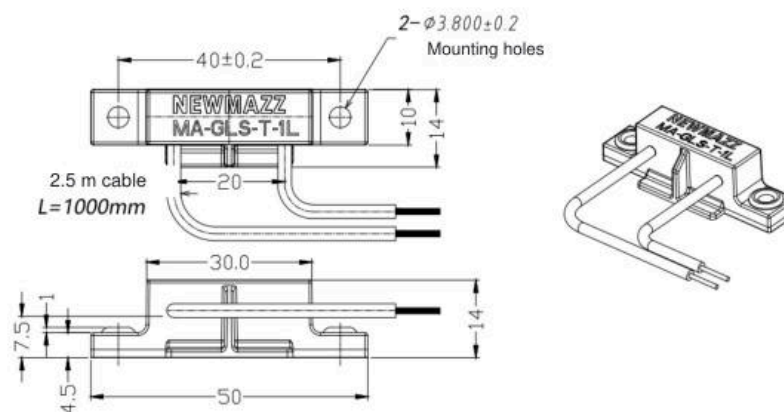
Overall dimensions

Switch section (port type) MA-GLS-T-1

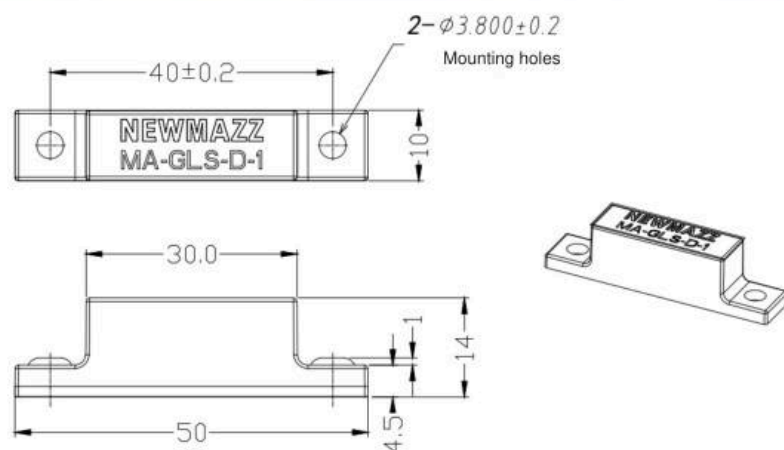
Note: The tightening torque when tightening the M3 screws on the terminal block is 0,59N. m or less.



Switch section (lead type) MA-GLS-T-1L



Magnet part MA-GLS-D-1



Small non-contact magnetically encoded safety switch

MAS11 series

SMALL NON-CONTACT MAGNETIC ENCODING SAFETY SWITCH MAS11 SERIES

Model standard

M A S 1 1 ·

1 2

Standard type (switch/actuator)

- . Normally closed type
- . Normally open

Contact type (when actuator is close to sensor)

- 2C: two normally closed contacts
- 2O: two normally open contacts
- 1C1O: 1 NC + 1 NO
- 2C1O: 2 NC + 1 NO
- 1C2O: 1 NC + 2 NO

Cable length

- 2: 2m
- 3: 3m
- 5: 5m



Note: Normally closed type means there is a signal output when the actuator is attached; normally open type means there is no signal output when the actuator is attached;

The MAS11 series switch mainly uses strong magnetic proximity to trigger the reed switch to detect the status of the door opening and closing.

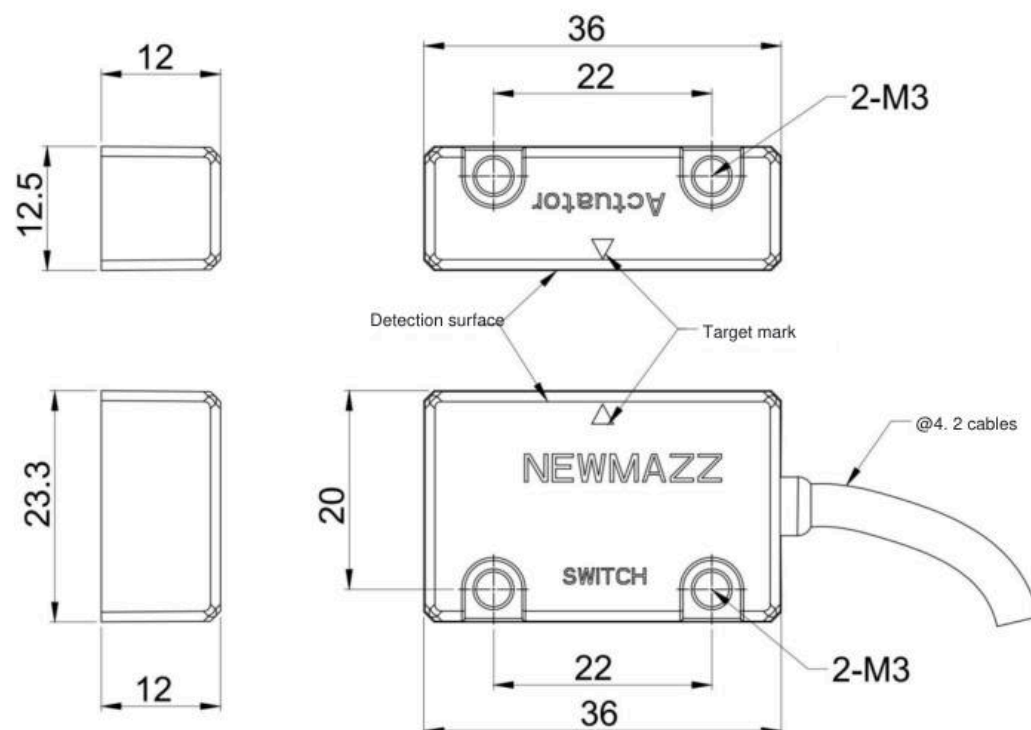
Product features

- . Small size, simple installation, sensitive detection, independent multi-way contacts, etc.

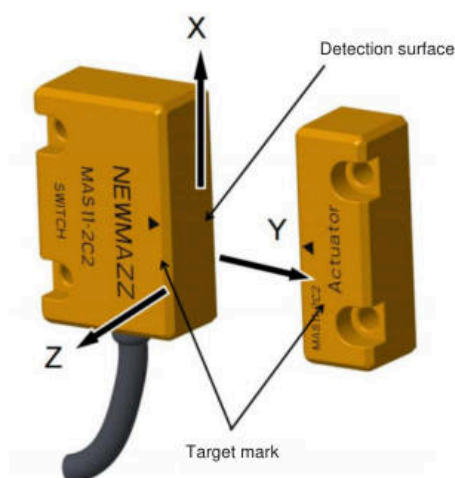
Performance parameters

Safety standards	ISO13849-1 IEC/EN60947-5-1
Safety category	Fu Xie SO 13849. 1's Category 3 switch/dual channel interlock suitable for Category 3 or Category 4 systems
Safety output	Two normally closed safety output contacts (N.C)
Working distance	Lead iÉ.Min: 8; Disconnect.Max: 1 7 mm
Typical tolerances	See alignment instructions
Switching current	100m
Response time	A5ms
Protection level	P65, 0P67 \A68 needs to be customized)
Operating frequency	1 HZ
Operating temperature	-10~+55°C
Relative humidity	5~95%
Material	UL certified thermoplastics

Dimensions and mounting



Detection range



Direction	Deviation from target mark	Power-on detection range	Disconnect
Vertical alignment	Deviation in x direction $\pm 2\text{mm}$ Within the interval	Sensing distance $\sim 8\text{mm}$ in Y direction 0	Sensing distance in Y direction $> 17\text{mm}$
Horizontal alignment	Deviation in x direction $\pm 2\text{mm}$ Within the interval	Z direction sensing distance 0, 8mm	Z direction sensing distance $> 17\text{mm}$

Note: 1. The operating distance is the distance between the switch and the detection surface of the actuator.

2. The data in the graph is typical data obtained when the ambient temperature is 23°C. Actual operating values may vary. Action distance

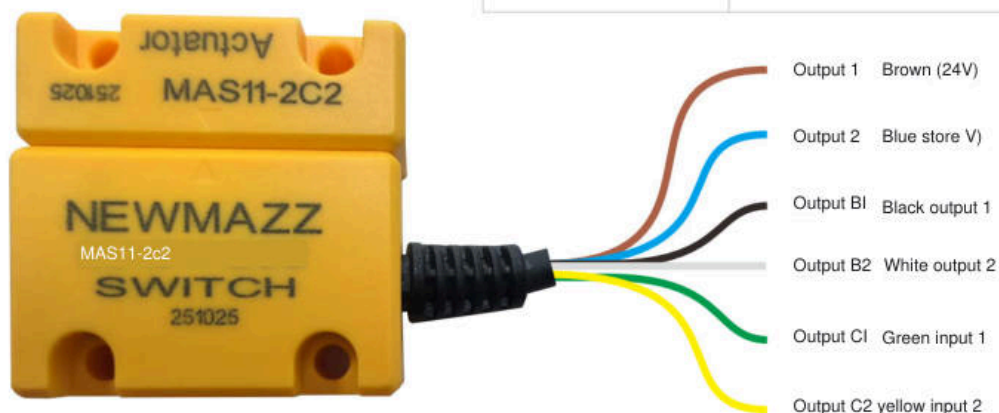
Distance may be affected by metal objects, magnetism, and temperature in the working environment.

3. In addition to the detection surfaces of actuators and sensors, detection actions may also be triggered in other places. So when using actuators and sensors

In front of the actuator, please align the direction with the target mark so that the detection surface of the actuator is facing the detection surface of the sensor.

Wiring diagram (dual output)

Serial number	Signal definition	Color
1	Output A1	brown
2	Output A2	blue
3	Output B1	black
4	Output B2	white
5	Output C1	Green
6	Output C2	Yellow



Remarks.

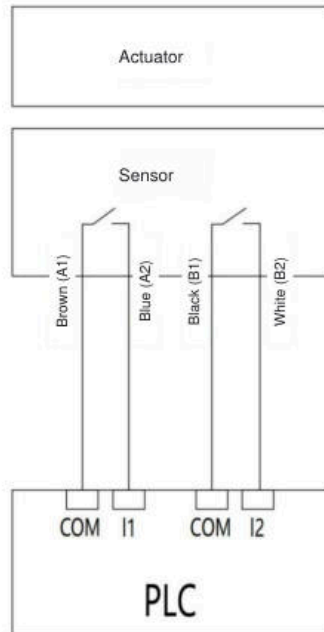
A1/A2 is a set of switching outputs

B1/B2 is a set of switch outputs

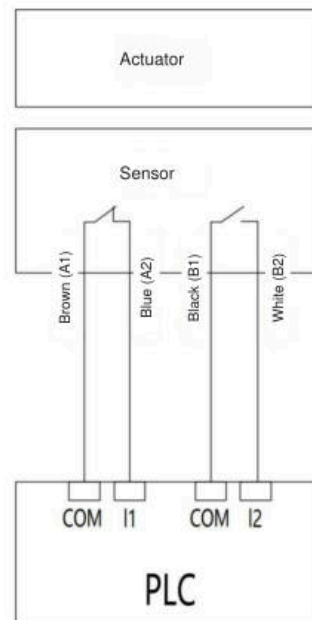
C1/C2 is a set of switching outputs

MAS11 magnetically encoded safety switch wiring definition

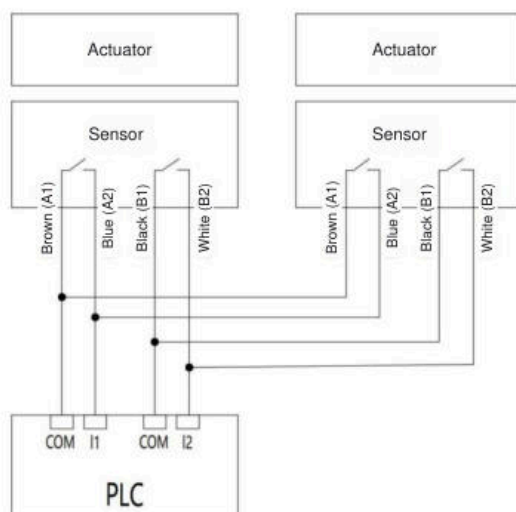
Schematic diagram of two-way normally open wiring (when the magnet is closed)



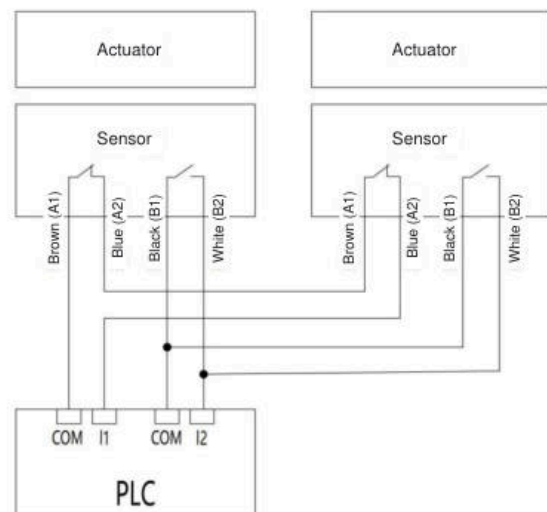
Wiring diagram of one normally open and one normally closed type (when the magnet is closed)



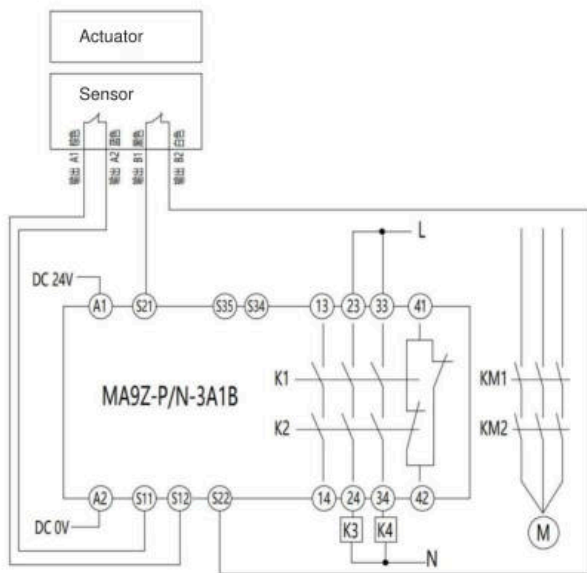
Schematic diagram of two-way normally open cascade wiring (when the magnet is attracted)



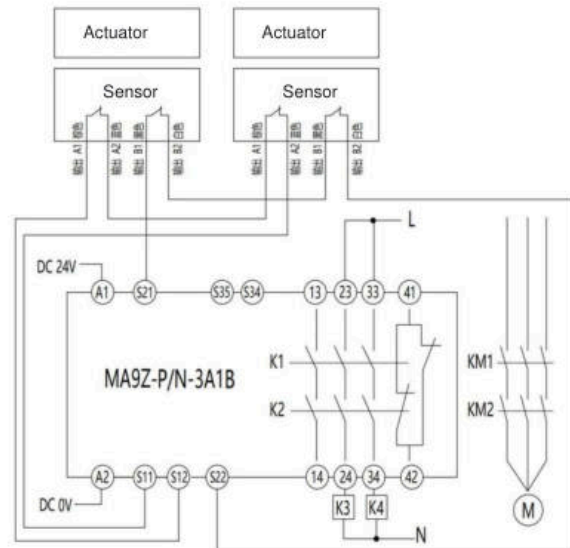
Schematic diagram of cascade wiring with one channel normally open and one channel normally closed



Two-way normally closed wiring diagram (when the magnet is attracted)



Two-way normally closed cascade wiring diagram (when the magnet is attracted)



Safety instructions

1. When wiring MAS11, turn off the power supply to MA9Z. Otherwise, the devices connected to this product may operate unexpectedly.
2. Do not use this product in an environment containing flammable or explosive gases.
3. Please wire it correctly and confirm that it is operating normally before using the system with this product. Incorrect wiring may result in loss of safety functions.
4. If the switch part is subjected to a large impact (falling from a height of more than 800mm, etc.), it may cause malfunction (always in the off state). In addition, if the electric current exceeds the contact capacity,

If current or voltage is applied to the switch part, it may cause malfunction (always on).

Safety relay module

MA9Z



- This safety relay can only be installed, inspected and maintained by professionals.
- The safety relay is installed using a standard 35 mm training N rail;

• If you open the casing or modify the wiring without authorization, there will be no guarantee;

- This product uses a plastic casing and should be protected from moisture and dust, otherwise it may impair its safety features;

• Adequate protection should be provided at the output contacts, especially capacitive and inductive loads;

- Security features should be verified at least once a month.

Product Overview

MA9Z series safety relay module complies with EN/ISO 13849-1 standard Meets PLe safety requirements and is suitable for industrial sites with high safety requirements.

Monitoring of various signals - including emergency stop buttons, safety door switches, safety Grating signal and safety door lock; 3 normally open and 1 normally closed outputs can be provided.

Select manual reset and automatic reset.

- Designed in accordance with EN ISO 13849-1 (Category4, PLe);
- Relay output: 3 normally open contacts, 1 normally closed auxiliary contact;
- With manual reset and automatic reset functions;
- The internal circuit has cross fault monitoring;
- Self-check function redundant circuit design;
- Input overvoltage and overcurrent protection function;
- Power supply anti-reverse connection protection design,
- Intuitive status indicator light display facilitates operating status diagnosis;
- Removable terminal blocks for easy maintenance;
- Standard 35 mm width guide rail installation design.

Standard type

MA9Z-X - 3A1B

3A1B: 3 NO contacts + 1 NC contact

Input type: NPN, P-PNP, S-emergency stop, etc.

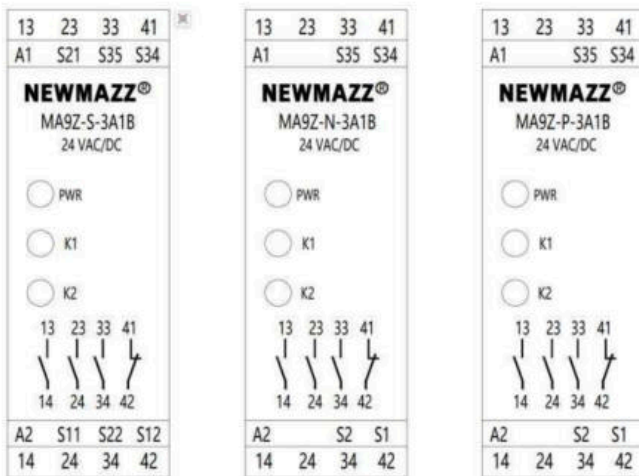
MA9Z: MA9Z series safety relay

Technical specifications

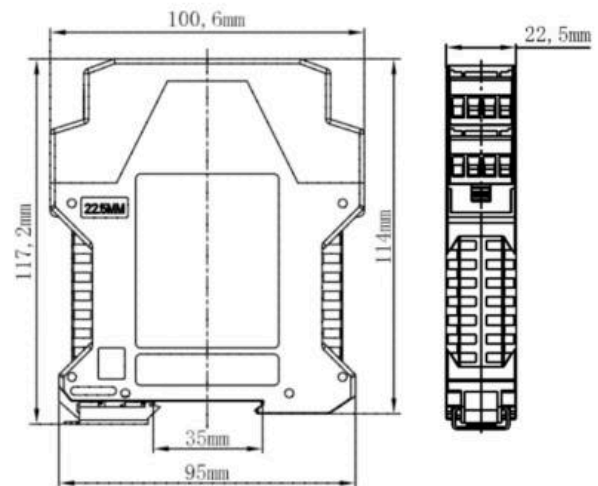
Standard grade	
Comply with standards	EN/ISO 13849-1
Safety level	EN/ISO 13849-1 Category 4
Electrical parameters	
Supply voltage	DC24V+10%
Power consumption	<3W
Response time	<20ms
Pull-in buffer time	<50ms
Power-on startup time	<1s
Protection circuit	Input power overvoltage and overcurrent protection
	Anti-reverse connection protection
Safety input	Dual N P N normally closed input (MA9Z-N-3A1B type)
	Dual PNP normally closed input (MA9Z-P-3A1B type)
	Dual-channel safety door or emergency stop button (MA9Z-S- 3A1B type)
Input synchronization	Unlimited S1 before S2
	Unlimited S12 before S22
Safety output	3-way normally open passive contacts
	1 normally closed passive contact
Contact rating	AC15: 5A/250V
	DC13: 6A/24V
Electrical life	≥100,000 times
Mechanical life	10 million times
Environment	
Vibration resistance	Frequency 10Hz, 55Hz, amplitude 0.35 ± 0 mm, 20 times each in x, Y and Z directions
Impact resistance	Loading degree 10g, pulse duration 16ms, x, Y and 1000 times in each Z direction
Operating temperature	-10 ~ +55°C
Storage temperature	-40 ~ +85°C
Protection level	Housing IP40/IP20 terminal protection protection/structure
Installation	35mmDIN guide rail
Wire size	0.2~2.5mm ²
2 dimensions (mm)	117×100.6×22.5

Appearance introduction

Panel introduction



Product size



Power: ON when the relay is powered normally.

Product installation

. K1: Channel 1 indicator light, lights up when relay 1 is closed, disconnected extinguishes;

. K2: Channel 2 indicator light, lights up when relay 2 is closed, disconnected goes out when

. A1/A2: DC24 power input and output terminals,

. S1: Safety grating, safety door lock input signal 1 terminal,

. S2: Safety grating and safety door lock input signal 2 terminal;

. SI/S12-S34: Connect SI/S12 and S34 to select automatic reset;

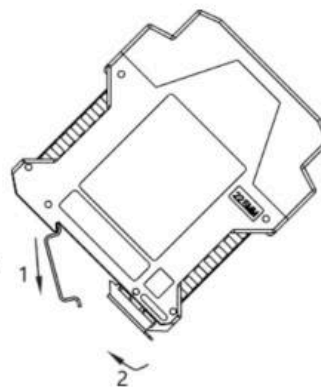
. SI/S12-S34: Connect SI/S12 and S34 to select manual reset;

. SI/S12-S35: Connect SI/S12 and S35 to select the monitored phone

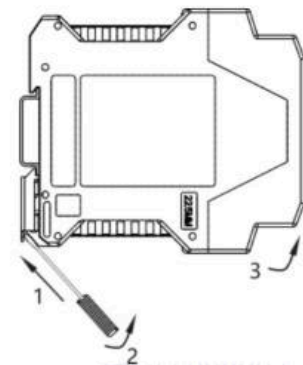
Automatic reset; 1 3 / 14, 23 / 24, 33 / 34: three-way safety contact output Out (NO) terminal,

. 41 / 42: One auxiliary contact output (NC) terminal.

Before installing the safety relay, the machine power supply should be cut off to ensure that there is no dangerous voltage inside the machine.
Minghe spare socket; directly clamp the safety relay on the 35mm guide rail inside the equipment electrical cabinet. Power on
Before proceeding, check to confirm whether the cable connection is correct and whether the product is fastened to the mounting rail. Disassembly safety
Before removing the relay, you must first cut off the power supply to the machine, then loosen the locking screw or remove the terminal.



Safety relay installation diagram



Safety relay disassembly diagram

SAFETY PRECAUTIONS

GENERAL PRECAUTIONS

- Do not immerse the switch in oil or water, or use it where it is continuously splashed with oil or water. Oil or water may enter the switch. The IP67 rating specifies water ingress under defined immersion conditions and duration.
- Fit the cover after wiring and before using the switch. Do not energize the switch with the cover open; electric shock may result.
- When switching conventional loads at AC 240 V, do not operate two or more circuits simultaneously. Insulation performance may deteriorate.

ACTUATOR KEYS

- Use only the designated actuator key. The head is designed to prevent operation with tools such as screwdrivers. Using another tool may damage the switch or compromise machine safety.
- Use the specified NEWMAZZ actuator key. Other actuator keys may damage the switch or impair system safety.
- With the actuator key inserted, excessive force on its tip or dropping it may deform the key or damage the switch.

CHANGING THE HEAD DIRECTION

- Loosen the four head mounting screws to rotate the head into any of four directions. Prevent foreign matter from entering the head.
- Do not insert or remove the actuator key while the switch head is removed. The key may become impossible to insert.

SOLENOID

- The solenoid becomes hot when energized. Do not touch it.
- The DC solenoid is polarized. Check terminal polarity before wiring.

SAFETY PRECAUTIONS

RELEASE KNOB

- The release knob unlocks the switch during a power failure or emergency.
- For mechanically locked models, use a tool to turn the knob from LOCK to UNLOCK. The lock releases and the safety door can be opened.
- For solenoid-locked models in the locked state (solenoid ON), disconnect solenoid power or provide an external solenoid switch to release the lock.
- The MA3-__FA release knob is set to LOCK at the factory. Once the actuator key is inserted, energize the solenoid or turn the knob to UNLOCK before removing the key.
- Do not use the release knob for routine stopping and starting of equipment.
- Only the responsible person may perform an auxiliary release.
- Do not apply more than 0.5 N.m to the release-knob screw. Excessive torque may damage the knob and prevent operation.
- To prevent unauthorized use, keep the release knob in the LOCK position and seal it with sealing wax or an equivalent seal.

FITTING THE COVER

- Check the sealing rubber and ensure that no foreign matter is present. Misaligned sealing rubber or attached foreign matter will impair sealing performance.
- Use only the specified cover screws. Other screws may impair the seal.

SOLENOID-LOCKED MODELS

- Solenoid-locked models lock only while the solenoid is energized. A power failure or interruption of solenoid power releases the lock.
- Do not use this type on equipment where hazardous conditions inside the guard persist after the equipment has stopped.

CONDUIT ENTRIES

- Use a waterproof cable gland. Its threaded engagement into the product housing must not exceed 9 mm. Tighten to the appropriate torque; excessive tightening may damage the housing.
- Fit the supplied conduit cap to any unused conduit entry and tighten to the appropriate torque.

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