TECHNICAL DATA SHEET

SWITCHES FOR SAFETY GATE MONITORING
OX-D2&D3 series

For Illustration purposes only

Contents

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Product Features

- The safety door switch with locking function can ensure that the safety protection device door and other protective covers remain in a safe state even if the dangerous state is not eliminated.

OX-D2 & D3 series

Full range of gold-plated contacts

Configue 5 contact structures

Suitable for standard and small loads

Adjust up to 8 directional key operation holes

Adapted to 7 operating keys

IEC/EN60947-5-1

GB14048.5-2017

Suitable for monitoring safety doors and windows

High strength wear-resistant engineering plastic with built-in 304 stainless steel components

Forced mechanical interlocking self detection structure with extremely high reliability

Product application

Used for monitoring places such as safety doors and windows, in accordance with EN14119 and GB/T18831.

- **Automated production line**
- **Robot production line**
- **Hazard testing area**
- **Isolation places, etc**

Technical data

Performance Specifications	
Applicable standard	EC/EN60947-5-1/GB14048.5-2017
Protection level*1	IP65/IP67 (EN60947-5-1 key operation hole)
Service life*2	More than 1 million machinery/more than 300,000 times of electricity
Rated insulation voltage (Ui)	400V
Rated impulse withstand voltage (Uimp)	4KV
Rated open thermal current (Ith)	8A
use category	AC-15
Rated working voltage (Ue)	AC400V
Rated operating current (Ie)	2A
Rated limited short-circuit current	1000A
forced disengagement force	≥60N
Forced breakaway distance	≥10mm
Operating frequency	≤ 20 times/minute
Ambient temperature	-20°C~60°C (not freezing)
Environment humidity	Below85%RH

1. The above values are initial values.

2. The contacts of the switch are shared by standard and small loads, but the contacts that operate on a certain load cannot be connected to a load with a smaller capacity for use. Failure to do so may result in damage to the contact surface and reduced contact reliability.

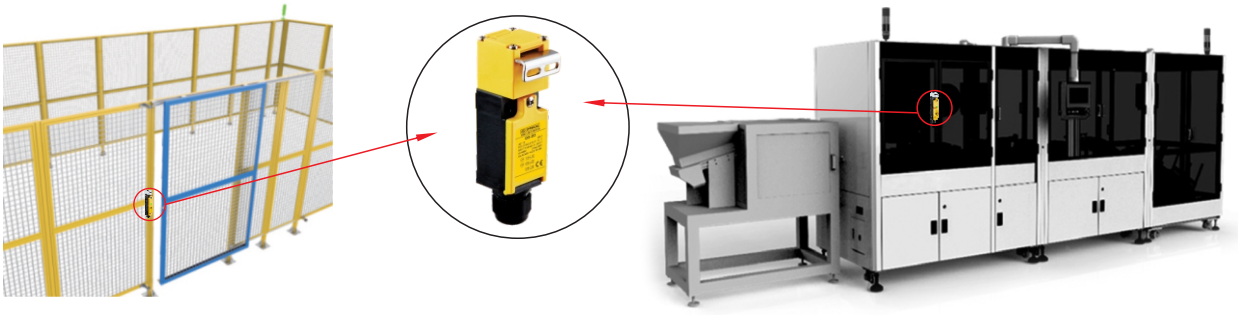
3. Although the switch housing can prevent dust or water from entering, do not use the switch where foreign matter such as powder, water or medicine may enter the keyhole of the switch head, otherwise wear, damage or malfunction of the switch may occur.

4.The conditions for durability are an ambient temperature of 5°C to 35°C and an ambient humidity of 40% to 70%.

Electrical wiring

1.Function and purpose

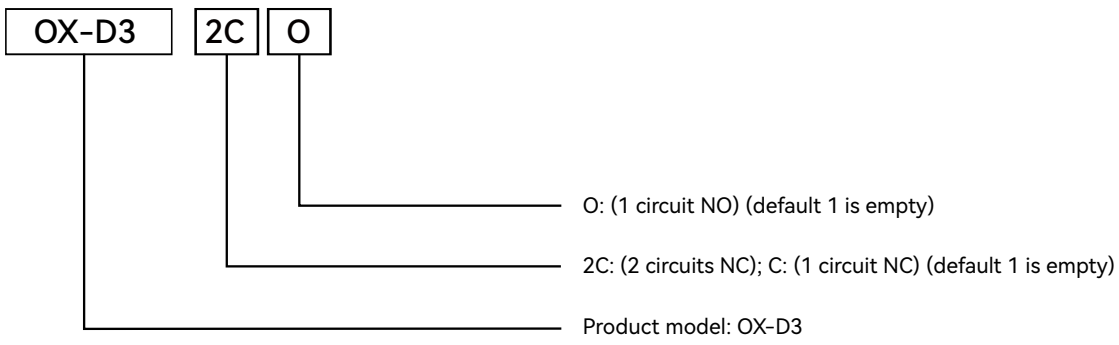
The use of safety door locks to monitor the status of safety doors can ensure reliable shutdown of equipment.



2.Connection example

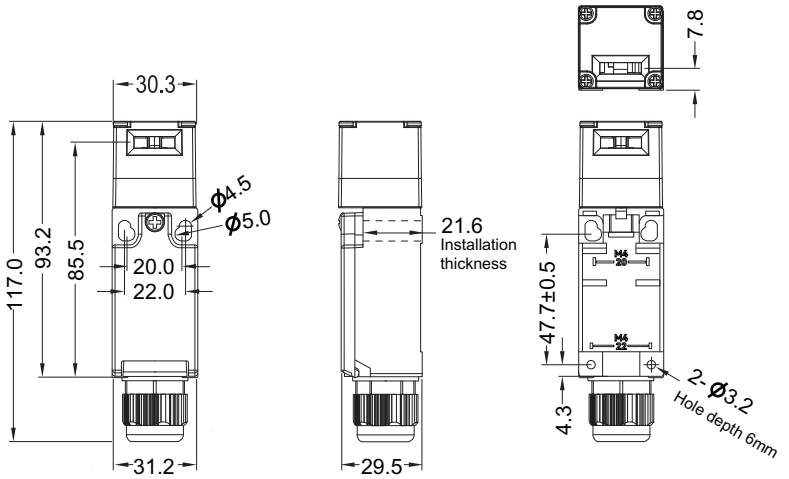
The safety door lock can be connected to the safety relay to form a high-level safety circuit.
Used to control reliable stopping and starting of equipment.

Model Selection



● Overall dimensions

OX-D2&D3 Series Lock Body Dimensional Drawing

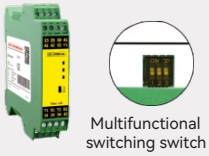


Unit: mm

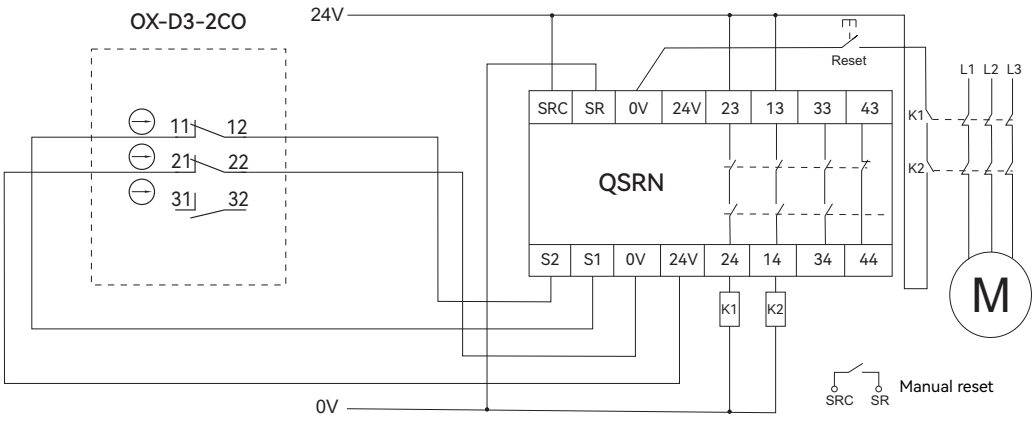
● The following wiring diagram shows inserting the operation key and being in the lock state

Model	Contact type	Wiring diagram	Contact action : ON : OFF
			Operating the key Fully inserted → Trip → Operating the key Pulling out
OX-D2-CO	1NC+1NO	11 12 23 24	11--12 23--24
OX-D2-2C	2NC	11 12 21 22	11--12 21--22
OX-D3-2CO	2NC+1NO	11 12 21 22 33 34	11--12 21--22 33--34
OX-D3-3C	3NC	11 12 21 22 31 32	11--12 21--22 31--32

● Selection of safety locking device connected to safety relay

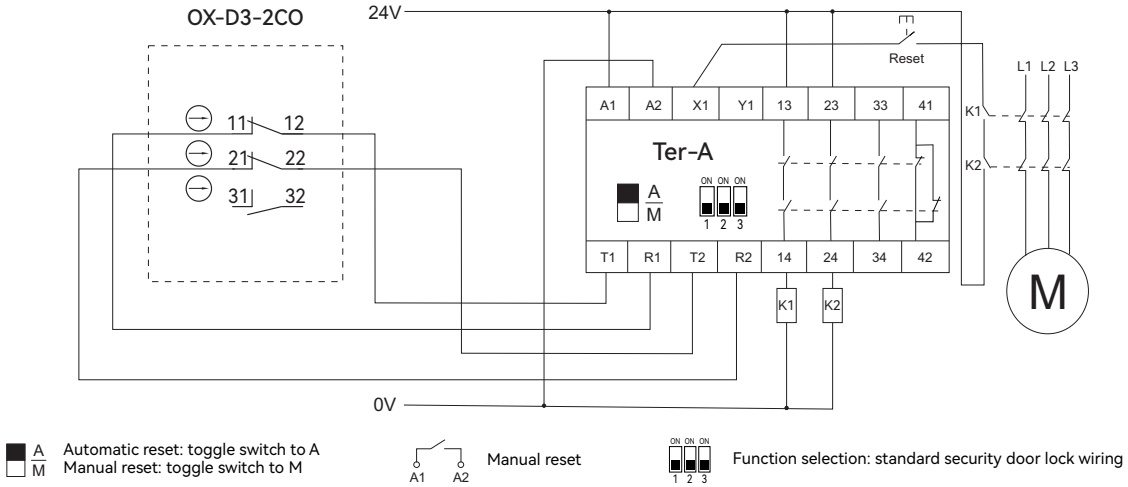
Name	Order separately	Model	Descriptions
Safety relay		QSRN	QSRN safety relays have three groups of NO and one group of NC, with strong control capabilities. They are suitable for various signal monitoring in industrial places with high safety requirements, including emergency stop signals, safety door opening and closing signals, safety light curtain signals, and two-handed button signals.
Safety relay	 Multifunctional switching switch	Ter-A	Equipped with a mode switch, it can be used for most safety components, such as light curtains, safety switches, carpet contacts, two handed switches, etc.Automatic/manual reset paddles for quick configuration.Dual channel monitoring circuit, safe and reliable.

1.An example of the wiring diagram between the safety door lock and QSRN is as follows:



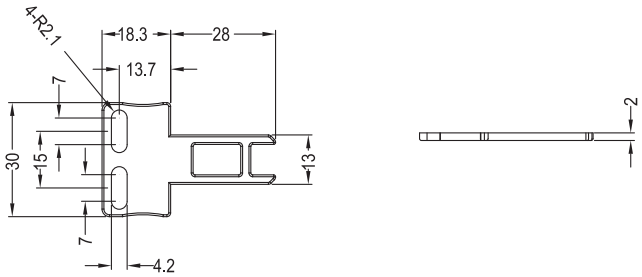
This is an example wiring diagram of OX-D3-2CO.

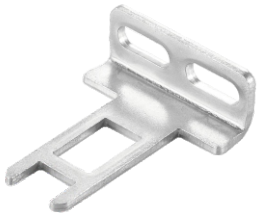
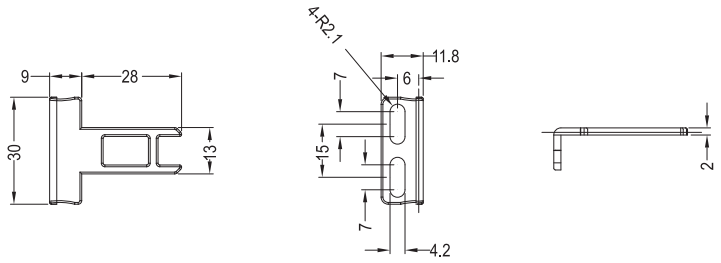
2.An example of the wiring diagram between the safety door lock and Ter-A is as follows:

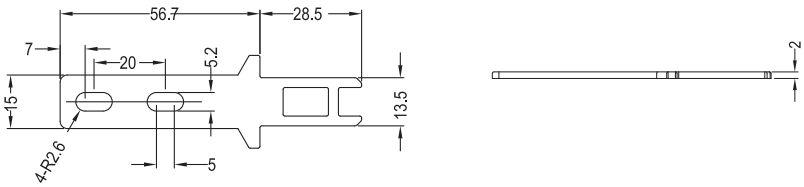


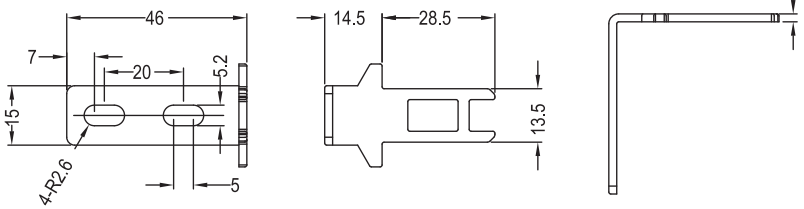
This is an example wiring diagram of OX-D3-2CO.

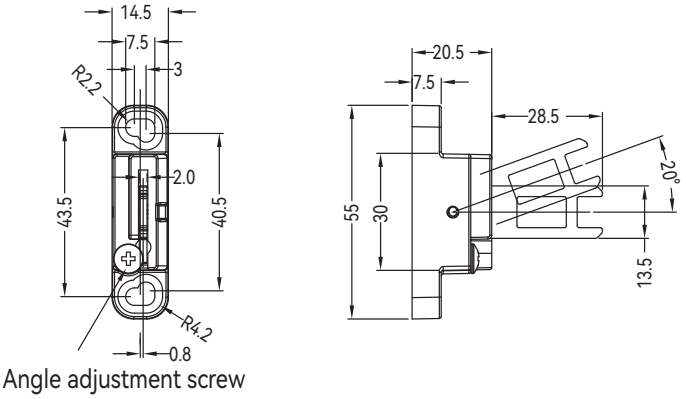
Accessories

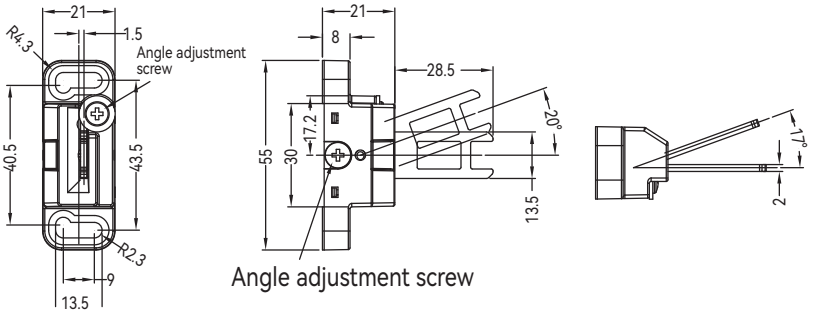
T-shaped operation key	OX-K1 operating key size diagram
 (Original accessories)	 Unit: mm

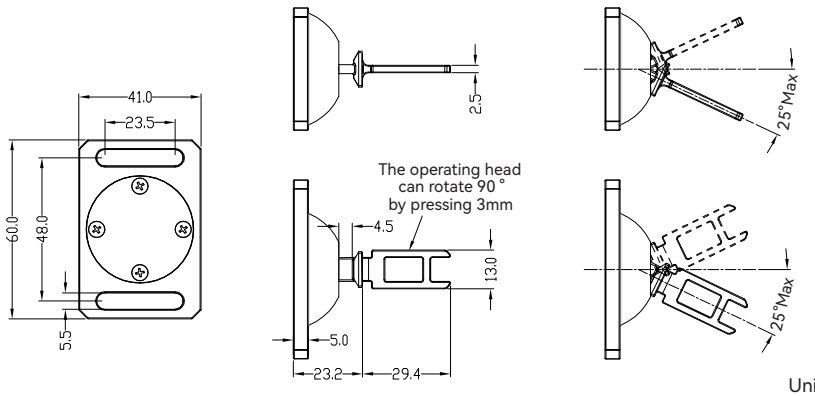
L-shaped operation key	OX-K2 operating key size diagram
 (Original accessories)	 Unit: mm

Long T-shaped operating key	OX-K3 operating key size diagram
 (Optional accessories)	 Unit: mm

Long L-shaped operating key	OX-K4 operating key size diagram
 (Optional accessories)	 Unit: mm

Horizontal adjustable operating key	OX-K5 operating key size diagram
 (Optional accessories)	 Unit: mm

Horizontal/vertical adjustable opeation key	OX-K6 operating key size diagram
 (Optional accessories)	 Unit: mm

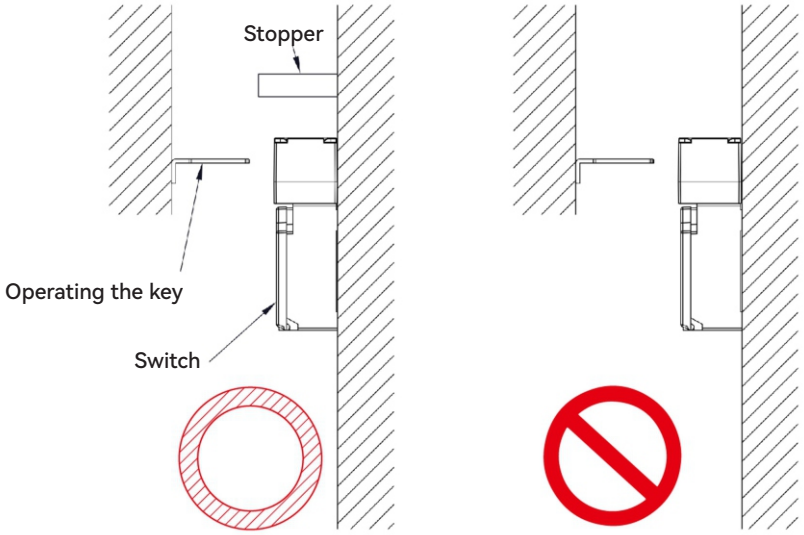
Horizontal/vertical adjustable opeation key	OX-K7 operating key size diagram
 (Optional accessories)	 Unit: mm

Installation diagram of OX-D2&D3 operation key

● Safety points

1. The operation key should be installed where the door will not touch the human body when the door is opened, otherwise it may cause personal injury.

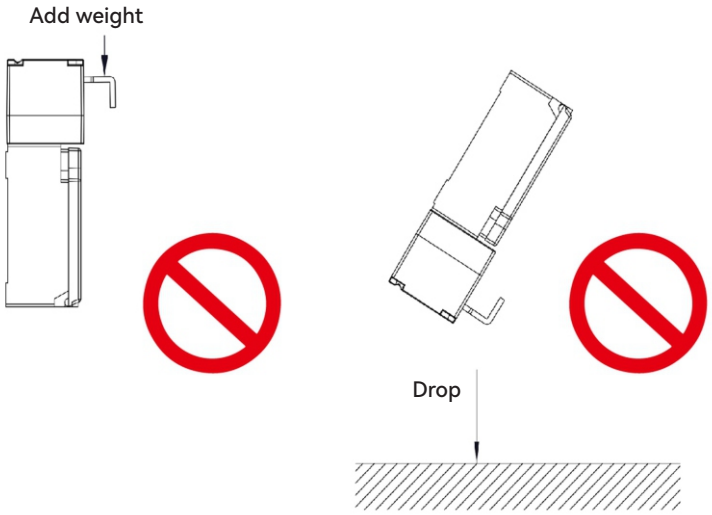
2 Do not use the switch body as a stop element. Be sure to set the stop element as shown in the picture so that the edge of the operating key does not hit the switch head.



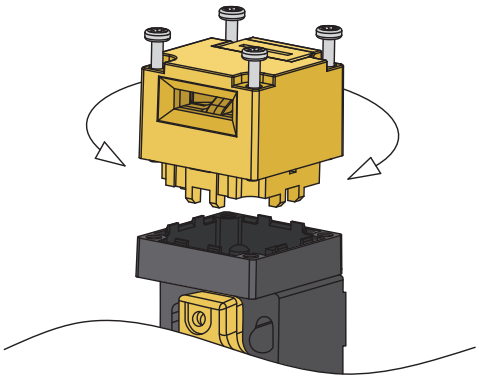
● Precautions for use

1. The safety door switch must be operated with the original special operation key. To ensure the safety of the equipment, please do not use tools other than the original operation key to operate the switch.

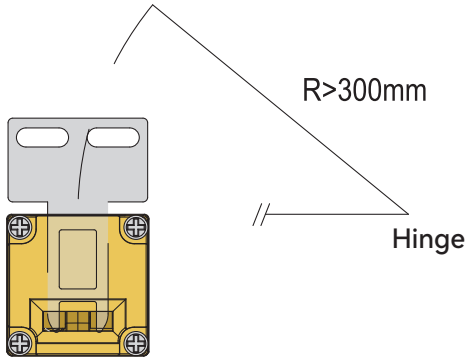
2. When the operation key is installed on the switch body, do not place gravity on the front end of the operation key or drop it, otherwise the switch may be deformed or damaged and directly affect the safety of use.

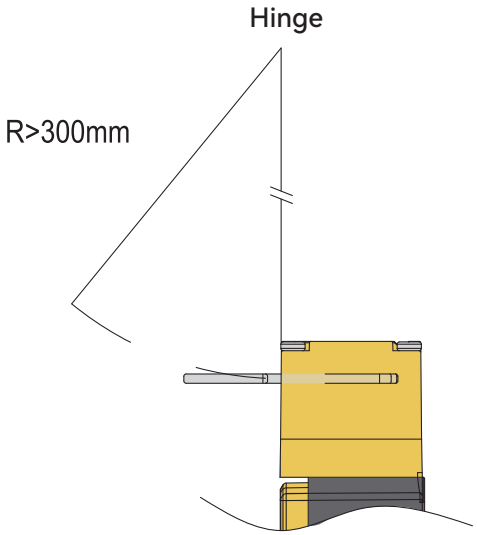


- Loosen the four screws at the top of the head, rotate the head direction to select the appropriate operating keyhole position, and then proceed with installation.



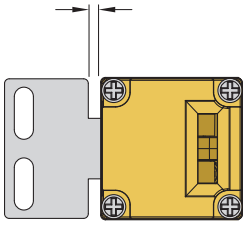
- When installed on a side hung door, it must be greater than the minimum radius.



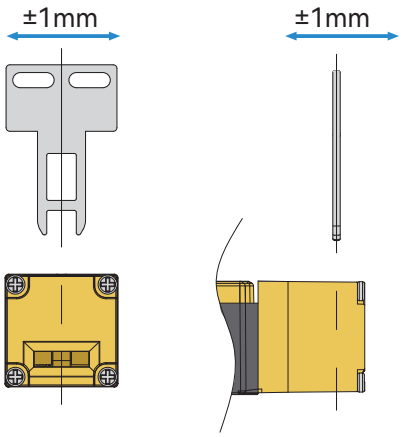


- Please install switches and operating keys within the prepared position range (1-3.5mm).

Ready position: 1.0~3.5mm



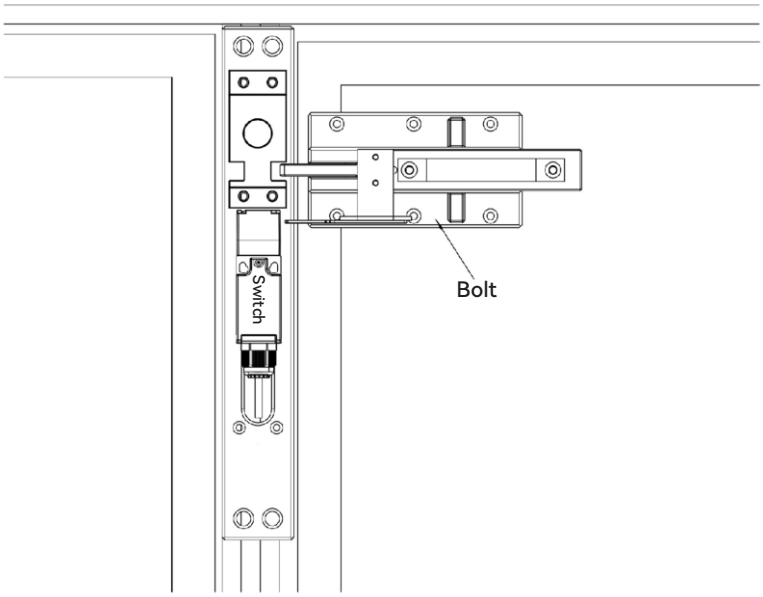
- The allowable error for the installation of the operating key is within ± 1mm of the center of the operating key insertion hole.



Safety points

1. The operation key should be installed where the door will not touch the human body when the door is opened, otherwise it may cause personal injury.

2 Do not use the switch body as a stop element. Be sure to set the stop element as shown in the picture so that the edge of the operating key does not hit the switch head.



With cable

1. About wiring

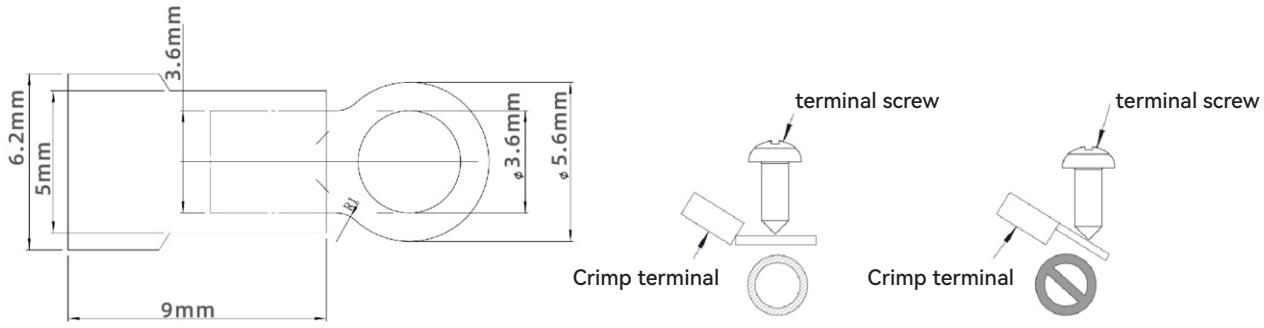
① When using the cable fixing head to connect to the terminal with M3.5 crimping terminal, the wiring should not exceed the shell and the protective cover.

② Applicable wire specification is (5~10mm outer diameter).

③ Excess wires touching the protective cover may cause the protective cover to float.

④ Do not insert crimp terminals, etc. into the gaps in the case, otherwise the case may be damaged or deformed.

⑤ Please use crimp terminals with a thickness of less than 0.8mm to prevent interference to the inside of the housing.



2. Treatment of outlet holes

① In order to ensure IP65 or IP67 protection performance, first loosen the plastic screw cap of the cable fixing head, and then tighten the screw cap until there is no gap after the wiring passes. Otherwise it will affect the sealing effect.

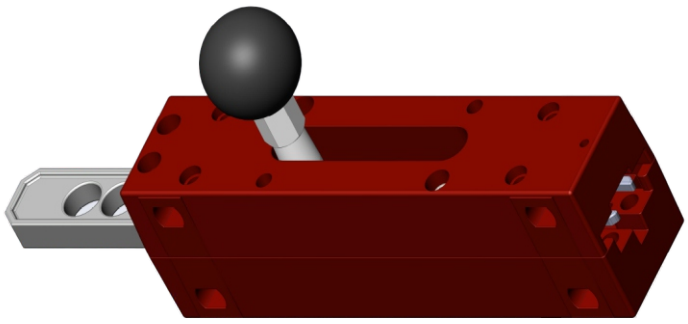
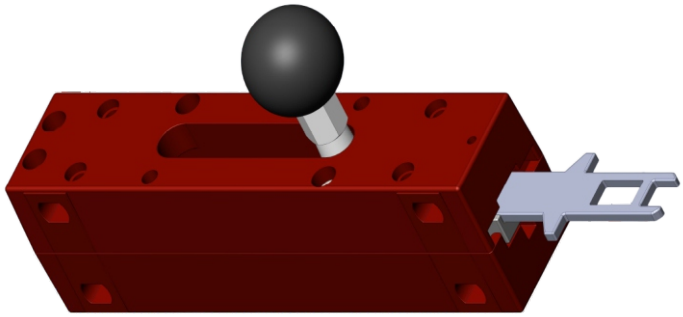
② Please select the wire material suitable for the inner diameter of the cable gland.

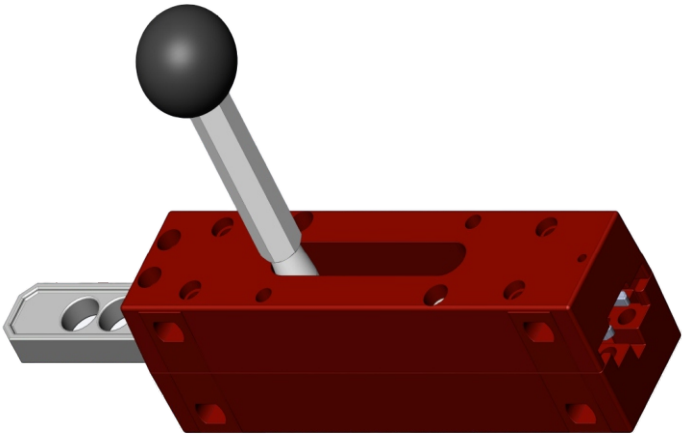
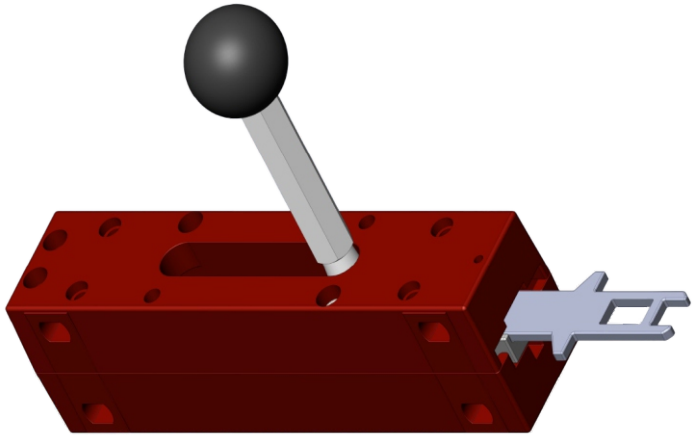
Safety door handles

Performance data

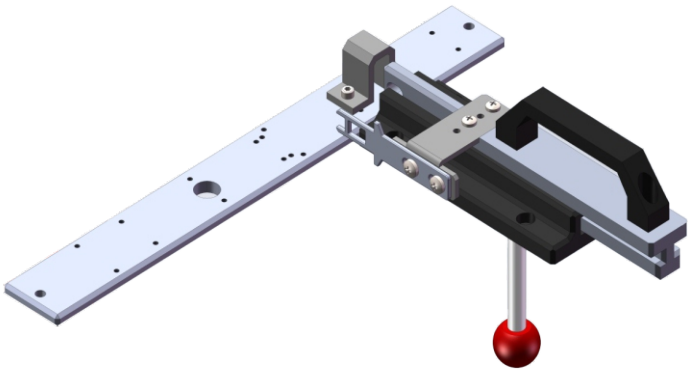
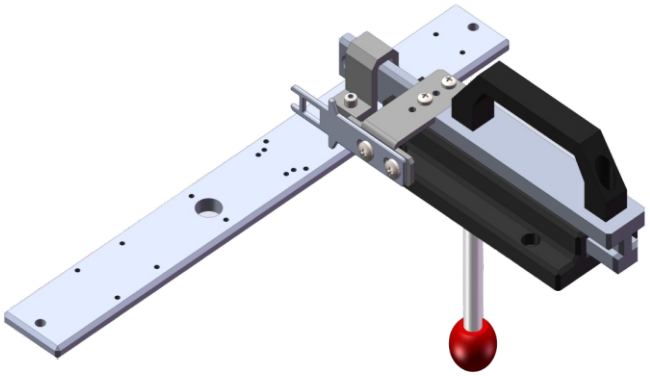
Model	OXSL-A-1	OXSL-A-2	OXSL-B-1	OXSL-B-2
Mechanical life	1 x 106 times		1 x 106 times	
Installation location	Doors or fences		Doors or fences	
Installation mode	Left or right		Left or right	
Base material	Zinc alloy		Aluminium alloy	
Slider material	Zinc alloy		Aluminium alloy	
Handle material	Stainless steel		Stainless steel	
Ball head material	Plastic		Plastic	
Weight	0.6kg		0.95kg	1.05kg

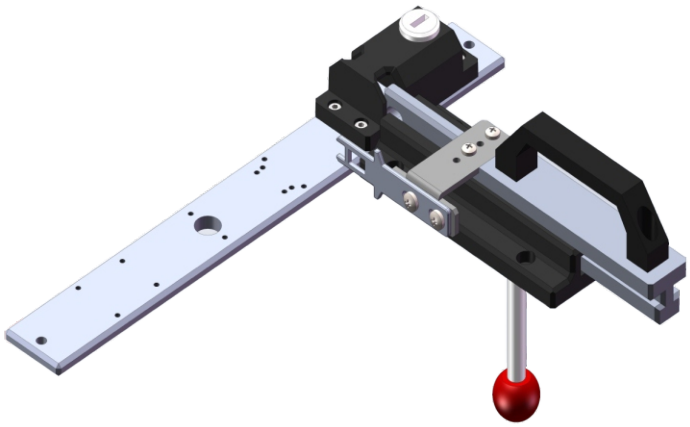
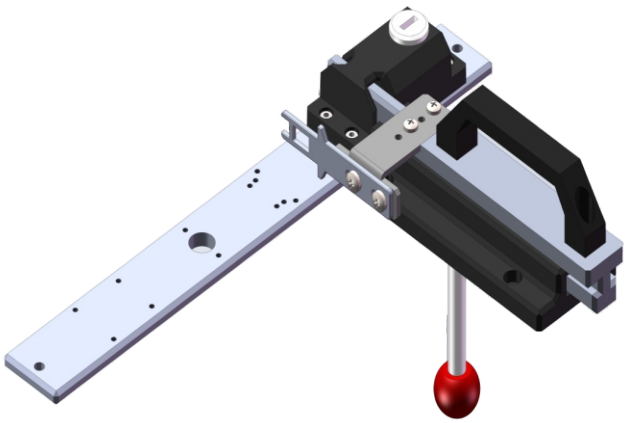
- **Appearance diagram**

OXSL-A-1	
	
(Order separately)	(Order separately)

OXSL-A-2	
	
(Order separately)	(Order separately)

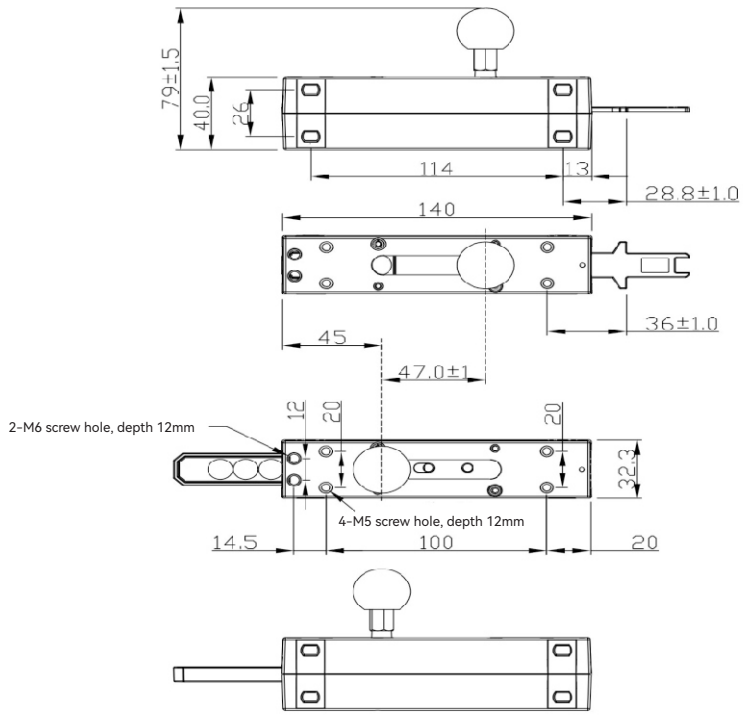
- Appearance diagram

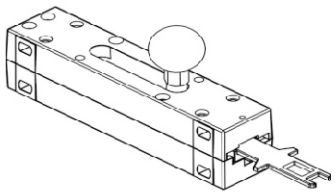
OXSL-B-1	
	
(Order separately)	(Order separately)

OXSL-B-2	
	
(Order separately)	(Order separately)

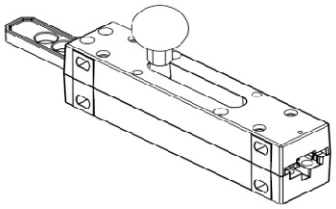
- Installation dimensions of safety door bolts

OXSL-A-1 installation dimensions





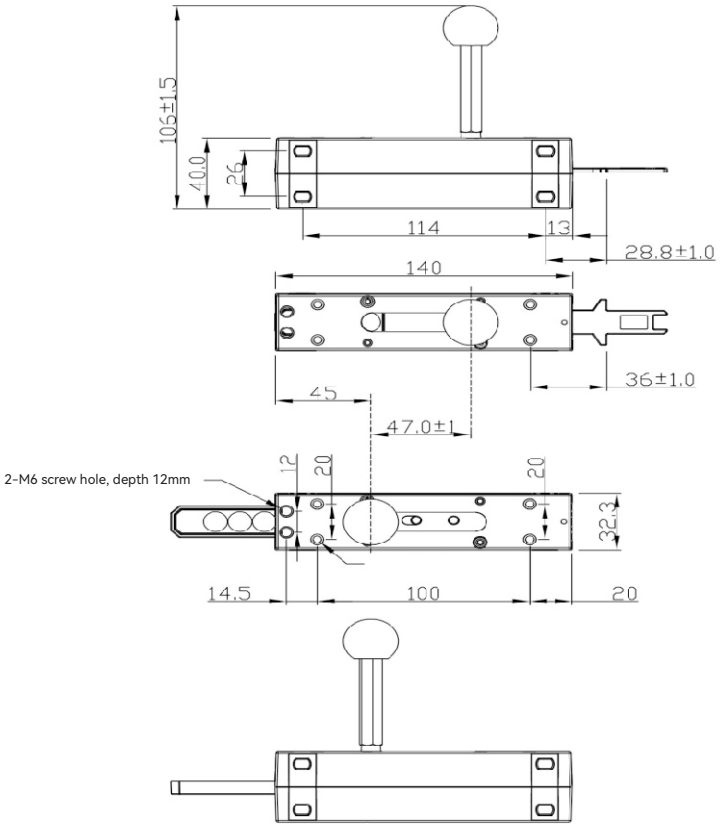
Pushing out the key

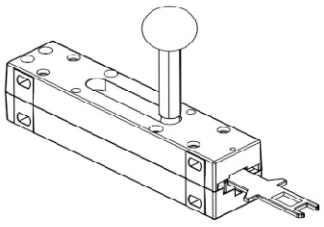


Retract key

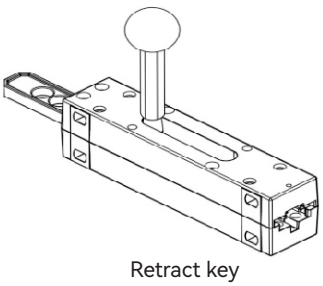
Unit: mm

OXSL-A-2 installation dimensions





Pushing out the key

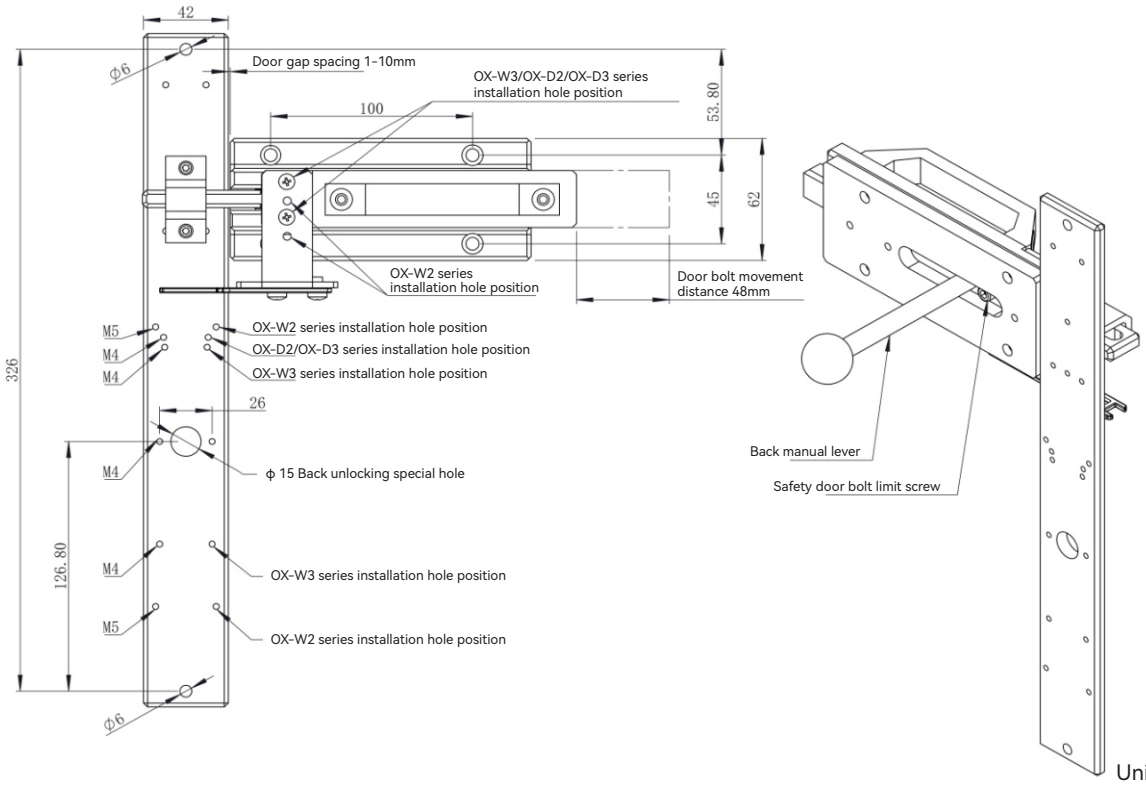


Retract key

Unit: mm

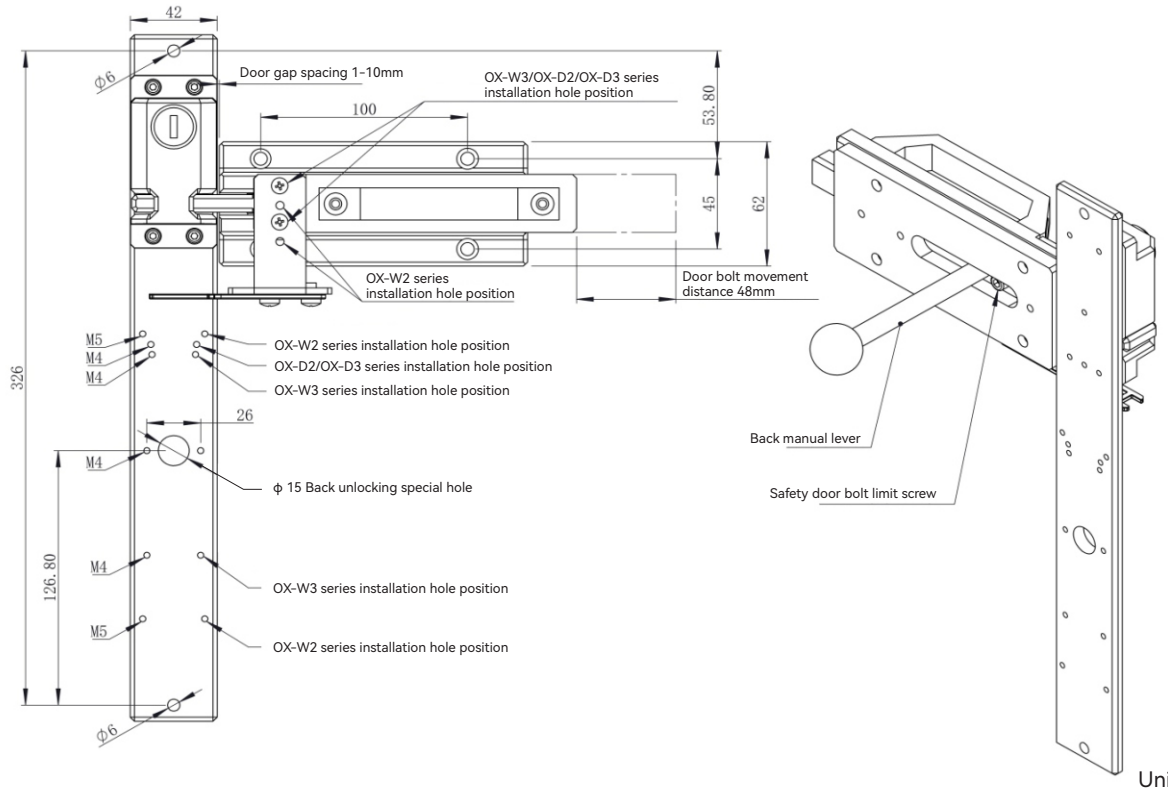
- Installation dimensions of safety door bolts

OXSL-B-1 installation dimensions



Unit: mm

OXSL-B-2 installation dimensions



Unit: mm