

## OX-W5

SERIES ELECTROMAGNETIC LOCK SAFETY-DOOR SWITCH

Forced locking  
Safety protection  
Safety sensing



- ★ Standard configuration with 6 sets of gold-plated contacts
- ★ Forced locking force 1300N
- ★ Front+side emergency unlocking function
- ★ Optional with 6 types of operation keys

DADISICK is honored to provide you with safety protection.

Please be sure to thoroughly understand the content of the user manual before using our company's products.

For your safety, please be sure to follow the precautions in the user manual.

The specifications and accessories recorded in this manual may be changed when necessary, during improvements, or for other reasons. Please consult our sales personnel to confirm the actual specifications of our products.

## SAFETY PRECAUTIONS

### **Warning (Violation of this item may result in death or serious injury)**

01. In order to protect personal safety and prevent safety accidents, please install multiple safety protection devices when using this product.

Otherwise, it may cause personal injury or safety accidents.

02. Please configure a device administrator during the use of this product. The administrator's requirements are as follows:

---Operators familiar with the installation, setup, use, and maintenance of this product

---Personnel who are familiar with and comply with the regulations/systems/regulations of the country or region corresponding to the type of equipment used in this product

Except for equipment managers, personnel unfamiliar with this product who operate the equipment may pose a risk of personal injury or safety accidents.

03. After installing the product, please conduct debugging before the equipment is officially running and ensure that the product's functionality meets the expected protection requirements.

When the product is not set according to the expected action, it may cause personal injury or safety hazards.

04. It is prohibited to operate in places containing explosive, flammable, corrosive gases, with intense temperature changes, high humidity, and the possibility of condensation

Places, places with intense vibration, places with diluents, detergents, and other solvents for use.

Otherwise, there is a risk of explosion or fire, which may lead to a decrease in product performance.

05. The product has multiple modular coding functions. Please confirm the usage requirements before leaving the factory and select the appropriate model according to the usage requirements. Please do not allow any Intentionally transforming products.

Otherwise, there is a possibility of reducing product performance and causing damage to the switch.

06. Do not use the safety switch as a stop element for the door. Please be sure to set a mechanical stop element to limit the position of the door. Do not use the safety switch as a stop element

As the full switch is used as the door lock device, please add mechanical door bolts or other methods to set the door lock.

Otherwise, due to vibration or the door itself, the safety switch operation key may deviate and cannot be accurately inserted into the switch actuator, or even

There is a possibility of damaging the switch.


07. The safety switch of the power-on locking type remains locked when powered on, and unlocked when powered off. In case of emergency power outage or other accidents


In this case, the switch solenoid may be unlocked due to power outage, and the internal device may not be completely stopped due to inertia or other reasons. Please be sure to


It is necessary to confirm that the machine has completely stopped.

Otherwise, there may be a risk of personal injury.

08. When the safety switch is continuously energized by the solenoid, the maximum temperature of the switch panel is about 25 °C higher than the ambient temperature.

09. If the device is used while the emergency unlocking knob is in position  , electromagnetic locking may not work, resulting in some devices stopping when they should be Still in operation at the end.

Before using the device, make sure to place the emergency unlocking knob in position  . In addition, please check the status of the locking and safety circuits.

10. Before changing the head direction,  please make sure to set the emergency unlocking knob to the position or install the operation key. Otherwise, it may cause damage to the switch, resulting in some devices still operating when they should be stopped.

### **Attention (Violation of this item may result in personal injury or product damage)**

01. Before installation, confirm the wiring diagram before proceeding with the wiring.

02. Please use within the rated specification range.

03. Please correctly distinguish the polarity of the solenoid before wiring. Do not reverse the connection and do not apply voltage outside the rated voltage range.

04. When replacing the head, please prevent foreign objects from entering the interior of the switch and lock the fastening screws tightly.

05. When opening the protective cover, it is necessary to prevent debris, liquid, cable residue, and other foreign objects from entering the interior of the switch.

06. Please use reliable fixation methods such as welding and screws to secure the operating keys in a reasonable position to prevent detachment or displacement.

07. Do not perform unlocking operations when applying external forces such as pushing or pulling on the operating key (safety door).

08. When the door is open, please do not insert the operation key. Otherwise, the machine may move and cause injury.

09. Please use the dedicated operation key configured by our company's safety switch, and be careful to keep the backup operation key.

10. Do not use metal cable waterproof joints or metal conduits.

## 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.

### 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

## OX-W5

Metal head

6 sets of gold plated contacts

4 contact combinations

DC24V/AC110V

Locking force 1300N

Indicator light+emergency unlocking

Adapted to 6 types of operation keys



### Applicable industries:

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

### Application Scenario

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



## Function and purpose



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

## Connection example

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



## Model Selection

OX-W2 CO / 2C - G C J

J: Metal head; S: Plastic head

C: Mechanical locking and electromagnetic unlocking;  
D: Electromagnetic locking, power outage unlocking

G: M20

X: Comes with a connecting cable (default cable is 1.5m, other lengths can be customized by contacting customer service)

Lock status monitoring output: CO: (1NC+1NO); 2C: (2NC) (default 1 is empty)

Insert key monitoring output: CO: (1NC+1NO); 2C: (2NC) (default 1 is empty)

Product model: OX-W5

## ■ Specifications

### ● Pilot lamp

Rated voltage	10~115VAC/DC
Rated current	1mA
Light source appearance	Green

### ● Solenoid

Rated operating voltage	DC24V±10%
Rated current	200mA (Initial value)
Rated power	4.8W
Insulation level	B (130°C)

### ● Performance

Model	<b>OX-W5-</b> □ □ □ □ □		
Shell material	PA66 flame retardant		
Contact material	Silver composite plating		
Protection level	IP67 (EN60947-5-1, except for key operation hole)		
Extend the lifespan of the vehicle	Mechanical over 1 million times		
	More than 150000 times of electricity consumption		
Tensile strength when locked	1300N		
Rated insulation voltage (Ui)	300V		
Rated impulse withstand voltage (Uimp)	2.5kV		
Rated open thermal current (Ith)	10A		
Usage Category	AC-15	DC-13	
Rated working voltage (Ue)	240V	30V	250V
Rated working current (Ie)	3A	2.3A	0.27A
Rated limiting short-circuit current	1000A		
Forced disengagement force	≥60N		
Forced detachment distance	≥10mm		
Permissible operating speed	0.05~0.5m/s		
Allowable operating frequency	Up to 20 operations/minute		
Ambient temperature	-20 °C~60 °C, without freezing		
Environmental humidity	Below 85% RH		

# ■ Model

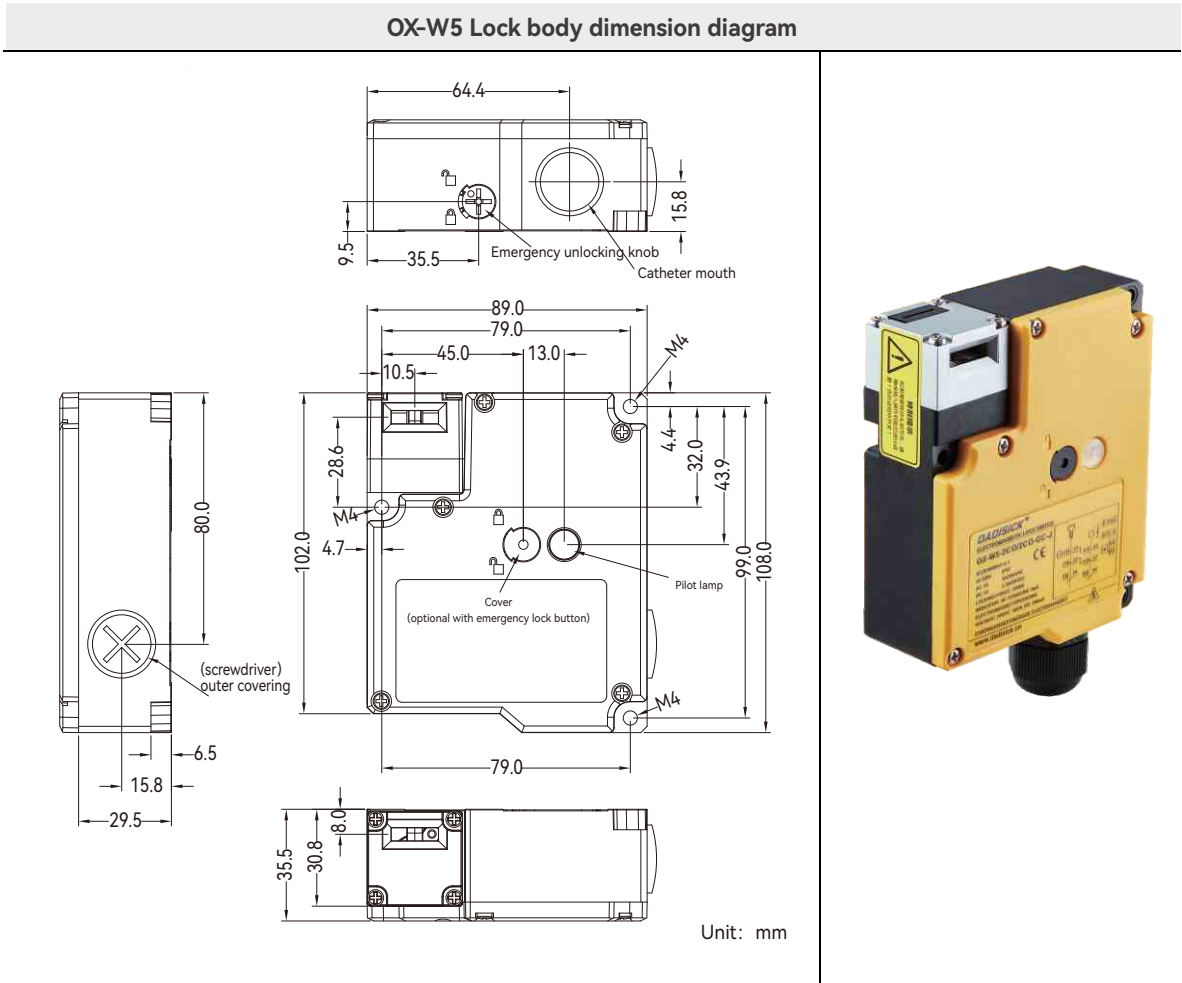
Head material	Emergency unlocking Twist position	Electromagnet voltage /indicator light	Lock/Unlock Method	Contact type (Door monitoring+lock monitoring)	Conduit opening size	Model
Metal head	Side	Electromagnet: DV24V	Electromagnetic locking Mechanical unlocking	2CO/2CO	M20	OX-W5-2CO/2CO-GD-J
				3C/2CO	M20	OX-W5-3C/2CO-GD-J
				2CO/3C	M20	OX-W5-2CO/3C-GD-J
				3C/3C	M20	OX-W5-3C/3C-GD-J
		Green LED AC/DC10-115V	Mechanical locking Electromagnetic unlocking	2CO/2CO	M20	OX-W5-2CO/2CO-GC-J
				3C/2CO	M20	OX-W5-3C/2CO-GC-J
				2CO/3C	M20	OX-W5-2CO/3C-GC-J
				3C/3C	M20	OX-W5-3C/3C-GC-J

## ■ Wiring diagram

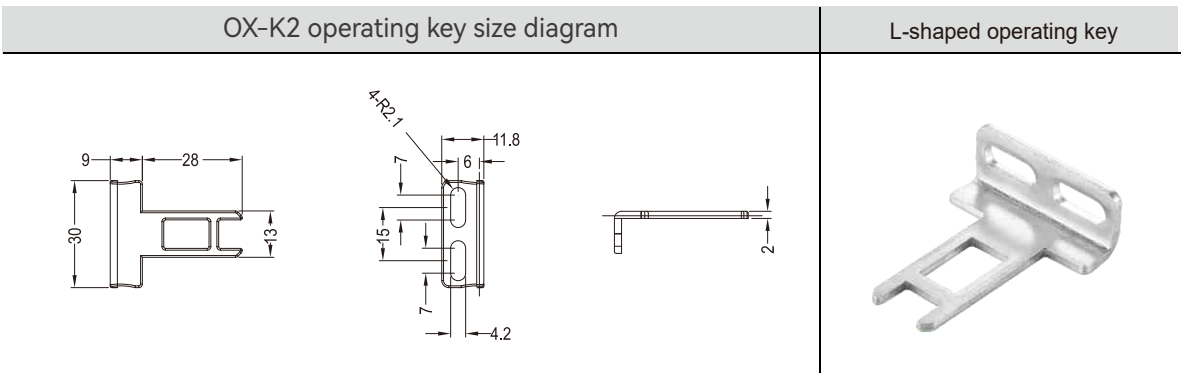
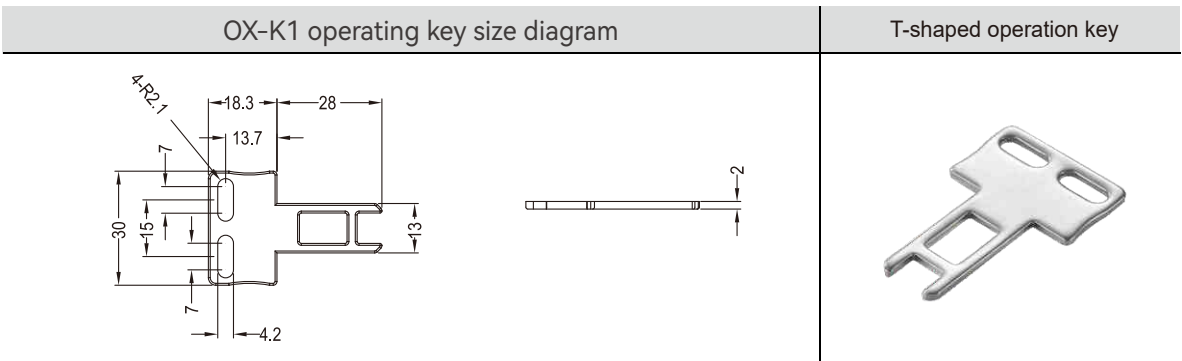
- The following wiring diagram shows inserting the operation key and being in the locked state. (Terminals 12 and 41, 22 and 51/32 and 61 are internal connections)

Model	Contact type (Door monitoring+lock monitoring)	Wiring diagram (Door monitoring+lock monitoring)	Contact action ■ : ON □ : OFF
OX-W5-2CO/2CO-GD-J OX-W5-2CO/2CO-GC-J	2CO / 2CO		
OX-W5-3C/2CO-GD-J OX-W5-3C/2CO-GC-J	3C / 2CO		
OX-W5-2CO/3C-GD-J OX-W5-2CO/3C-GC-J	2CO/3C		
OX-W5-3C/3C-GD-J OX-W5-3C/3C-GC-J	3C / 3C		

# ■ Installation dimensions

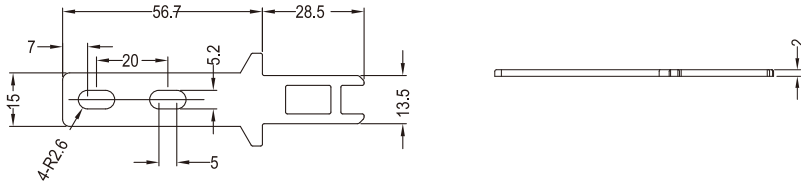


## Operating key size >



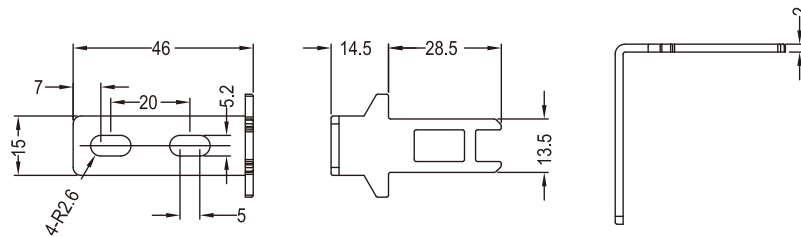
OX-K3 operating key size diagram

Long T-shaped operating key



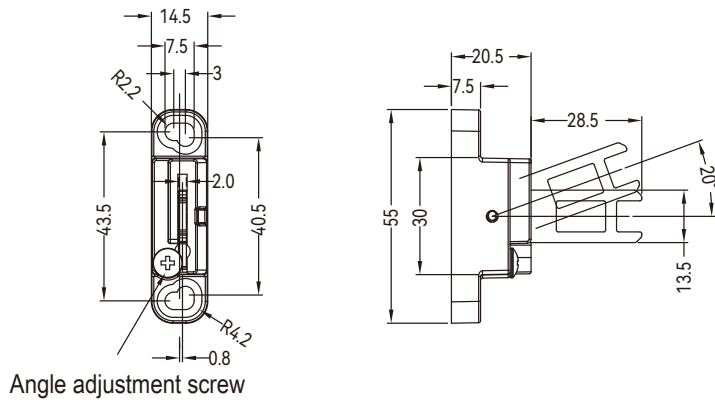
OX-K4 operating key size diagram

Long L-shaped operating key



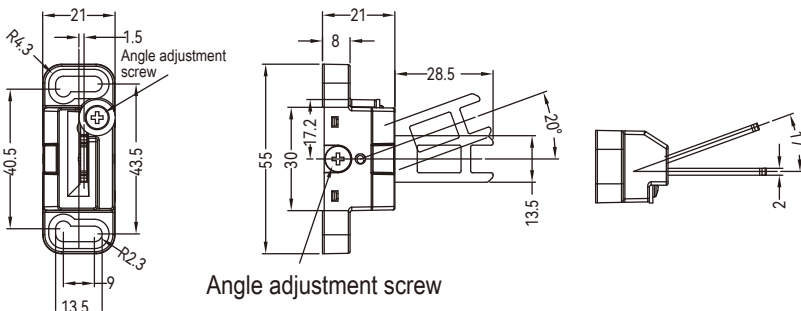
OX-K5 operating key size diagram

Horizontal adjustable operating key



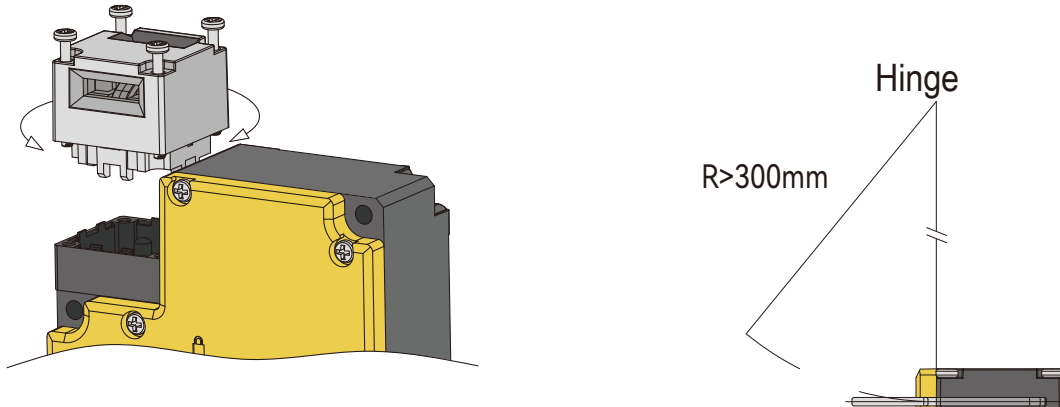
SF-K6 operating key size diagram

Horizontal/vertical adjustable operation key

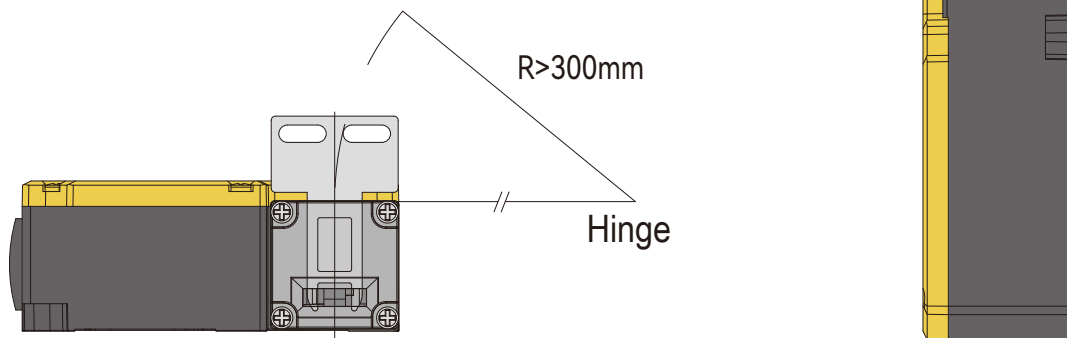


## Installation diagram of OX-W5 operation key >

- 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.



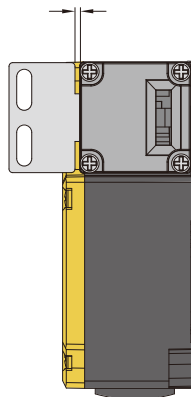
- When installed on a side hung door, it must be greater than the minimum radius.



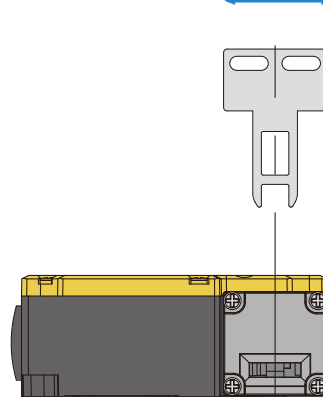
- Please install switches and operating keys within the prepared position range (1-3.5mm).

- The allowable installation error of the operation key is within  $\pm 1$  mm of the insertion center of the operation key as the reference.

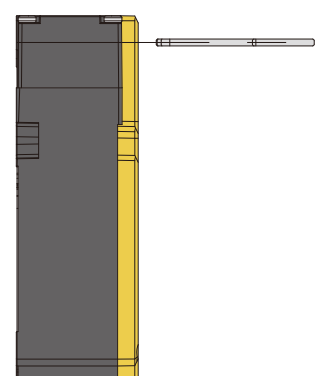
ready position: 1.0~3.5mm



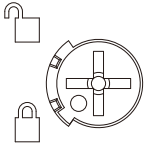
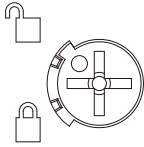
$\pm 1$ mm



$\pm 1$ mm



## ■ Emergency unlocking key

Unlock screw type	Normal	Manual unlocking
Cross shaped screwdriver		

- When dealing with power outages or emergencies, the emergency unlocking button can be manually operated.
- When rotating the emergency unlocking button, it is necessary to rotate it to the bottom, otherwise there is a risk of damaging the switch or not being able to operate normally.
- Please control the torque of the emergency unlocking key below 0.2N.m, otherwise there is a risk of damage.
- After each use of the emergency unlocking button to unlock and handle an emergency situation, reset the emergency unlocking button, otherwise it will affect
- The normal locking function of the switch may pose a risk of personal injury or safety accidents.
- Only device administrators can operate the emergency unlock button. (Refer to safety precautions 02)

## ■ Usage environment

Do not immerse the switch in oil or water, or use the switch in a position where it is continuously splashed with oil or water.

Otherwise, it may cause oil or water to enter the interior of the switch.

The IP67 protection level of the switch specifies the water inflow after the switch is immersed in water for a certain period of time.

**DADISICK**®

**Dongguan Dadi Electronic Technology Co., Ltd**

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