

# User Manual

- \* Adopts radio frequency induction coding technology, with higher security and confidentiality;
- \* Strong anti-interference, safe and reliable;
- \* Universal coding type and single coding type optional;
- \* Prevents abnormal human triggering;
- \* Sensors can be activated from 3 sides;
- \* Supports up to 30 sensors cascaded;
- \* Standard size actuators and flat actuators optional.

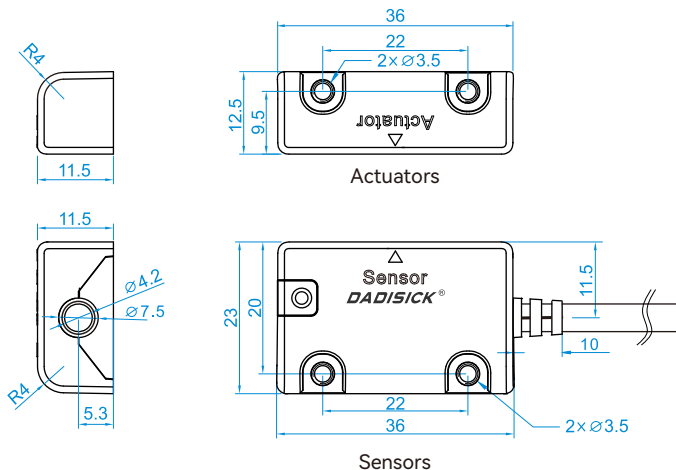


## Model Specifications

Safety standards	ISO13849-1, IEC/EN60947-5-1, IEC/EN60947-5-3
Safety classification	Class 4 switch with ISO 13849-1/suitable for PLe/PLd
Certification	CE
Horizontal distance	Conduction, min: 10mm
Vertical distance	Conduction, min: 8mm
Operating voltage	24V DC±15%
Operating current	30mA
Output current	150mA
Response time	60ms
Protection level	IP65, IP67 (customized)\IP68 (customized)
Operating frequency	1Hz
Operating temperature	-10 ~ +55°C
Relative humidity	5 ~ 95%
Material	Anti-flame retardant thermoplastic

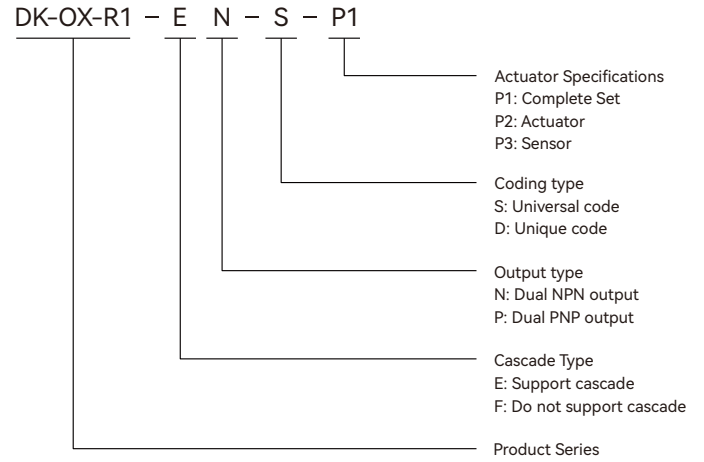
Note 1: Universal coded sensors and actuators can be randomly paired for use;  
 Note 2: When the unique coded type is used for the first time, the sensor will record the actuator code for pairing. After pairing is completed, the sensor can only recognize the current actuator. If you need to re-pair the actuator, please contact our technical support.

## Dimensions (Unit: mm)



## Model Rules

- Selection example: DK-OX-R1-EN-S-P1



Note\* The default cable length is 2m.  
 If you need other lengths, please contact customer service.

## Model Description

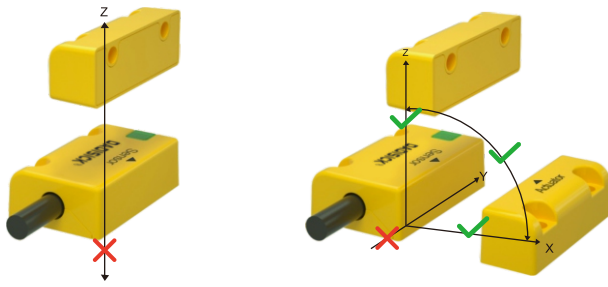
Model	Specifications
DK-OX-R1-FN-S-P1	4-core direct outlet dual-channel NPN output 2M line
DK-OX-R1-FP-S-P1	4-core direct wiring dual PNP output 2M line
DK-OX-R1-EN-S-P1	6-core direct wiring dual NPN output with cascade 2M line
DK-OX-R1-EP-S-P1	6-core direct wiring dual PNP output with cascade 2M line
DK-OX-R1-FN-D-P1	4-core direct wiring dual NPN output 2M line Actuator with unique code
DK-OX-R1-FP-D-P1	4-core direct wiring dual PNP output 2M line Actuator with unique code
DK-OX-R1-EN-D-P1	6-core direct wiring dual NPN output with cascade 2M line Actuator with unique code
DK-OX-R1-EP-D-P1	6-core direct wiring dual PNP output with cascade 2M line Actuator with unique code

## Indicator status

Led Display	Signal Status		Status Description
	Input	Output	
Red light always on	Yes/No	Disconnect	No actuator or not fully aligned (universal encoding)
Red light on for 1 second and then flashes 2 times (alternatingly)	Yes/No	Disconnect	No actuator or not fully aligned (unique encoding)
Red light flashes at 4Hz	Yes	Disconnect	Output overload
Green light flashes at 1Hz	No	Disconnect	No input signal (dual output not applicable)
Green light always on	Yes	Connect	Sensing normal
Red and green lights flash alternately	Yes	Disconnect	Tag not registered

Note: When the unique code is used for the first time, the sensor will record the code of the actuator for pairing. After the safety switch is installed and the door is closed and powered on for 5 seconds, the green light on the safety switch will be on, indicating successful pairing.

## Switch approach direction diagram

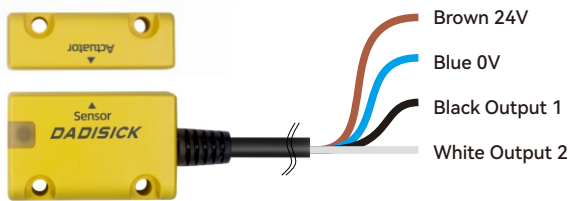


## Sensing distance

	Misalignment deviation	On	Off	Alignment indication
Horizontal alignment	Deviation in the range of $\pm 4\text{mm}$ in the X direction	Y direction sensing distance 0~8mm	Y direction sensing distance $>25\text{mm}$	
	Deviation in the X direction $>5\text{mm}$ and $<-5\text{mm}$	Not recommended		
Vertical alignment	Deviation in the range of $\pm 4\text{mm}$ in the Z direction	Z direction sensing distance 0~8mm	Z direction sensing distance $>25\text{mm}$	
	Deviation in the X direction $>5\text{mm}$ and $<-5\text{mm}$	Not recommended		

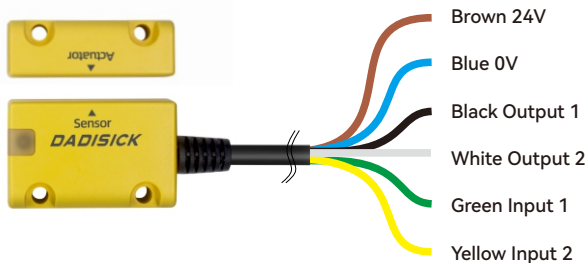
## Wiring method

- Dual-channel dual-output wiring diagram



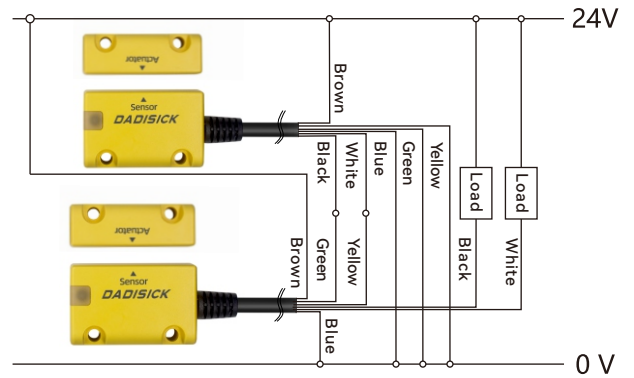
Serial number	Signal definition	Color	Description
1	24V	Brown	Power supply positive
2	0V	Blue	Power supply negative
3	Output 1	Black	Safety output 1
4	Output 2	White	Safety output 2

- Dual-channel cascade connection diagram

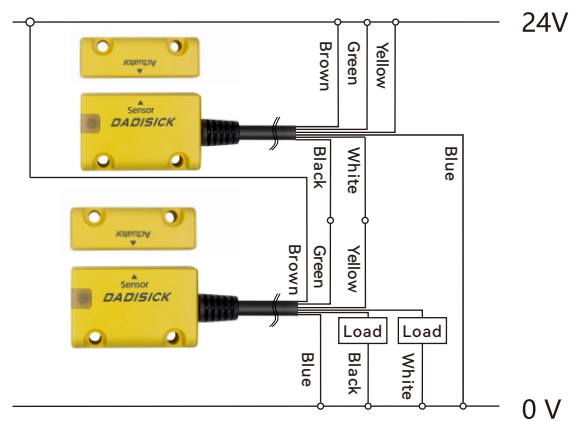


Serial number	Signal definition	Color	Description
1	24V	Brown	Power supply positive
2	0V	Blue	Power supply negative
3	Output 1	Black	Safety output 1
4	Output 2	White	Safety output 2
5	Input 1	Green	Cascade Input 1
6	Input 2	Yellow	Cascade Input 2

- Example of dual NPN output with cascade connection



- Example of dual PNP output with cascade wiring



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We reserve the right to make technical changes