

**NEW!**

# White Spot Photoelectric Sensor

SS1 - 70K5 Color Sensor



SS1 - 70K5 Full-Spectrum Sensor



**NEW!**  
**30-70mm**

Suitable for short range scenarios



## About SinceVision

Since its establishment, SinceVision has focused on 3D industrial sensors, launching products such as 3D Laser Profile, Spectral Confocal Displacement Sensor, Laser Displacement Sensors, and Through-Beam Edge Sensor. In 2021, SinceVision expanded into research and development and the defense market, introducing High-Speed Cameras and multiple product lines, with dozens of series now in mass production. Furthermore, our mature products, particularly 3D Laser Profile, have achieved some world-leading performance parameters, gradually becoming a new benchmark in the industry.

Today, SinceVision is increasingly recognized in automation. We have served hundreds of customers, with our products reaching major domestic and international brands in consumer electronics, lithium batteries, and photovoltaics. We are tirelessly promoting refined product solutions tailored to specific fields, empowering various industries with our products and services. From semiconductors and panels to automotive and rail transit, and from plastics and films to food and textiles, we contribute to cost reduction and efficiency enhancement across multiple sectors.

As labor costs rise and product quality upgrades, the future of industrial automation is unstoppable. With years of experience in 3D industrial sensor research and development, SinceVision has developed a comprehensive R&D platform encompassing optics, mechanics, electronics, and software, along with a mature production control system. In the future, we will relentlessly improve our R&D platform and build a world-class industrial product development team. With the craftsmanship of SinceVision's people, we will continue to tackle high-end sensors, ensuring that Chinese automation has reliable domestic products and trusted national brands.

In order to provide our customers with fast and convenient services, we have set up many offices in China and overseas.

### China

Shenzhen, Suzhou (Kunshan),  
Shanghai, Wuxi, Beijing,  
Chengdu, Ningde, Taiwan,  
Wuhan, Xi'an, Hefei, Dongguan

### Overseas

South Korea, Vietnam, Thailand,  
Malaysia, Singapore

# MILESTONE

2014

**April**

Shenzhen SinceVision Technology Co.,Ltd. was officially established

2016

**March**

Released the first generation of 3D Laser Profiler the SR7000 series.

2017

**March**

Obtained the titles of "National High-tech Enterprise" and "Shenzhen Industrial Stable Growth Enterprise."

2018

**March**

Released 3D laser profile the SR8000 series

**August**

SinceVision completed Round A financing

2021

**March**

Released 3D Laser Profiler the SR9000 series

**September**

SinceVision completed Round B financing

**December**

Released Laser Displacement Sensor - the SD series

2020

**March**

Released 3D Laser Profiler the SR5000 series

**June**

Released Spectral Confocal Displacement Sensor - the SC series

**December**

Established offices in Chengdu and Beijing, expanding services to the Southwest and North China regions.

2019

**March**

The East China office was officially established in Kunshan to serve the Yangtze River Delta region.

**November**

SinceVision completed Round A+ financing

**December**

Released Laser Displacement Sensor the SG series and the SGI series

2022

**April**

SinceVision completed Round B+ financing, co-led by MPC and GL Ventures. SinceVision entered the scientific research and defense markets, launching the first generation of High-Speed Camera - the SH6 series.

**September**

SinceVision obtained "CE Certification," "FCC Certification," "KC Certification," "Precision Certification," "ISO9001 Certification," "ISO14001 Certification," and "Social Accountability Management System Certification."

**December**

Released Through-Beam Edge Sensor - the SE1 series  
Established offices in Dongguan, Hefei, Xi'an, and other regions, covering nationwide services.

2023

**June**

Released High-Speed Camera the SH3 series and Through-Beam Edge Sensor- the SE2 series

**September**

SinceVision completed Round C financing, led by the Advanced Manufacturing Fund managed by SDIC Fund Management Co., Ltd., with follow-on investment from GL Ventures. SinceVision was awarded the title of "National new special 'Small Giant' Enterprise."

**October**

Formally established the International Department, developing markets in Southeast Asia and Europe, with a service network covering the globe.

2024

**February**

Released 3D Laser Profiler the SRI series

**March**

Released white light spot photoelectric sensor - the SS1series and Laser Displacement Sensor - the SDC series

**June**

Released High-Speed Camera-the SH2 series and Spectral Confocal Displacement Sensor- the SCI series

## Stable Detection of Color Differences

SinceVision Full-Spectrum sensor is an advanced optical detection equipment designed specifically to meet the needs of industrial automation and quality control. It combines the latest optical and electronic technologies to accurately and quickly identify and distinguish



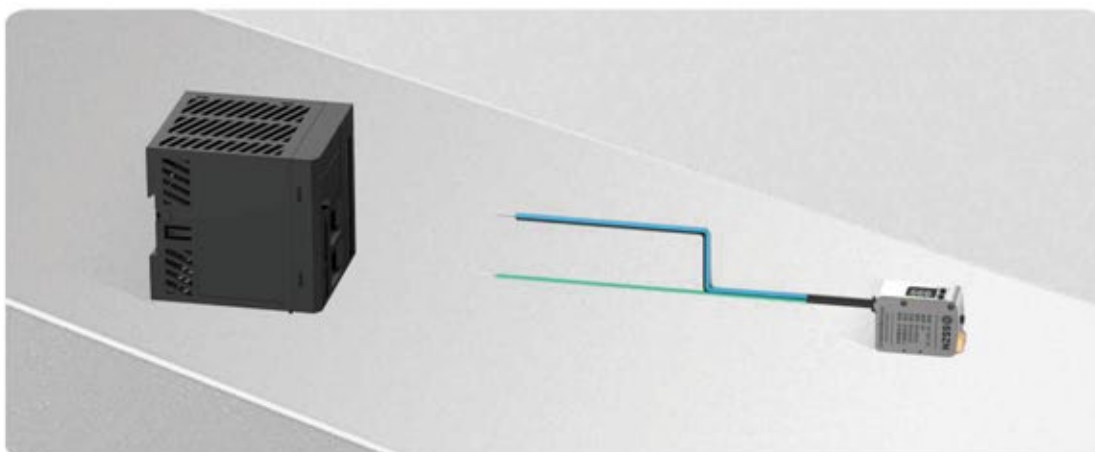
### White light spot

The wavelength range is much larger than that of monochromatic light sources, and the automatic adjustment of the luminous power can accurately identify from dark to bright.

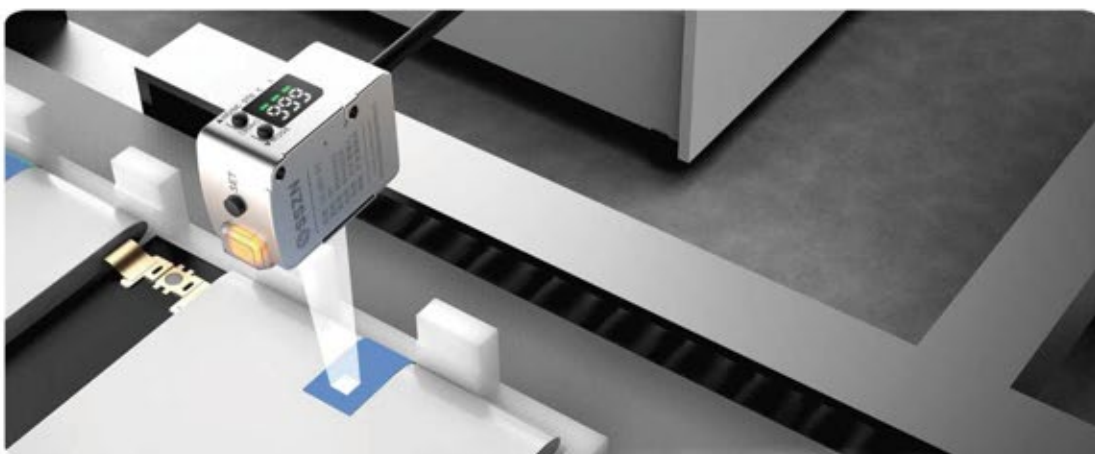


### The change in distance and the angle of inclination

can be stably detected, allowing for differences between workpieces, and tuning can be added.



**RS485 Communication** Transmission of measurement values or configuration of sensor parameters, meeting the requirements for remote control and data monitoring



**High dynamic range photosensitive elements** have ultra-high color resolution and can accurately detect small color differences.



**Multiple mode setting functions** Multiple mode setting functions match your various application environments, making detection more accurate.

## Convenient and reliable appearance structure

Compact design, concise dimension, space saving  
with aluminum alloy shell, sturdy and durable, free of copper, nickel, and zinc



## Clear digital display

makes the detected value clear and readable.



## IP67 Waterproof

easily to adapt in damp environments



## One button for all

with a teaching button [SET] for easy operation, and a big LED indicator for easy identification in connection or disconnection.



## Space-saving design, for tiny workpieces

meets that detection in complex installation environment.

## Application Cases

### Label Detection for New Energy Industry

Application scenario: used for defective label and tail label detection of die-cutting sections and winding stacking sections in the production process of lithium batteries.

Advantages: the sampling frequency is high, which can be adapted to high-speed production lines, and the detection stability is strong, which can prevent missed detection caused by material shaking.

### Adhesive Tape Detection


Application scenario: detect tapes of battery cells in new energy industry to prevent battery cell scattering caused by lack of tapes.

Advantages: adhesive tape detection can be set with one click, and the color identification based on RGB principle makes the setting fast and accurate.



## Detection of Positive and Negative Electrodes of Batteries

Application scenario: Color recognition detection of connecting pieces after pairing of battery cells in new energy industry, accurately identifying positive and negative connecting pieces.  
Advantages: Based on RGB color identification, it's very good compatible with metal materials and strong detection stability.



## Detection of Blue Film in Battery Cells

Application scenario: detect blue films of battery cells in the post-process of battery production in new energy industry.  
Advantages: Blue film detection can be set with one click, and color identification based on RGB principle makes the setting fast and accurate.

## Application Cases

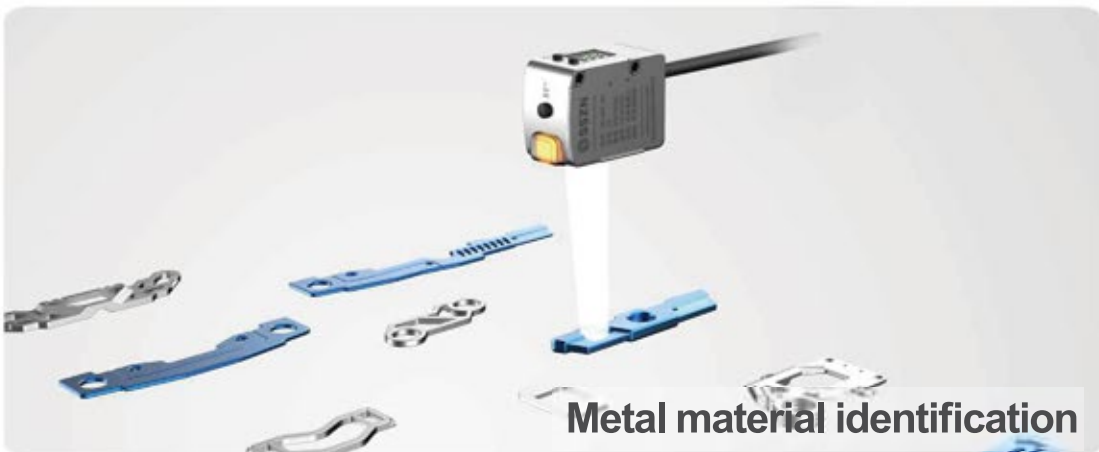
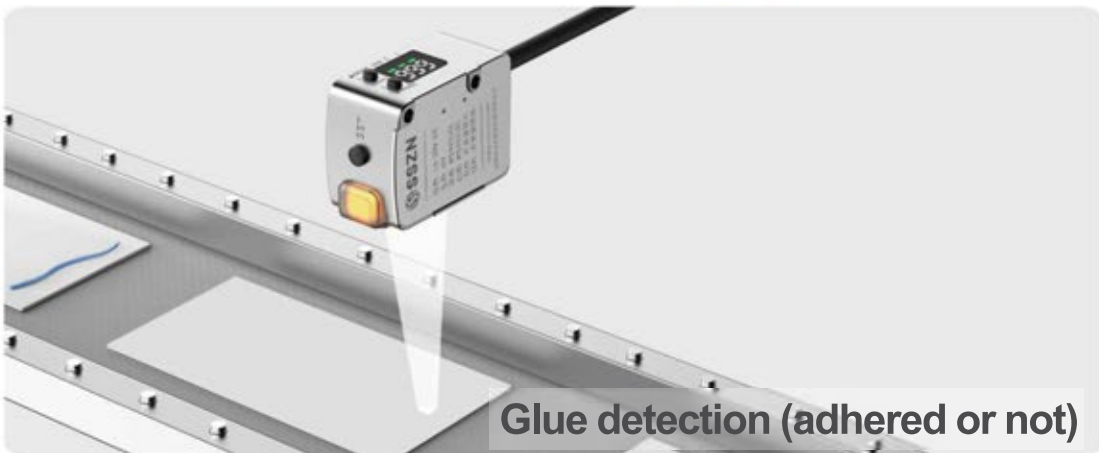
### Electrode Positioning Detection for Cutting

Application scenario: On the winding equipment, to detect colorful adhesive tapes (semi-transparent, light-blue, light-yellow, green) attached to the electrodes of batteries, so that to position and cut the battery electrodes.  
Advantages: High resolution, high response frequency.

### Product Color Recognition

Application scenario: Identify the colors of incoming products in the production line and accurately classify products of different colors.  
Advantage: It can distinguish the product categories by color in the production line. Based on RS485 communication, the operation and wiring are convenient.

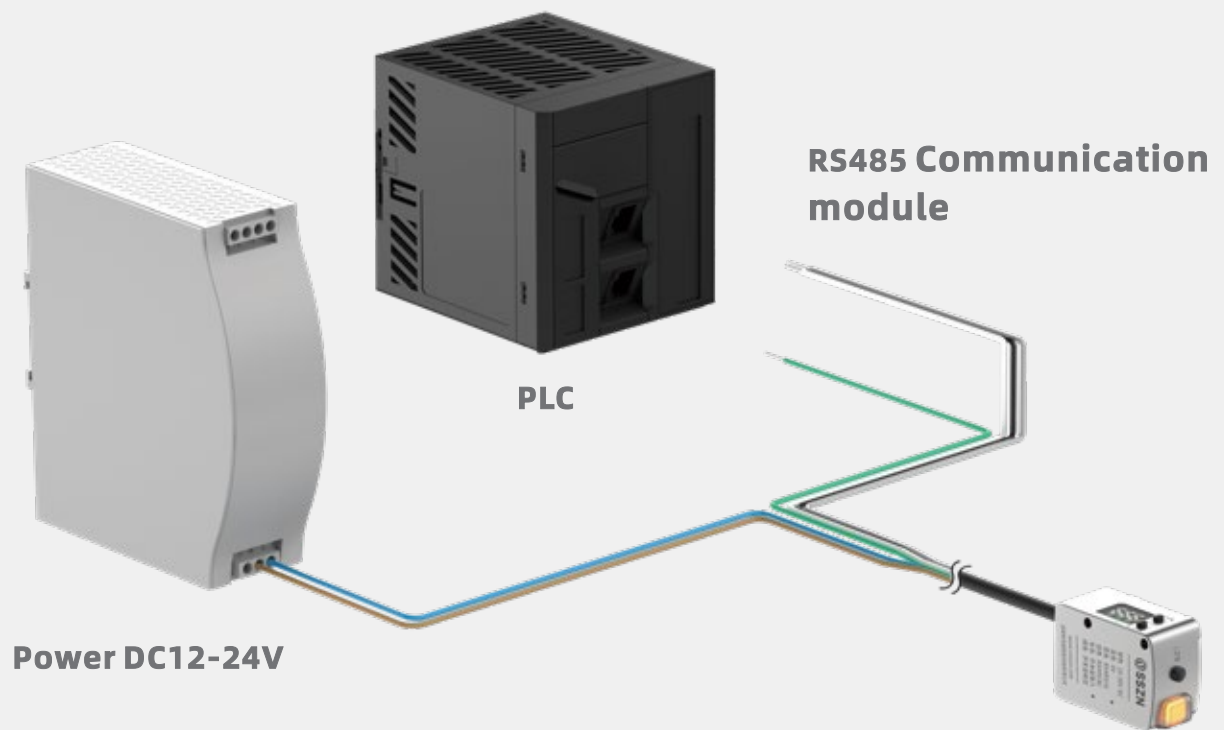
## Other Application Cases



# System Configuration

## System Configuration - RS485 Communication

1. RS485 communication adopts differential signal transmission method, with strong anti-interference ability and high reliability of data transmission.
2. Supports long-distance data transmission (Modbus RTU protocol), suitable for data transmission in industrial control system.
3. Industrial automation and control systems that support multiple devices connecting to the same BUS, suitable for data exchange and communication between multiple devices.
4. Support high data transfer rates, typically reaching around 10Mbps, to meet industrial application requirements.



# Main Technical Specifications of Sensors



Colorful label series      Measured range      Sampling frequency      2 meters cable

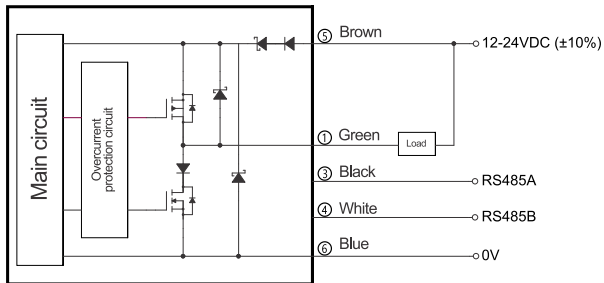
5KHZ

Product naming rules: **SS1-70K5-2M**

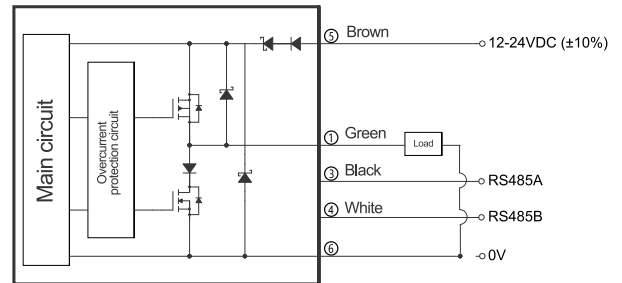
Model		SS1-70K5-2M
		With cable
Measured range		30-70mm
Minimum spot size		4.5 x 4.5mm <sup>2</sup> . Measurement range 50mm
Response time		200μs/500μs/1ms/10ms/100ms/500ms, Switchable
Light source		White LED
Interference reduction		Set different frequencies. Support two sets
Timer		Off / Switch on Delay / Switch off Delay / Single time
Communication methods		I/O, RS485
Power supply	Voltage	10~30 VDC , including ±10% ripple (P-P), class 2 or LPS
	Current	≤60 mA, 24 VDC (without load) < 110 mA, 12 VDC (without load)
I/O	Control output	PNP/NPN Open Collector, switchable N.O./N.C. switchable
	External input	Calibration/stop lighting, switchable Short circuit current: NPN:≤1mA / PNP:≤2 mA
Protection circuit		Power reversed connection protection, power surge protection, output overcurrent protection, output surge protection, output reversed connection protection
Environmental resistance	Waterproof	IP67
	Ambient light	Incandescent light: ≤10000 lx; Sunlight: ≤20000 lx
	Ambient humidity	-20 ~ 50°C (No freezing)
	Relative humidity	35 ~ 85%RH (No condensation)
	Shock resistance	1000m/s <sup>2</sup> , 6 times each in X, Y, and Z directions
Vibration resistance		10~55Hz, 1.5mm double amplitude for 2 hours each in X, Y, and Z directions
Materials		Shell: Aluminum alloy
		LED Indicator cover: PC/PMMA
		Button: PC+ABS
		Lens cover: glass; Display cover plate: PMMA with coating to prevent damage
		Cable: PVC, load temperature 30-50 °C, high voltage test 300V (AC) leakage current not exceeding 2mA, insulation test 300V (DC) insulation resistance not less than 20M Ω, with shielding (maximum length: 10 meters)
		Weight: 107g, including cables

# I/O Circuit Diagram and Structural Dimension

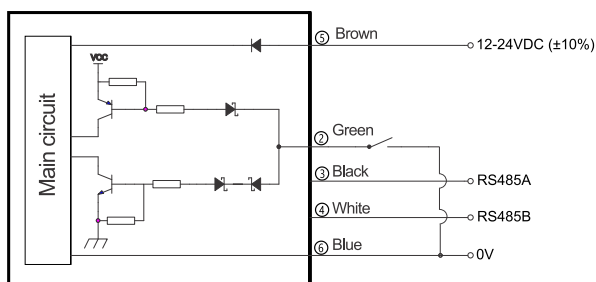
## NPN Output



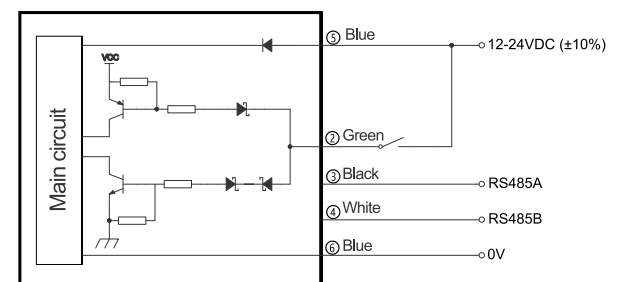
## PNP Output



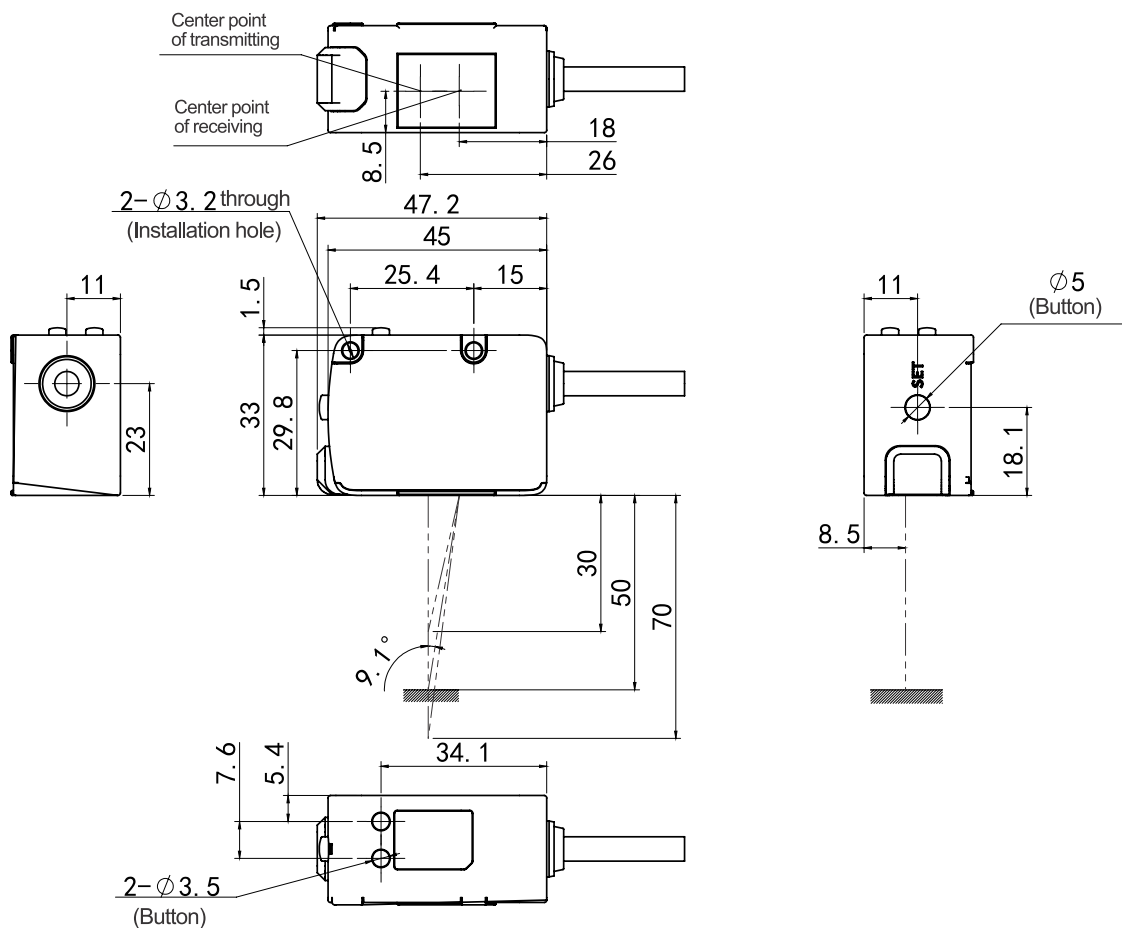
## NPN Input



## PNP Input



## Structural Dimension







SS1 - 70K5 Full-Spectrum Sensor

● Service covering:

China: Shenzhen, Suzhou (Kunshan), Shanghai, Wuxi, Beijing, Chengdu, Ningde, Taiwan, Wuhan, Xi'an, Hefei, Dongguan  
Overseas: South Korea, Vietnam, Thailand, Malaysia, Singapore

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YouTube Account

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