

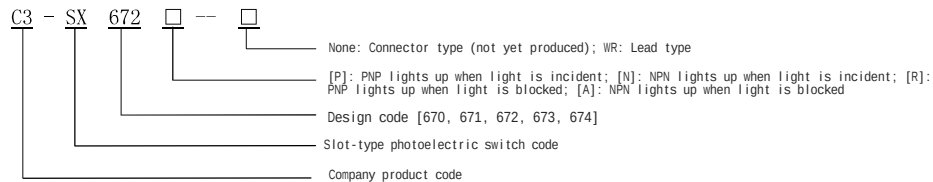
Preface

Thank you very much for using Clin's products. For safe and reliable use, please be sure to read this instruction manual before installation and use, understand the precautions, and keep the manual properly as far as possible.

I.Application

The C3 - SX67□ series slot-type photoelectric switch is a sensor that realizes non-contact detection. It uses the detected object to block the light beam and converts it into a switch output through a synchronous circuit. Thus, it can detect opaque objects with a minimum size of 0.8×2mm and a thickness not greater than 5mm (the width of the slot). Slot-type photoelectric switches are mainly used in automatic monitoring, automatic control, automatic counting and other automation equipment and devices.

II.Model and Its Meaning



III.Product Features

- 3.1 The product has a high waterproof rating, reaching IP67, and can be applied in harsh environments.
- 3.2 There are multiple installation methods to meet different usage spaces.
- 3.3 It has a high-speed response frequency of 1kHz.
- 3.4 It has ON when light is blocked / ON when light is incident (switchable type) operation modes.
- 3.5 It has a wide voltage range of 5 - 24VDC.
- 3.6 The red indicator light has strong visibility.
- 3.7 The product complies with the national standard GB/T14048.10.

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IV.Operating Conditions

- 4.1 Ambient Temperature: The proximity switch shall operate within the temperature range of -25°C~+75°C, and its operating characteristics shall remain unchanged.
- 4.2 Altitude: The installation altitude shall not exceed 2000m.
- 4.3 Atmospheric Conditions: When the maximum temperature is +40°C, the relative humidity of the air shall not exceed 50%. At lower temperatures, a higher relative humidity is allowed, for example, up to 90% at 20°C. Special measures shall be taken for condensation occasionally caused by temperature changes.
- 4.4 Pollution Degree: Grade 3.

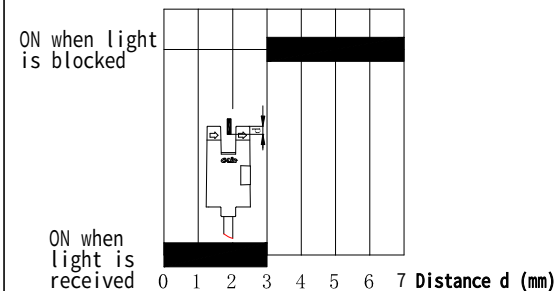
V.Technical Performance and Parameters (See the following table)

Item	Performance and Parameters
Working Voltage Range	5-24V DC
Light-Emitting Element	Infrared light-emitting diode, wavelength 940nm
Detection Distance	5mm (groove width)
Current Consumption	<25mA
Output	NPN output type, PNP output type
Maximum Load Current	100mA
Minimum Detectable Object	Opaque object of 0.8mm×2mm
Residual Voltage	Below 1.0V (at load current 50mA)
Response Frequency	1kHz (maximum 3kHz)

②

Switching Mode	L.on (operates when light is received), D.on (operates when light is blocked)
Repeatability	Below 0.025mm
Protection Circuit	Reverse polarity protection, Overload protection
Ambient Illumination	Illuminance on light-receiving surface: Incandescent lamp: Below 1000LUX
Ambient Temperature	During operation: -25°C~+55°C; During storage: -30°C~+80°C, no freezing
Connection Method	Wire lead type (four wires)
Withstand Voltage	AC 1000V for 1min between all power supply terminals and the housing
Vibration Resistance	Frequency 10Hz~2000Hz, Double amplitude 1.5mm (maximum acceleration 196m/s ²), XYZ directions for 2 hours
Impact Resistance	Acceleration 15,000m/s ² (approx. 1,500G), XYZ directions 3 times each
Insulation Resistance	Between all power supply terminals and the housing: Above 20MΩ, based on a DC250V megohmmeter
EMC Indicators	Electrostatic test: Air discharge 8kV, Electrical fast transient burst
Protection Grade	IP67
Material	ABS

VI.Detection Position Characteristics (See the figure below)



VII.Input and Output Circuit Diagram (See the following table)

Important Notice: When operating in the "ON when light is blocked" mode, do not short-circuit the L terminal and 0V terminal.

Model	Output	Operation Mode	Timing Diagram	Connection Terminals	Output Circuit
C3-SX670-WR C3-SX671-WR C3-SX672-WR C3-SX673-WR C3-SX674-WR	NPN Output	ON When Light is Received		ⓐ Short-Circuited with ⓐ	
		ON When Light is Blocked		ⓐ Open-Circuited with ⓐ	
C3-SX670A-WR C3-SX671A-WR C3-SX672A-WR C3-SX673A-WR C3-SX674A-WR		ON When Light is Received		ⓐ Short-Circuited with ⓐ	
		ON When Light is Blocked		ⓐ Open-Circuited with ⓐ	

③

C3-SX670P-WR C3-SX671P-WR C3-SX672P-WR C3-SX673P-WR C3-SX674P-WR	PNP Output	ON When Light is Received	Light Received Light Blocked Light On Light Off OK Operation Reset	When Q and @ are Short-Circuited
		ON When Light is Blocked	Light Received Light Blocked Light On Light Off OK Operation Reset	When Q and @ are Short-Circuited
		ON When Light is Received	Light Received Light Blocked Light On Light Off OK Operation Reset	When Q and @ are Short-Circuited
		ON When Light is Blocked	Light Received Light Blocked Light On Light Off OK Operation Reset	When Q and @ are Short-Circuited

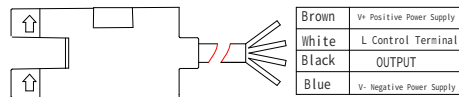
Light-Receiving Indicator (Red)

DC 5-24V

Load

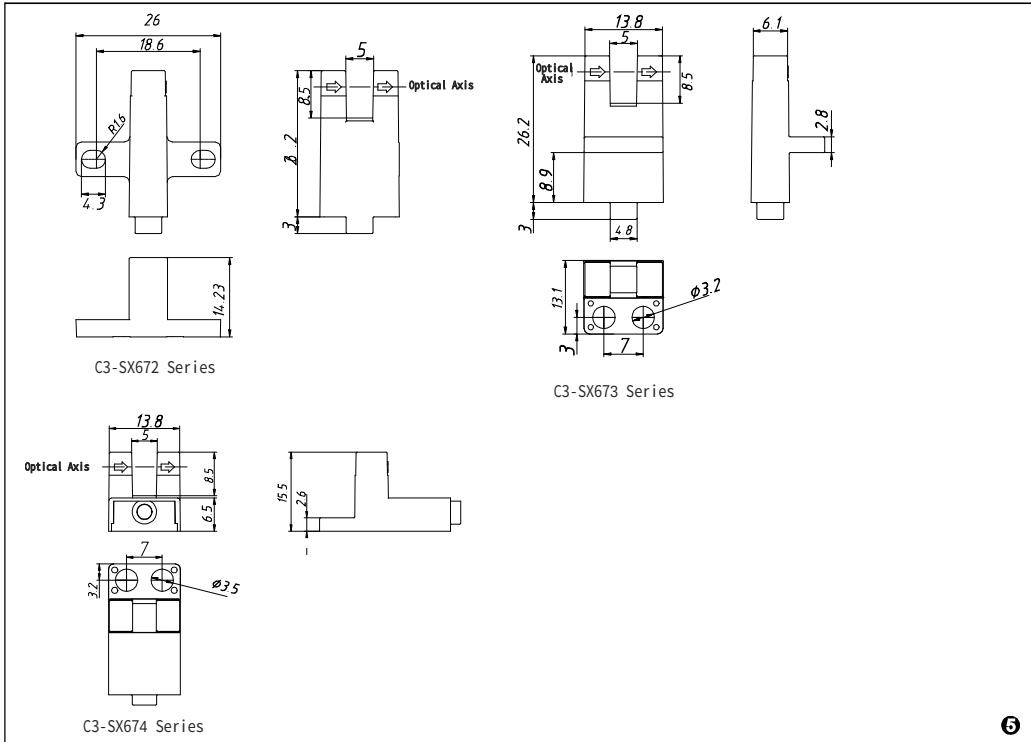
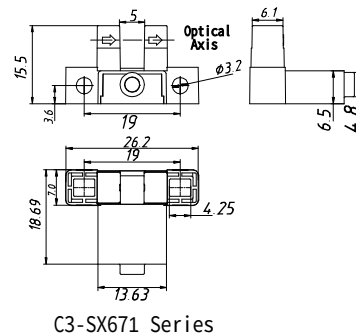
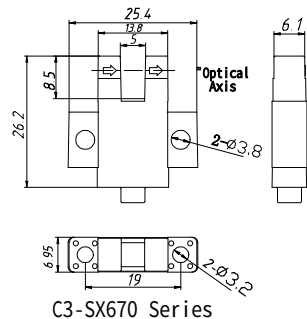
VIII. Precautions

8.1 Terminal Identification (See Figure 2)



- 8.2 Do not exceed the rated operating range and environmental conditions during use.
 8.3 This product is not intended for direct or indirect detection of the human body and must not be used as a detection device for human protection.
 8.4 Please specify the complete model and specification when placing an order.

IX. Outline and Installation Dimensions



产品合格证

符合标准: GB/T 14048.10

检验员: 407

出厂日期: 见产品或包装

本产品经检验合格, 准予出厂。

C-Lin 欣灵电气股份有限公司
XINLING ELECTRICAL CO., LTD.

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使用说明
Products Instructions

C-Lin

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C3-SX67

Series Slot-Type Photoelectric Switch

Thank you very much for using C-Lin Brand Proximity Switch. Please read the instruction manual before using the product!