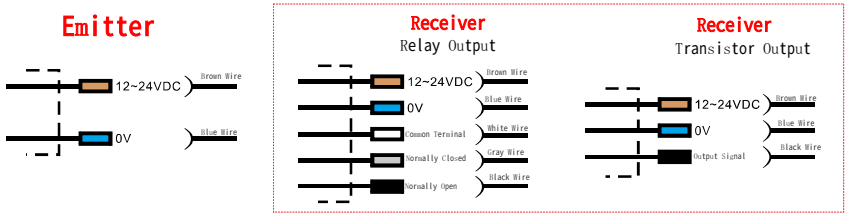
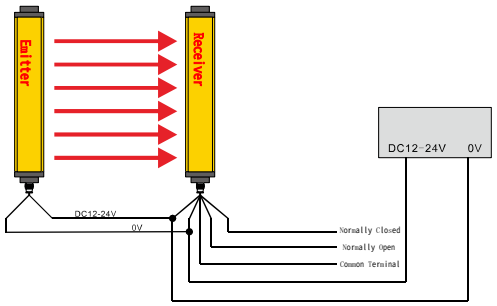
VI. Wiring Instructions



The connecting cables of the safety light curtain sensor are connected to the emitter and receiver respectively via aviation plugs. (Note: The emitter's connecting cable is a two-wire system — brown wire, blue wire; the receiver's connecting cable is a five-wire system — brown wire, blue wire, white wire, gray wire, black wire.)
Connect the brown wires of the emitter and receiver cables to the positive pole of the device power supply (DC12-24V) respectively, and the blue wires to the negative pole. Connect the black wire (normally open) and gray wire (normally closed) to the input terminal as required by the device. For high-level output (PNP), connect the white common wire to the positive pole of the brown wire; for low-level output (NPN), connect the white common wire to the negative pole of the blue wire.
It is recommended to separate the input and output wires of the safety light curtain sensor from cables with high frequency, high voltage, or strong current (such as power lines, high-voltage lines, and other signal lines) during wiring and cabling to avoid significant interference.



According to different object sizes and shapes, different measurement methods can be determined: there are mainly three installation methods for measuring light curtains.

Measurement Method with Baseline

Position the lowest first light beam at a distance of one optical axis spacing (H1) from the measurement baseline. In this way, the actual measured size basically reflects the actual size of the measured object.

Actual Size of the Object

Size of the measured object (S) = Actual measured size (H)
Actual measured size (H) = Number of blocked light beams (N) * Optical axis spacing (H1)

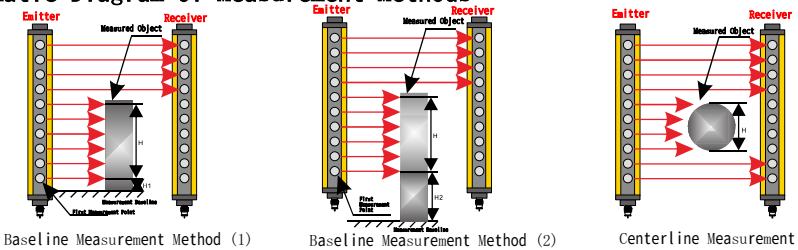
Extended Baseline Measurement Method

Position the lowest first light beam at a certain extended distance (H2) from the measurement baseline. After the actual measured size plus the extended distance is processed by the backend program, it basically reflects the actual size of the measured object.
Size of the measured object (S) = Actual measured size (H) + Extended distance (H2)
Actual measured size (H) = Number of blocked light beams (N-1) * Optical axis spacing (H1)

Centerline Measurement Method

Position the measurement position of the measured object as close as possible to the center of the light curtain. In this way, the actual measured size basically reflects the actual size of the measured object.
Size of the measured object (S) = Actual measured size (H)
Actual measured size (H) = Number of blocked light beams (N-1) * Optical axis spacing (H1)

Schematic Diagram of Measurement Methods



Baseline Measurement Method (1) Baseline Measurement Method (2) Centerline Measurement

VII. Installation Instructions

1. The ambient temperature for installation and use should be within the range of -5℃ to +55℃.
2. The relative humidity for installation and use should be within the range of 15% to 85%.
3. The environment for installation and use should be free of corrosive gases, liquids, etc.
4. It should be installed and used in places with less dust, oil and gas, metal powder, etc.
5. It is better to supply power to this product independently, not together with power and frequency conversion systems.
6. Its input and output wires should preferably be separated from cables with high frequency, high voltage and strong current, such as power lines, high-voltage lines and other signal lines, during power distribution and wiring to avoid possible interference.

VIII. Installation Examples

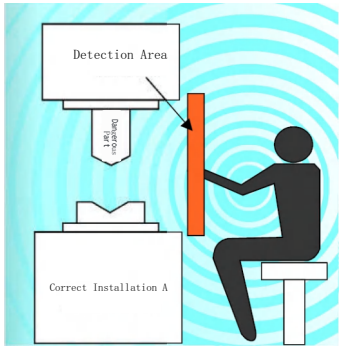


Figure 1

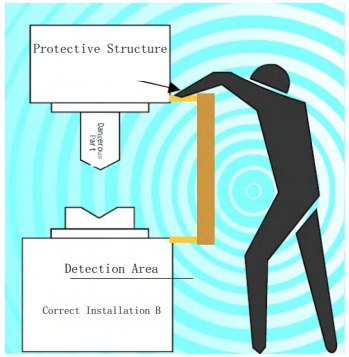


Figure 2

IX. Maintenance and Overhaul

1. Before each shift, it is necessary to check whether the light protection device controls the machine tool normally.
2. Do not change the position of the light protection device at will during use.
3. After changing the mold, the person in charge must adjust the installation position of the safety distance of the photoelectric protection device.
4. When a fault occurs, professional personnel should carry out the maintenance.
5. When disassembling and assembling the photoelectric protection device and transmission line, the power supply should be turned off first, and the operation should be performed by professional personnel.
6. During use, be careful not to let workpieces, tools, waste materials, etc. collide with the photoelectric protection device.
7. When using a photoelectric protection device equipped with a reset button, after each shading causes the machine tool to stop, when restoring the light transmission, the light transmission reset must be performed before the machine tool can run or start again.
8. The inspection and maintenance of the photoelectric protection device are very important for ensuring professional safety against impacts. In order to use the photoelectric protection device fully and effectively, it should be inspected and maintained regularly.

X. Environmental Protection and Other Legal Provisions

In order to protect the environment, when this product or its components are scrapped, please properly dispose of them as industrial waste; or hand them over to a recycling station for classified disassembly, recycling and reuse in accordance with relevant national regulations.

XI. Ordering Information

When selecting sensors, please specify the model specification and quantity. Example: C8004MCBC03G-G, 10 sets, indicating the model C8004MCBC03G-G and the quantity is 10 sets.

C-Lin
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Technical Consultation: 400-8236-775

RECYCLABLE

C-Lin 欣灵

使用说明书
Products Instructions

产品合格证

C-Lin
产品合格证

符合标准: GB/T 14048.10
检 验 员: 检07
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 ELECTRIC CO.,LTD

C8 Series Light Curtain Sensor

Thank you very much for using C-Lin brand sensors. Please read the instruction manual before using the product!

Ⅰ.Overview

The C8 series infrared scanning light curtain is a light curtain sensor developed with the most advanced foreign technology currently available. It is manufactured through automated processes using Europe's latest optical synchronization technology and digital synchronization technology, and the product achieves a non-blind area performance design. This product takes CPU as the core and realizes advanced periodic scanning, avoiding the external interference caused by the original line synchronization and the inconvenience caused by installation. Inside, single-chip microcomputers and microprocessors are used for digital program control, enabling the infrared transceiver unit to be in a high-speed scanning state, forming an infrared light curtain warning barrier. When people or objects enter the light curtain barrier area, the control system quickly converts and outputs a level signal, making the load automatically turn off normally, thereby achieving the purpose of safety protection.

Connection method: Circular socket, equipped with a special connecting cable. Appearance material: Aluminum alloy and high-temperature resistant plastic. Ambient temperature: -5~40℃.

The sensor meets the requirements of GB/T 14048.10 standard.

Ⅱ.Normal Working Conditions and Installation Conditions

1. Altitude: Not exceeding 2000m.
2. Working Environment: Temperature -5℃ - 55℃; Humidity 25% - 85% RH.
3. Ambient Light: Maximum 10000Lux; Incandescent Lamp: 3000Lux (Incident Angle ≥5°)
4. Installation Angle: 0 - 15° (1m) beyond the specified pointing angle. The detection distance is optional from 0.3 - 5m.
5. Installed in a place without significant shaking, impact and vibration.
6. Shell Protection Class: IP67.

Ⅲ.Model Description

C8 006 C NC B C 03G -F

- F: G: Optical synchronization F: Waterproof and dustproof
- 03G: Sensing distance; options: 03G (3m sensing distance), 05G (5m sensing distance)
- C: Mounting bracket; options: C (L - type side mounting bracket), E (Upper and lower mounting bracket)
- B: Structural dimension, B stands for 30mm×30mm
- NC: Output type; other options: NO (NPN Normally Open), PC (PNP Normally Closed), PO (PNP Normally Open), SNC (Dual NPN Normally Closed), SNO (Dual NPN Normally Open), SPC (Dual PNP Normally Closed), SPO (Dual PNP Normally Open), MC (Relay Normally Closed), MO (Relay Normally Open)
- C: Light axis spacing, with options: A (10mm), C (20mm), D (30mm), F (40mm)
- 006: Number of light axes, optional values: 4, 6, 8, 10, 12, 14, 16, 18, 20.....300
- C8: C8 Series

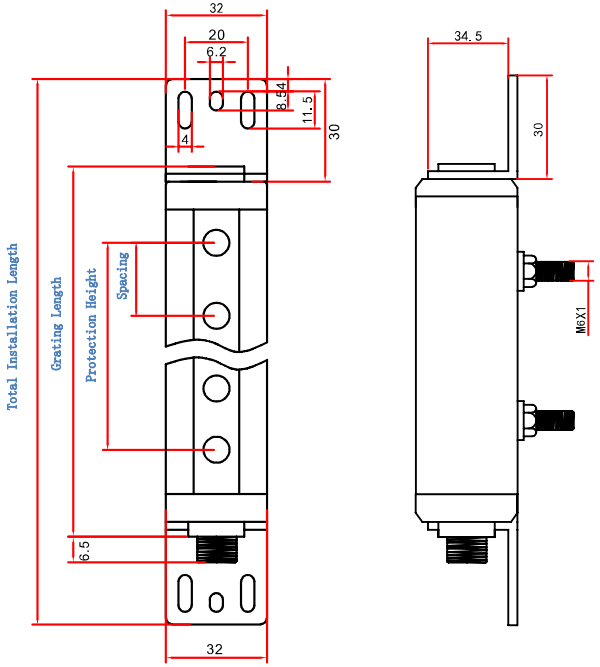
Ⅲ. Model Description

C Series Model Specification	F Series Parameters
C8004CNCBC03G	C8004FNCBC03G
C8006CNCBC03G	C8006FNCBC03G
C8008CNCBC03G	C8008FNCBC03G
C8010CNCBC03G	C8010FNCBC03G
.....	.....
C8048CNCBC03G	C8048FNCBC03G

Note: The above models are for your reference. For other models, please refer to the model composition.

Parameter Item	C Series Parameters	F Series Parameters
Number of Light Axes	4、6、8...48	4、6、8...48
Light Axis Spacing	20mm	40mm
Detectable Object	ϕ25	ϕ45
Total Installation Height	183、223...1068	263、343...2028
Detection Distance	0.1-5m	
Working Voltage	24±10%VDC; Rippl(Ripple)±20% P-P max	
Current Consumption	30mA	
Output Mode	Relay Output	
Power Consumption	≤5W	
Protection Circuit	Polarity Protection and Instant Reverse Polarity Protection	
Residual Voltage	≤1V	
Anti-light Interference	Maximum Ambient Light: 10000Lux Incandescent Lamp: 3000Lux (Incident Angle ≥5°)	
Insulation Resistance	≥20MΩ Min(500VDC)mega ohms	
Anti-vibration	Anti-vibration: 10-55Hz (Cycles per minute) Complex Amplitude 1mm, 2 hours in X, Y, Z directions	
Anti-impact	Anti-impact: 500m/s² (50g), 3 times in X, Y, Z directions	
Response Time	10-34ms max	
Reset Time	Output Reset Time <200ms	
Protection Class	IEC IP-67	
Connection Method	Cable Connector	
Housing Material	Aluminum Alloy, Upper and Lower Covers: Reinforced Nylon	
EMC Standard	ESD: 8KV Air chage (Level 3)/EN-61000-4-2/Buret test: 2 KV/EN61000-4-4; RF Interference: 10V/M/EN50140	
Installation Method	Grooved Installation	

Ⅴ.Installation and Outline Dimension Drawing (mm)



Note: Dimension deviation is ±3mm, subject to the actual product.

Number of Light Axes	Light Axis Spacing	Protection Height	Grating Length	Total Installation Height	Light Axis Spacing	Protection Height	Grating Length	Total Installation Length
04	20mm	60mm	133mm	183mm	40mm	120mm	213mm	263mm
06		100mm	173mm	223mm		200mm	293mm	343mm
08		140mm	213mm	263mm		280mm	373mm	423mm
10		180mm	258mm	308mm		360mm	458mm	508mm
12		220mm	298mm	348mm		440mm	538mm	588mm
14		260mm	338mm	388mm		520mm	648mm	668mm
16		300mm	378mm	428mm		600mm	698mm	748mm
18		340mm	418mm	468mm		680mm	778mm	828mm
20		380mm	458mm	508mm		760mm	858mm	908mm
22		420mm	498mm	548mm		840mm	938mm	998mm
24		460mm	538mm	588mm		920mm	1018mm	1068mm
26		500mm	578mm	628mm		1000mm	1098mm	1148mm
28		540mm	618mm	668mm		1080mm	1178mm	1228mm
30		580mm	658mm	708mm		1160mm	1258mm	1308mm
32		620mm	698mm	748mm		1240mm	1338mm	1388mm
34		660mm	738mm	788mm		1320mm	1418mm	1468mm
36		700mm	778mm	828mm		1400mm	1498mm	1548mm
38		740mm	818mm	868mm		1480mm	1578mm	1628mm
40		780mm	858mm	908mm		1560mm	1658mm	1708mm
42		820mm	898mm	948mm		1640mm	1738mm	1788mm
44		860mm	938mm	988mm		1720mm	1818mm	1868mm
46		900mm	978mm	1028mm		1800mm	1898mm	1948mm
48		940mm	1018mm	1068mm		1880mm	1978mm	2028mm