



AUZ

Industrial sensors Comprehensive catalog

Industrial Sensors Comprehensive Catalog 2025-2026

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2025-2026

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- Photoelectric
- Fiber Optic
- Color/Liquid/Corr
- Proximity
- Measurement
- Barcode Reader
- Communication M
- Dust-Free Drag Ch
- Process Control
- Detect/Eliminate Static
- Fiber Optic

Photoelectric Sensor

A-01



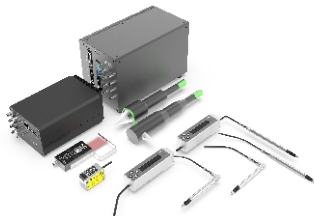
Color/Liquid/Correction

C-01



Measurement Sensor

E-01



Communication Module

G-01



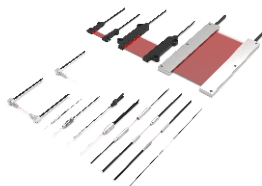
Process Control Sensor

I-01



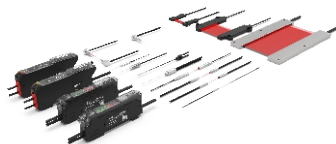
Fiber Optic Accessories

K-01



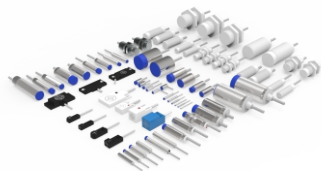
Fiber Optic Sensor

B-01



Proximity Sensor

D-01



Barcode Recognition Sensor

F-01



Dust-free Drag Chain

H-01



Static Detector and Eliminator

J-01



Committed to providing high-quality industrial sensor, measurement and inspection solutions

National High-tech Enterprise
Specialized and Sophisticated
Enterprise in Shenzhen



Our Strengths

- Excellent sensor R&D team, advanced autonomous technology and algorithms
- Rich product line with mature system, involved in various industries
- Multiple application scenarios, focusing on new energy, 3C electronics, semiconductor process and robotics industries
- Cost-effective, easy to handle, good user experience, widely recognised by customers

Sensor Catalogs

Photoelectric Sensor A-01

BGS		Ultra-Thin	A-29
Spot Beam Type	A-03		
Fixed Area Type	A-03	Compact Slot-Type	A-33
Line Beam Type	A-05		
		Slot-Type	A-41
Standard	A-09	Window-Type	A-43
Time-of-Flight (TOF)	A-13		
Compact	A-17		
Mini Laser Through-beam	A-21		
Ultra-Thin BGS	A-25		



Fiber Optic Sensor B-01

Expandable/Ultra-High-Speed/Analog Output Type	
PF-A31 series	B-03
Economical Type	
PF-A series	B-09



Color/Liquid Level/Alignment Sensor C-01

WH Light Color Sensor		Liquid Level Sensing	
CS-W500N	C-03	WT-MQ series	C-19
Multi-Channel Color Sensor		Laser Alignment Sensing	
CS-A21N	C-07	HRD-L325	C-25
Digital Display Color Mark		Single/Double Sheet Sensing	
CS-S21N	C-13	UDS series	C-29
Label Sensing Sensor			
MK series	C-17		



Proximity Sensor D-01

Inductive	
Standard	D-11
Mini	D-15
Flat-Type	D-15
Analog Output	D-25
Multi-Resistant Type	D-33
High-Pressure Resistant	D-45
Weld Spatter Resistant	D-49
Iron/Aluminum sensing only Proximity	D-53

Capacitive

Cylindrical Capacitive	D-55
Corrosion-Resistant Capacitive	D-57
Rectangular Capacitive	D-57



Measurement Sensor E-01

Point Confocal Chromatic Displacement Sensor	
HCC series	E-03
Laser Displacement	
PL11-S series	E-15
Contact Displacement Sensor	
CDT series	E-19
Ultrasonic Measurement Sensor	E-23



Barcode Reader F-01

Handheld Barcode Reader Scanner	
HBC-H series	F-03
Fixed-Mount Barcode Reader	
HBC-F series	F-17



Communication Module G-01

Analog-to-Digital Communication Module	
CTW-80ATE	G-01



Dust-Free Drag Chain H-01

Customized Series	H-01
Standard Series	H-05



Process Control Sensor I-01

Pressure Sensor	
HMP110	I-01
High-Speed Infrared Thermometer	
IRT-4ML	I-03



Sensing/Static Elimination J-01

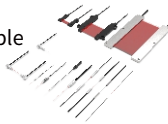
Low-voltage High-frequency Ionizing Bar	
ZSE series	J-01
Static Sensor	
ETS-10RS	J-05



Fiber Optic Accessories K-01

Fiber Optic Selection	K-03
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Fiber Optic Selection Parameter Table	K-27
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LinkedIn profile



Official website

A-01 Photoelectric

B-01 Fiber Optic

C-01 Color/Liquid/Correction

D-01 Proximity

E-01 Measurement

F-01 Barcode Reader

G-01 Communication Module

H-01 Dust-Free Drag Chain

I-01 Process Control

J-01 Detect/Eliminate Static Electricity

K-01 Fiber Optic

Company Profile



AUZ

Client Industries

—We have provided reliable, stable and high-performance sensor solutions for thousands of customers. We are empowering more fields with our high-quality products and efficient services - biomedical, logistics, warehousing and FMCG retailing, to reduce costs and increase efficiency for more industries.

- Sophisticated, specialized, and national high-tech company with AAA enterprise credit
- Over 20-years-experienced product development and sensor application solutions team
- Over 15-years-experienced in automation solutions & professional software development technical team. Professional product development /FAE+FSE team
- More than 60 national product patents and software copyrights
- CE certified products 13 series/2000+ products
- Customer centricity and value creation for them

Client Base



oppo



axxon

AUZ



Internationalisation of AUZ

—We are always innovative, to make this ever-changing world safer and smarter, ushering in a new era of technology!

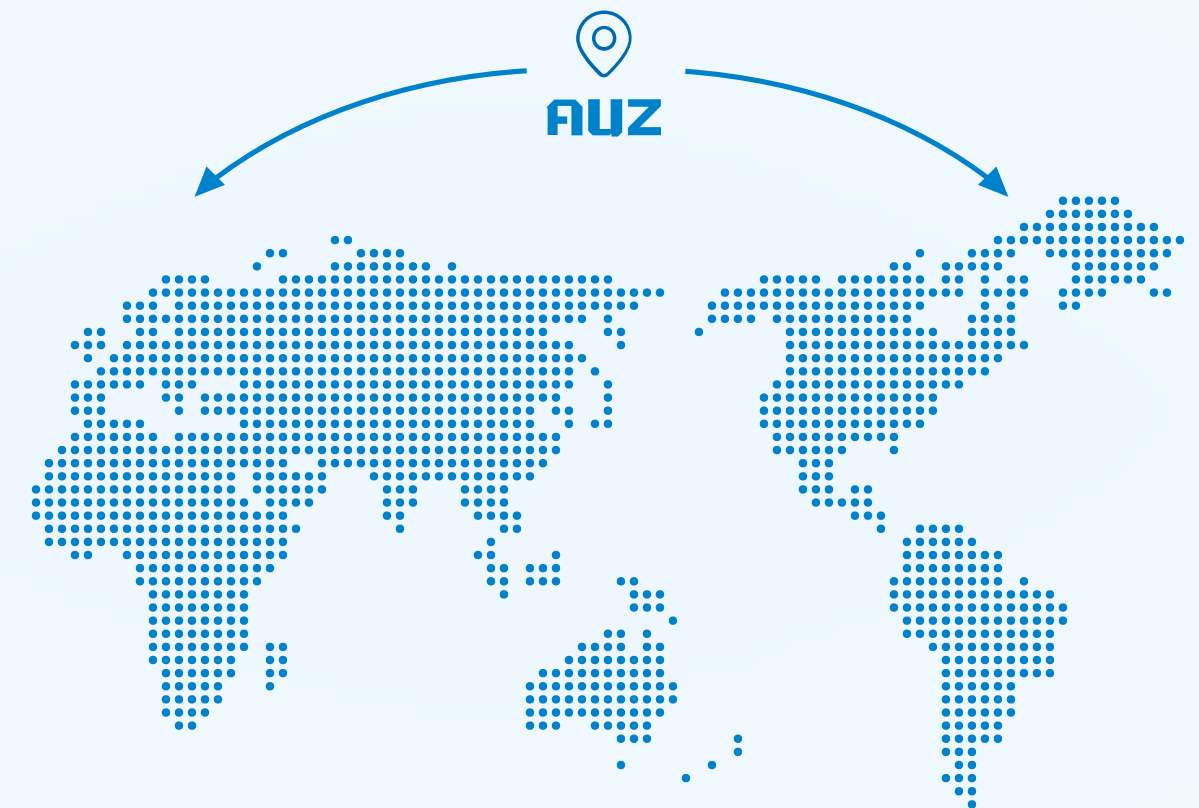
Application solutions team with an adventurous spirit

After years of accumulation, the company has established a product development and sensor application solutions team with over a decade of experience. To date, it has acquired more than 40 national patents for products and software copyrights. Additionally, the company has successfully obtained ISO certifications, including: ISO9001 (Quality Management System), ISO14001 (Ambient Management System), and ISO45001 (Occupational Health and Safety Management System). Furthermore, it has been recognized as a National High-Tech Enterprise (specializing in "Specialized, Sophisticated, and Innovative" technologies) and holds an AAA Enterprise Credit Rating, among other qualifications.

We have established advanced R&D capabilities in technology, which enable efficient product development and automated production. These capabilities serve as a critical foundation for the personalized customization service.

Technology Changes the World, Innovation Shapes the Future

- In the next two to four years, AUZ industrial sensors will gradually compete with international brands in Asia (India, Korea, Vietnam, Thailand), Europe (France, Germany, Italy, Belgium), America (Brazil, Canada, USA) and other regions, to meet the application needs of more international customers, and initially internationalize the brand.
- Our company has been deeply engaged in the automation industry for 17 years and has unique solution technology for the majority of automation equipment sensing solutions in the market. Continuously transcend, and provide more excellent solutions for global customers!





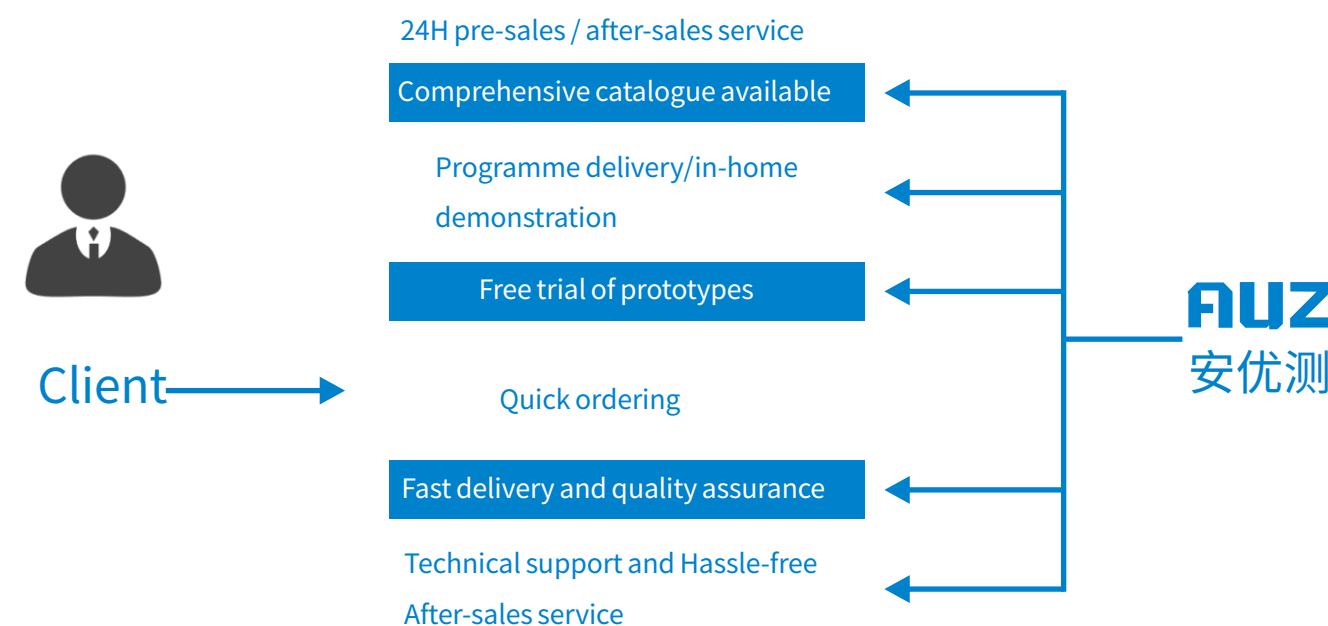
Complete process technical support

Our company's professionally trained sales engineers have extensive product knowledge and industry application experience. Customers can get the complete process of technical service support from the selection - programme - test - delivery, to quickly solve the application problems, significantly improve production efficiency, reduce costs and boost efficiency!

Rapid product delivery

Our company has excellent technical staff for support, on-site telephone electronic Communication Module and many other ways to carry out fast and convenient pre-sales and after-sales service. We are involved in hundreds of large-scale customer industries and have won their recognition and affirmation.

- Free to get the comprehensive catalogue of products
- Offer the Professional Programme
- Free to test the prototype
- Order for fast delivery
- Rapid technical support on-site or remotely
- Professional Product Training and Hassle-free After-sales service



From the selection - program - sensing- delivery of the whole process of technical service support The company's professionally trained sales engineers possess extensive product expertise and industry-specific application experience. Customers can get the whole process of technical service support from the selection - program - sensing - delivery, so as to enables rapid resolution of application challenges, resulting in significantly enhanced production efficiency, measurable cost reductions, and optimized operational effectiveness.



Series Catalogue

- BGS Photoelectric

● Standard Photoelectric

● Time-of-Flight (TOF) Photoelectric

● Compact Photoelectric

● Ultra-Compact Laser Through-beam Photoelectric

● Ultra-Thin Photoelectric

● Slot-Type Photoelectric

● Window-Type Photoelectric
- A-03 ▶

A-09 ▶

A-13 ▶

A-17 ▶

A-21 ▶

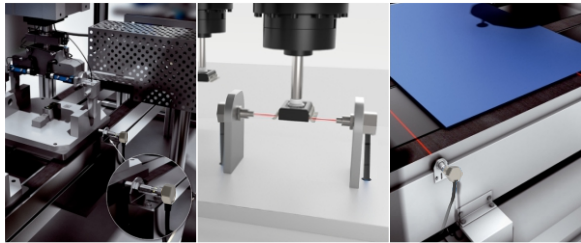
A-25 ▶

A-33 ▶

A-43 ▶

To learn more product information, please visit en.auz-fa.com.

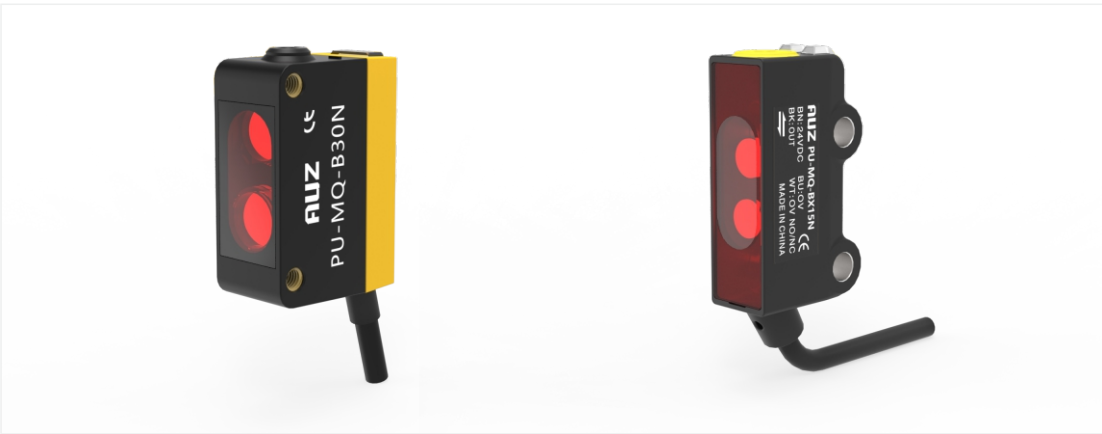
Integrated chips
Integrated chip design, stable and reliable



Excellent anti-interference design
Precise optical anti-interference design, according to the unique external interference light avoidance algorithm can also combat frequency conversion fluorescent lamps.



Versatile, easy to install and use
Suitable for a wide range of applications, usually with simple mounting and operating logic, featuring 25.4mm and 15mm Mounting holes.



Ultra-compact/thin design for use in confined spaces
Unique software algorithms for better resistance to light disturbances



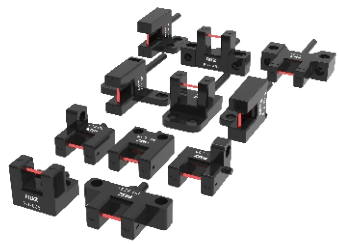
Ultra-compact laser retro-reflective photoelectric

A-21 ▶



Ultra-thin photoelectric

A-29 ▶

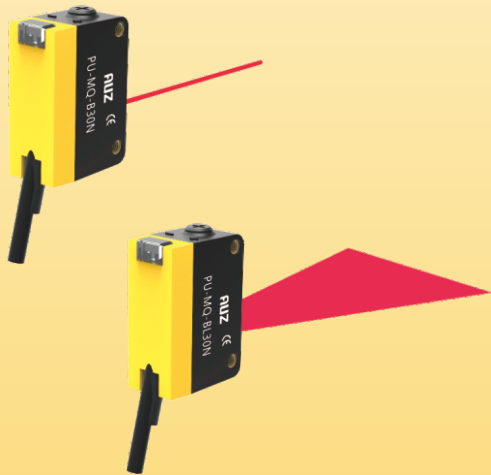


Miniature slot-type photoelectric

A-33 ▶

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic

Background Suppression Photoelectric Sensor PU-MQ-B series



Features

- Neglecting the effect of color, to detect various colors of measured objects, including translucent materials, bright metal materials, etc.
- 2mm offset can solve part of the step difference.Step Application
- All-round polarity protection, to prevent miswiring brought about by the sensor damage; anti-light interference ability, not affected by the scene of sunlight, fluorescent lamps, camera light source
- Adopting German technology imported ultrasonic welding equipment. Protection level IP67

Inquiry AUZ

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* Customized services and engineered solutions designed to your specifications.
* For any questions, please contact us via email auz.sensor@fuazon.com

Product Introduction

Diffuse Reflection

sensing distance
PU-MQ-B30N : 2-500mm

Less susceptible to color
Detects BK and WH workpieces at similar distances, no adjustment needed for different colored workpieces.

Verifying whether colored boxes are present or not
Stable detection at the same distance even when different colors of objects are present at the same time

Detects objects of various colours
PU-MQ-B30N
Detects 1mm hysteresis (<2%) and 2mm drops with 2.5x improved performance using advanced optics.

Adjustable sensing distance
PU-MQ-B30N
Equipped with a multi-turn potentiometer The distance can be set accurately and easily

Fixed Area

spot size (at 50mm detection distance)
PU-MQ-B05N : Φ6mm

Fixed area detection 2-50mm
PU-MQ-B05N
No need to adjust the settings, reduce commissioning time, save time and effort. Also to avoid misoperation on site

Good spot clarity and consistency
PU-MQ-B05N
Small diffusion angle, spot size Φ6mm (at 50mm detection distance)

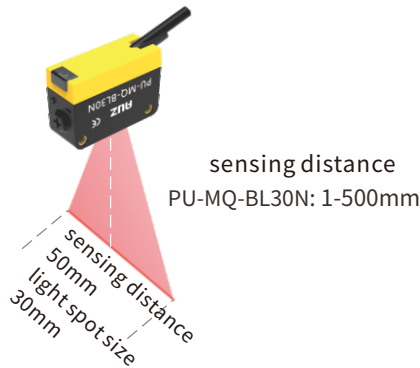
Dust and waterproof
PU-MQ-B05N
Fine workmanship, high quality, Protection level IP67

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
Background
Standard
TOF
Compact
Laser
Ultra-Thin
Slot-Type
Window-Type

BGS Photoelectric Sensor

Product Introduction

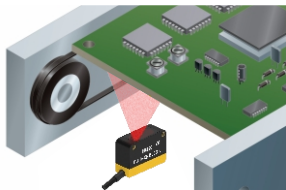
Line light spot



Detection of objects with irregular surface

PU-MQ-BL30N

(Spot width 60mm, detection distance 100mm), more convenient debugging, wider detection range



High sensitivity

PU-MQ-BL30N

At a detection distance of 50mm, only 5mm of light spot length needs to be blocked to get the output.

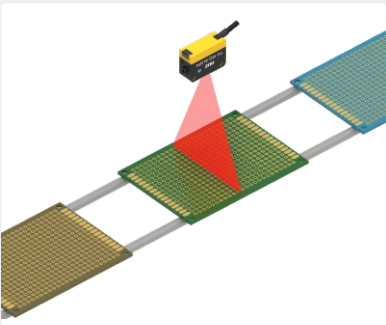
Zero-blind zone design

PU-MQ-BL30N

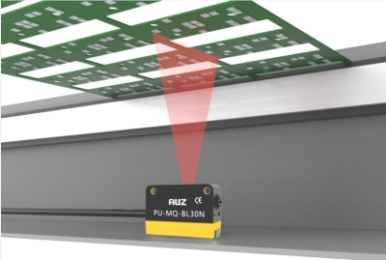
Detection distance:1-500mm

Detection of various colored PCB

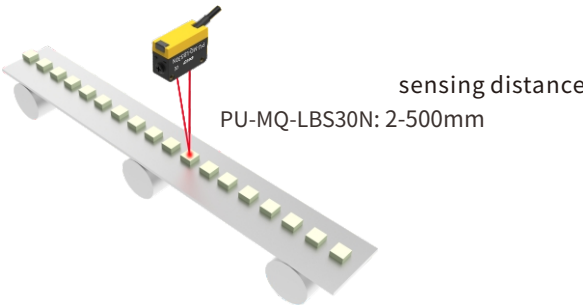
Stable detection at the same distance even when BK, WH, red, green and BU colored objects are present at the same time, regardless of the color angle of the material.



PCB detection of skeletonised objects



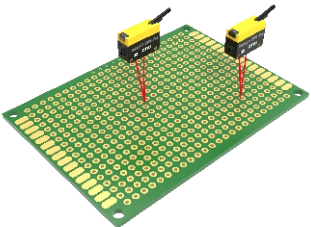
Laser Spot



Laser spot

PU-MQ-LBS30N

Spot size Φ1mm, small object detection, minimum 1mm opaque objects can be detected.



Adjustable sensing distance

PU-MQ-LBS30N

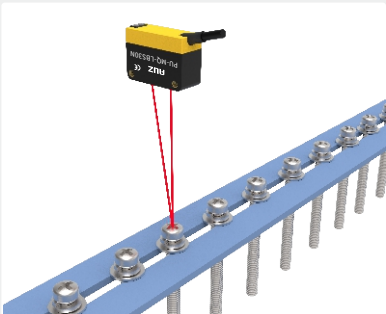
Detection distance up to 1m, the smallest blind spot can be up to 1mm.

Powerful background suppression function

PU-MQ-LBS30N

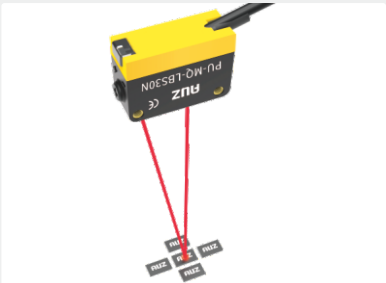
Various colors can be detected (translucent materials, BK, highly reflective metals, etc.). Wide range of applications, covering all types of equipment and all kinds of measures objects.

Detection of small workpieces on assembly lines



Small object detection

Φ1mm spot size detects small objects, with wide application for diverse equipment and targets.



BGS Photoelectric Sensor

Product List

Detection method		Appearance	Detection distance	Spot size	Output	Model number
Background suppression type	Point-shaped light spot		2-500mm	Φ4mm (At a distance of 300mm)	NPN	PU-MQ-B30N
	Point-shaped light spot		2-100mm	Φ1mm At a distance of 50mm	PNP	PU-MQ-B30P
	Fixed area		2-50mm	Φ6mm (At a distance of 50mm)	NPN	PU-MQ-B05N
	Fixed area				PNP	PU-MQ-B05P
	Line-shaped light spot		1-500mm	5*30mm (At a distance of 50mm)	NPN	PU-MQ-BL30N
	Laser light source		2-500mm	Φ1mm (At a distance of 300mm)	NPN	PU-MQ-LBS30N
					PNP	PU-MQ-LBS30P

Product Specification

Type		BGS				
		Point-shaped light spot		Fixed area	Line-shaped light spot	Laser
Output	NPN	PU-MQ-B30N	PU-MQ-B10N	PU-MQ-B05N	PU-MQ-BL30N	PU-MQ-LBS30N
	PNP	PU-MQ-B30P	PU-MQ-B10P	PU-MQ-B05P	PU-MQ-BL30P	PU-MQ-LBS30P
Detection distance		2-500mm	2-100mm	2-50mm	1-500mm	2-500mm
Setting distance		30-300mm	30-100mm	fixed 50mm	30-200mm	15-400mm
BK and WH aberration		/		fixed 0.5%	/	
Spot size		Φ4mm(At 300mm)	Φ1mm(At 50mm)	Φ6mm(At 50mm)	5*30mm(At 50mm)	1mm(At 300mm)
Light source		Red light 640nm			Red light 860nm	Laser 650nm
Response time		<1ms				
Control output		NPN/PNP open collector output (according to model selection), normally open/normally closed according to the WH wire wiring selection				
Sensitivity adjustment		Multi-turn Potentiometers		/	Multi-turn Potentiometers	
LED indicator		Yellow: Output/ Green: Power				
Circuit protection		Power reverse connection, surge, and short circuit protection; output reverse connection and surge protection.				
Operating voltage		10-30V DC				
Current consumption		100mA				
Enclosure rating		IP67				
Ambient light level		sunlight interference≤10,000lux;Incandescent light interference<3,000lux				
Ambient temperature		-25-55℃, non-condensing				
Relative humidity		35-85%, non-condensing				
Vibration resistant		10 to 55 Hz, dual amplitude 1.5mm, 2 hours in each X,Y,Z direction				
Impact resistance		500m/s ² (approx. 50G) 3 times in each direction X, Y, Z				
Housing material		ABS				
Cable		PVC cable/2m;4*0.18mm				

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

Background

Standard

TOF

Compact

Laser

Ultra-Thin

Slot-Type

Window-Type

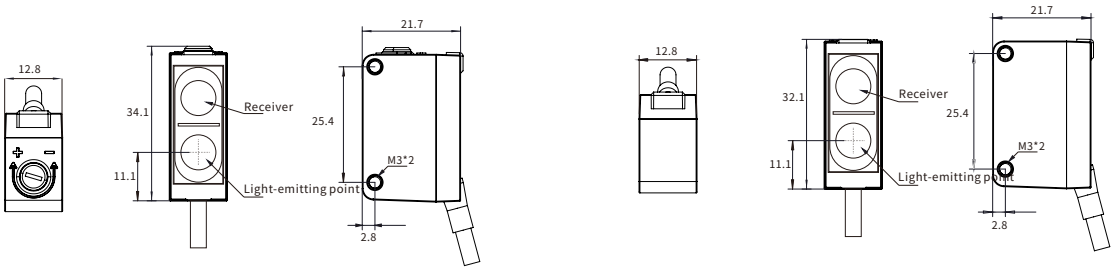
BGS Photoelectric Sensor

Size Specification

PU-MQ-B30N/PU-MQ-B10N/PU-MQ-BL30N/PU-MQ-LBS30N

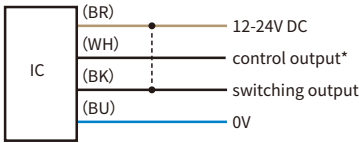
PU-MQ-B05N

Unit:mm



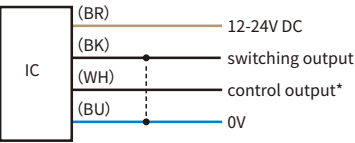
Input/Output Circuit Diagram

NPN Output



*WH color hanging-(NO);WH color connects to 0V-(NC)

PNP Output

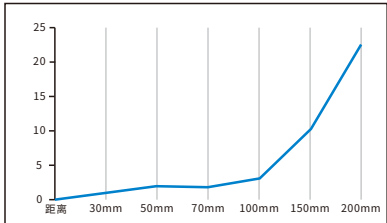
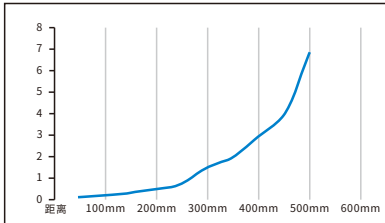


*WH color hanging-(NO);WH color connects to 0V-(NC)

Hysteresis

PU-MQ-B30N BK and WH difference (mm)

PU-MQ-BL30N BK and WH difference (mm)

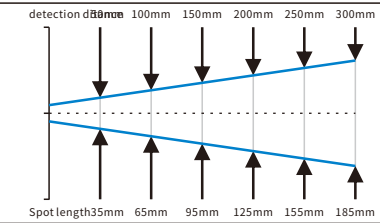
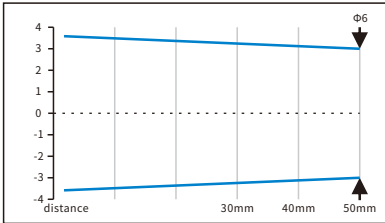
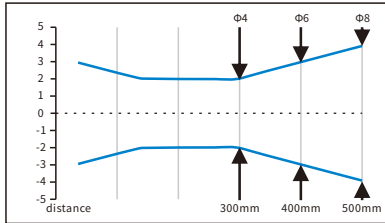


Light Spot Diagram

PU-MQ-B30N Light spot diagram (mm)

PU-MQ-B05N Light spot diagram (mm)

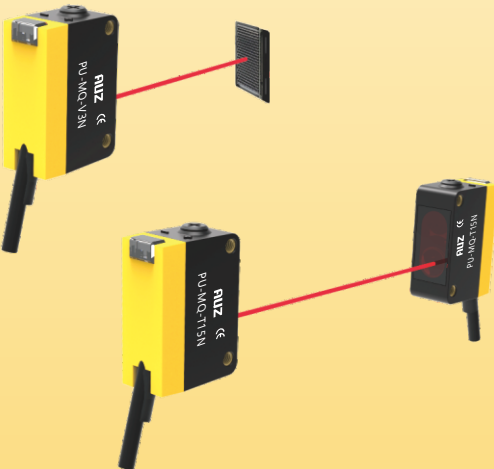
PU-MQ-BL30N Light spot diagram (mm)



BGS Photoelectric Sensor

Memo

Standard
Photoelectric Sensor
PU-MQ-T/PU-MQ-V
series



Features

- Reflective plate type optical sensing distance: 3mCounter-reflective optical sensing distance: 15m
- All-round polarity protection, to prevent miswiring brought about by the sensor damage;
Anti-light interference ability, not affected by the scene of sunlight, fluorescent lamps, camera light source BK and WH aberration
- Adopting German technology imported ultrasonic welding equipment.
Enclosure rating IP67

Inquiry AUZ

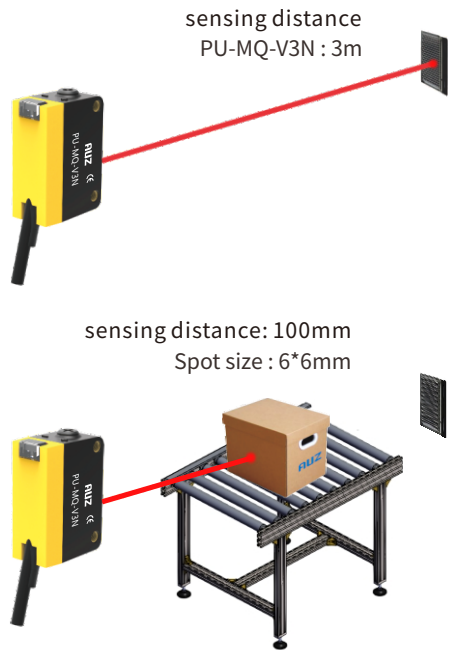
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* Customized services and engineered solutions designed to your specifications.
* For any questions, please contact us via email
auz.sensor@fuazon.com

Product Introduction

Retro-Reflective



More than enough sensing distance (3m)
PU-MQ-V3N

Red beam type: easy alignment, 3m range, suitable for wide rolling doors.



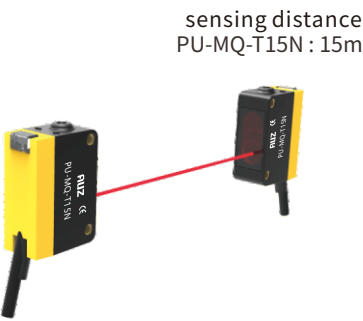
Dustproof and waterproof
PU-MQ-V3N

Germany imported ultrasonic welding technology (dustproof and waterproof), cable copper sleeve anti-dragging, fine workmanship, high quality, IP67 protection level

High anti-interference capability of transmissive type
PU-MQ-V3N

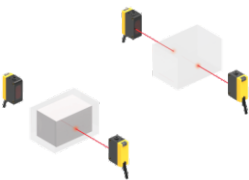
Powerful penetration for inspection inside packages, etc.

Through-Beam



Strong light beam, up to 15m
PU-MQ-T15N

Powerful penetration for inspection inside packages, etc.



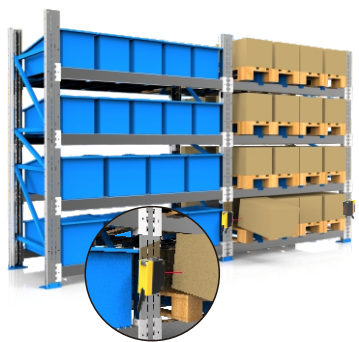
Dustproof and waterproof
PU-MQ-T15N

Germany imported ultrasonic welding technology (dustproof and waterproof), cable copper sleeve anti-dragging, fine workmanship, high quality, IP67 protection level

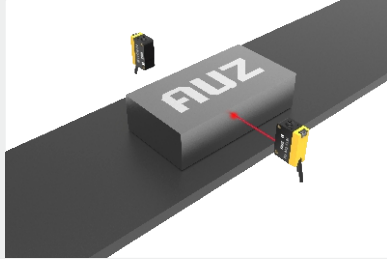
High anti-interference capability of transmissive type
PU-MQ-T15N

Powerful penetration for inspection inside packages, etc.

Sensing of cargo collapse in rack stacks



Detecting the presence or absence of workpieces in the assembly line



Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Standard Photoelectric Sensor

Product List

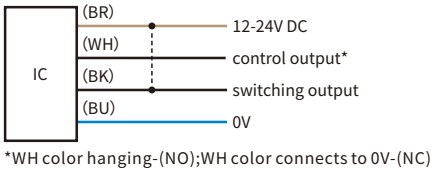
Sensing method		Appearance	Sensing distance	Spot size	Output	Model
Diffuse reflection	Reflector type			6*6mm (at 100mm)	NPN	PU-MQ-V3N
					PNP	PU-MQ-V3P
Through-beam	Long distance			/	NPN	PU-MQ-T15N
					PNP	PU-MQ-T15P

Product Specification

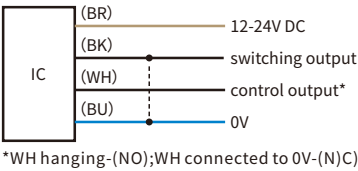
Type		Retro-reflective	Through-beam
Output	NPN	PU-MQ-V3N	PU-MQ-T15N
	PNP	PU-MQ-V3P	PU-MQ-T15P
Sensing distance		3m	15m
Setting distance		30-200mm	15-400mm
Spot size		6*6mm(at a distance of 100mm)	—
Light source		Red light 650nm	
Response time		≤1ms	
Control output		NPN/PNP open-collector output (model-dependent), normally open/normally closed (WH wire selectable)	
Sensitivity adjustment		Single-turn potentiometers	
LED indicator		YEL: Output/ GRN: Power	
Circuit protection		Reverse power polarity, power surge suppression, output short - circuit, output reverse polarity, output surge suppression	
Operating voltage		10-30V DC	
Current consumption		100mA	
Enclosure rating		IP67	
Ambient light		Sunlight interference≤10,000lux;Incandescent light interference<3,000lux	
Ambient temperature		-25 to 55°C, non-condensing	
Relative humidity		35 to 85%, non-condensing	
Vibration resistance		10 to 55Hz, dual amplitude 1.5mm, 2 hours in each direction X,Y, Z.	
Impact resistance		500m/s² (approx. 50G), 3 times in each direction X,Y, Z	
Housing material		ABS	
Cable		2m PVC flexible cable	

Input/Output Circuit Diagram

NPN output



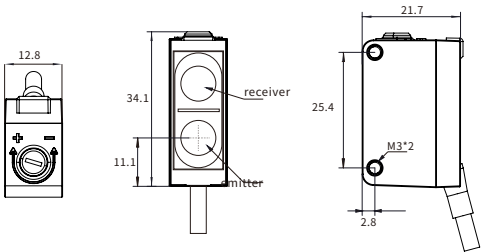
PNP output



Size Specification

● PU-MQ-V3N/PU-MQ-T15N

(Unit:mm)



Standard Photoelectric Sensor

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

TOF Photoelectric Sensor with BGS
PU-MQ-TF series



Features

- TOF (Time of Flight) type optical sensor, independent of the color of the object to be measured
- Max. sensing distance 4000mm, blind zone 50mm
- Button teaching, include Single-point Teaching and Area Teaching
- Infrared laser sensing, red light assisted alignment setting sensor
- Ip67 protection level

Inquiry AUZ

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Product List

Sensing method	Appearance	Sensing distance	Light source	Switching mode	Wiring Method	Output	Model Number
TOF BGS		50-1000mm	infrared laser	L.ON	2 m	NPN NO	PU-MQ-TF100NO
		50-1000mm	infrared laser	D.ON		PNP PO	PU-MQ-TF100PO
		50-1000mm	infrared laser	L.ON		NPN NC	PU-MQ-TF100NC
		50-1000mm	infrared laser	D.ON		PNP PC	PU-MQ-TF100PC
		50-1500mm	infrared laser	L.ON	2 m	NPN NO	PU-MQ-TF150NO
		50-1500mm	infrared laser	D.ON		PNP PO	PU-MQ-TF150PO
		50-1500mm	infrared laser	L.ON		NPN NC	PU-MQ-TF150NC
		50-1500mm	infrared laser	D.ON		PNP PC	PU-MQ-TF150PC
		50-4000mm	infrared laser	L.ON	2 m	NPN NO	PU-MQ-TF400NO
		50-4000mm	infrared laser	D.ON		PNP PO	PU-MQ-TF400PO
		50-4000mm	infrared laser	L.ON		NPN NC	PU-MQ-TF400NC
		50-4000mm	infrared laser	D.ON		PNP PC	PU-MQ-TF400PC

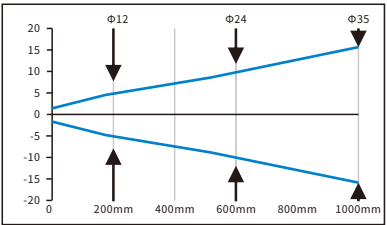
Product Specification

Supply voltage	10...30VDC
Ripple voltage	<10%
Light source	940nmVcsel Laser
Output type	PNP/NPN
Switching mode selection	L.ON/D.ON unavailable
No-load current	24V 25mA
Load current	<100mA
Output indicator	Red LED
Steady Indicator	GRN LED
Housing material	PC+PBT
Connection	2m outbound
Operating temperature	-20°C...+60°C
Storage temperature	-40°C...+70°C
Withstand voltage	1000V/AC/50/60Hz 60s
Insulation impedance	>50M Ω (500VDC)
Vibration resistance	Compound amplitude 1.5mm 10.....50Hz(X,Y,Z direction 2 hours each)
Impact resistance	500m/s ² (50G)X,Y,Z 3 times each
Enclosure rating	IP67

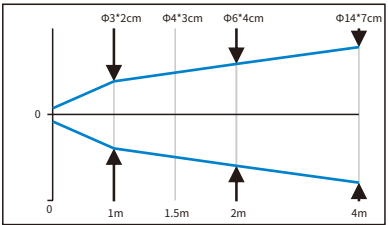
Features Diagram

● Light Spot Diagram

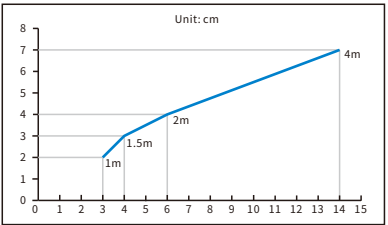
PU-MQ-TF100NO Light spot diagram



PU-MQ-TF150NO Light spot diagram



PU-MQ-TF400NO Light spot diagram



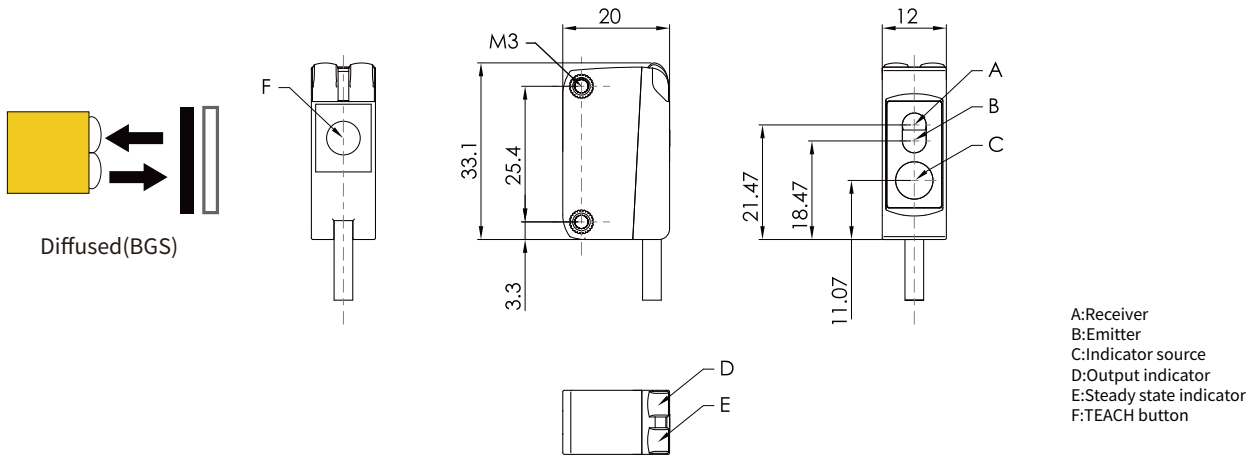
Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

TOF Photoelectric Sensor with BGS

Size Specification

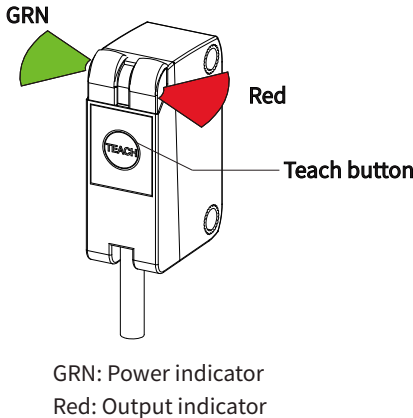
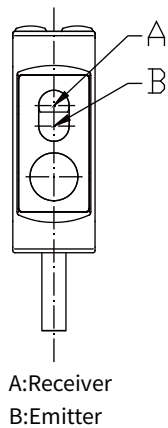
Size Specification

(Unit:mm)



Operating Instruction

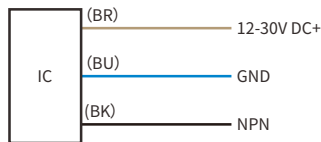
LED and Button Indication



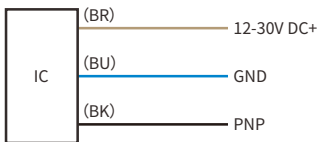
Input/Output Circuit Diagram

Cable wiring

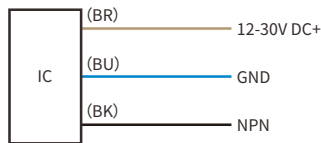
NPN NO Output



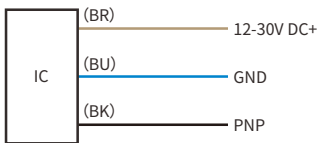
PNP NO Output



NPN NC Output



PNP NC Output



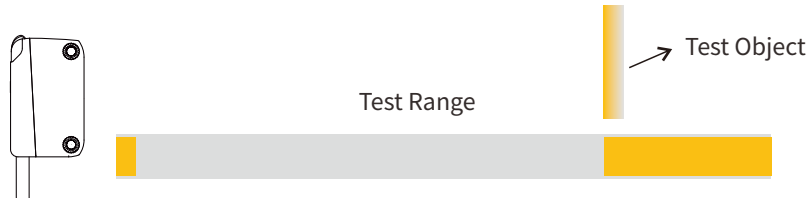
TOF Photoelectric Sensor with BGS

Product Instruction Manual

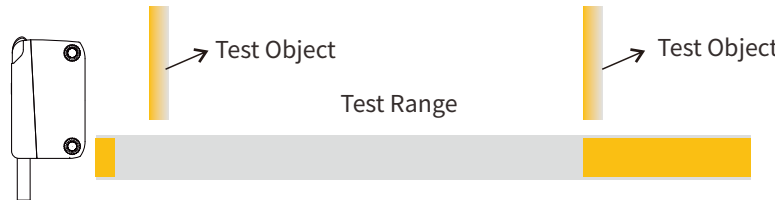
TOF BGS Product Instruction Manual

1. Single Point Mode Setting:
Press and hold the button for over 3 and less than 10 seconds.
Once the GRN light blinks for 3 seconds, the setting is successful.
2. Windowed Mode Settings
Place the target to request the nearest sensing distance as the nearest threshold ($\geq 70\text{mm}$), short press the button (more than 200ms, less than 2s) GRN light blinks;
Place the target to the required farthest distance as the farthest threshold ($\leq 1000\text{mm}$), short press the button, the GRN light flashes three times, and the setting is successful;
Setting the farthest distance needs to complete the operation within 10 seconds, otherwise, the red light will flash 5 times and exit automatically.
3. Double-click the button to toggle the switch for debugging the auxiliary light source.
- 4.The product cannot be used through ordinary transparent glass or acrylic panels, as it will have reaction with the above objects.
- 5.Cleaning and maintaining the window's surface is essential to preventing any negative effects on the product's functionality.

Single-point Mode:



Window Mode:



Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Compact Photoelectric Sensor
PU-MQX series



Features

- Mounting holes are 15mm apart with embedded metal posts.
- Polarity protection, surge protection, can resist 48V voltage shock without affecting normal use
- BX15N has good spot clarity and consistency, small diffusion angle, Φ3mm at the smallest point (100mm sensing distance).
- TX2N small spot design, 80mm in the spot (at 2M sensing distance), can detect opaque objects over Φ3mm.

Inquiry AUZ

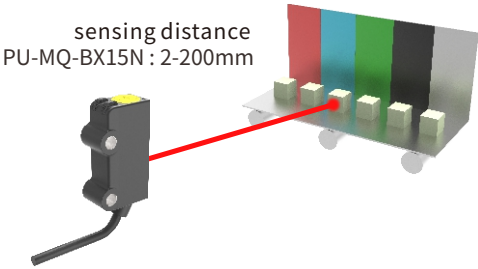
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Product Introduction

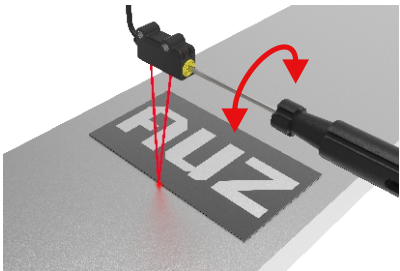
BGS



Adjustable sensing distance

PU-MQ-BX15N

Equipped with a multi-turn potentiometer
Distance can be set accurately and easily



Strong background suppression function

PU-MQ-BX15N

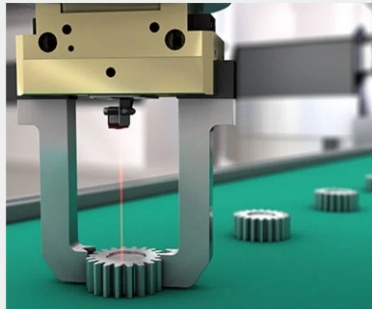
Can detect various color objects
BK and WH tolerance can be achieved within 2mm.

Dustproof and waterproof

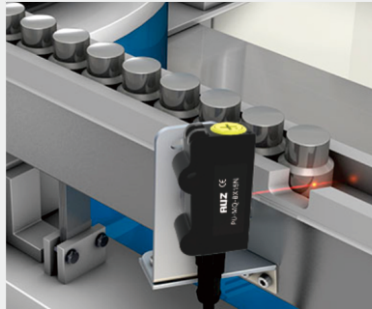
PU-MQ-BX15N

German ultrasonic welding (dustproof/waterproof), copper-sleeved anti-drag cable, high-quality workmanship, IP67 rated.

■ Components are tested or not
Good consistency and clarity of spots, tiny diffusion angle, Φ3mm at the smallest point (detecting distance of 100mm).

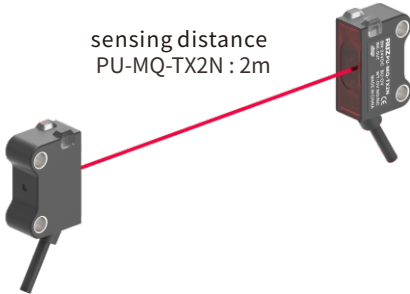


■ Transportation belt workpiece detection
Powerful background suppression, with a Min. of 2mm of BK and WH aberration



Through-Beam

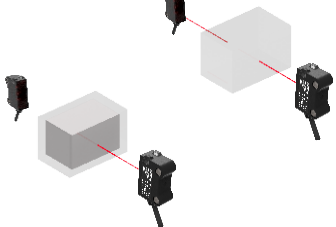
sensing distance
PU-MQ-TX2N : 2m



Strong beam, up to 2m distance

PU-MQ-TX2N

Powerful penetration for inspection inside packages, etc.



Dustproof and waterproof

PU-MQ-TX2N

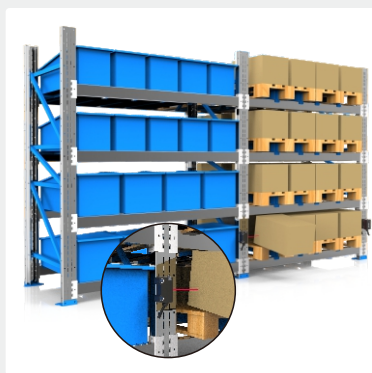
German ultrasonic welding (dustproof/waterproof), copper-sleeved anti-drag cable, high-quality workmanship, IP67 rated.

Strong anti-interference capability

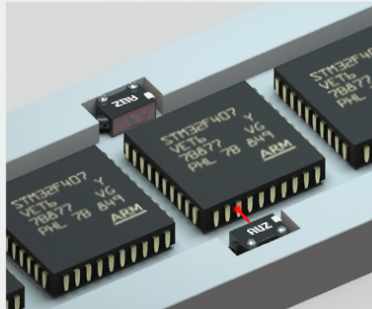
PU-MQ-TX2N

Powerful penetration for inspection inside packages, etc.

■ Sensing of cargo collapse in shelf stacks



■ Assembly line for the chip detection



Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

BGS

Standard

TOF

Compact Photoelectric

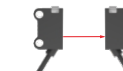
Laser Through

Ultra-Thin Photoelectric

Slot-Type

Window-Type

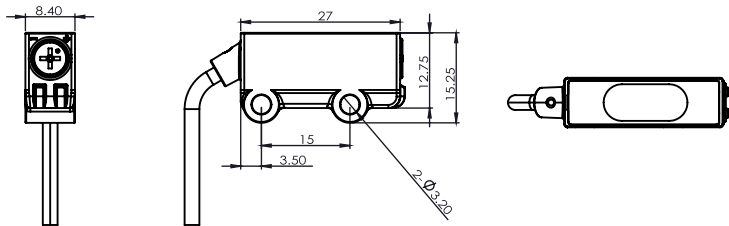
Compact Photoelectric Sensor

Product List						
Sensing method		Appearance	Sensing distance	Spot size	Output	
BGS	front sensing		 2-200mm	3mm (at 100mm)	NPN	PU-MQ-BX15N
					PNP	PU-MQ-BX15P
Through-Beam	front sensing		 2m	80mm (at 2m)	NPN	PU-MQ-TX2N
					PNP	PU-MQ-TX2P

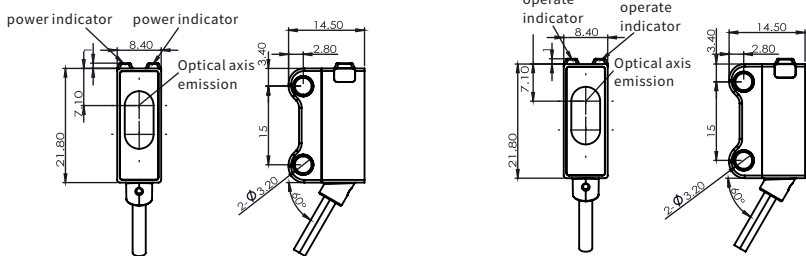
Product Specification					
Model	NPN	PU-MQ-BX15N	PU-MQ-BX15NC	PU-MQ-TX2N	PU-MQ-TX2NC
	PNP	PU-MQ-BX15P	PU-MQ-BX15PC	PU-MQ-TX2P	PU-MQ-TX2PC
	Output	NO	NC	NO	NC
Type		Background suppression		Through-Beam	
Sensing distance		2-200mm		2m	
Setting distance		15-150mm		/	
Spot size		3mm(at a distance of 100mm)		80mm(at a distance of 2m)	
Response time		<1ms			
Light source		Red light(640nm)			
Rated value		Short circuit protection, polarity protection, overload protection			
Protection circuit	Supply voltage	10~30VDC			
Indicator		GRN: power indication, stabilization indication; YEL: output indication			
Ambient resistance	Light Level	Sunlight interference≤10,000lux;Incandescent light interference <3,000lux			
	Ambient temperature	-20~55°C			
	Storage temperature	-30~70°C			
Current consumption		<15mA			
Load current		<50mA			
Housing material		ABS			

Size Specification

PU-MQ-BX15N/PU-MQ-BX15P



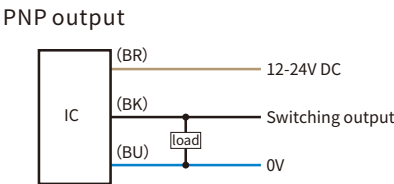
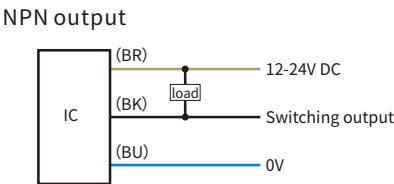
PU-MQ-TX2N/PU-MQ-TX2P



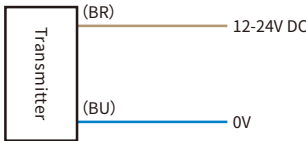
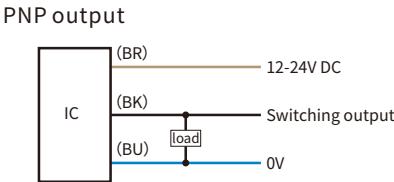
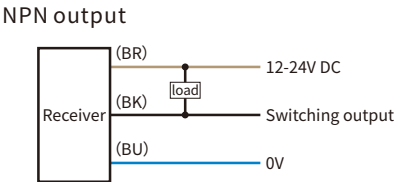
Compact Photoelectric Sensor

Input/Output Circuit Diagram

PU-MQ-BX15N/PU-MQ-BX15P

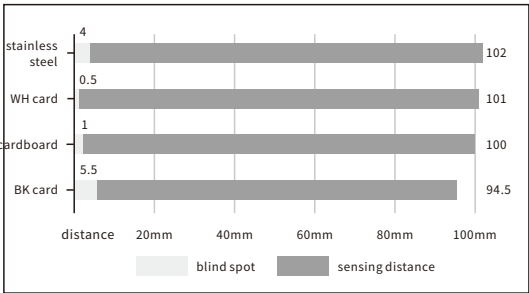


PU-MQ-TX2N/PU-MQ-TX2P

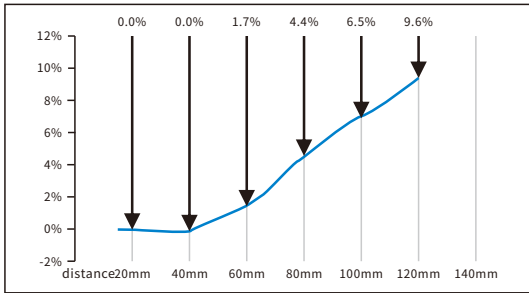


Features Diagram

Color Sensitivity



PU-MQ series BK-WH difference (%)



Mini Laser Through-beam
Photoelectric Sensor
PU-LS series



Features

- Can be replaced with an alignment fiber when the alignment sensing distance is up to 2 m.
- The laser spot is easier to align and does not need to be adjusted, which saves time effort and avoids misuse by personnel.
- High-speed response of 250μs, easy to cope with high-speed movement of 3m/s.
- Spot diameter of 1mm, easy to finish the sensing of small objects
- 90° corner design, separate amplifier, to meet the narrow space, more convenient wiring installation
- Fully potted process, IP67 protection level

Product Introduction

sensing distance
PU-LS-LT2N : 2m

Sensing of the presence or absence of small objects
PU-LS-LT2N

Laser through-beam with φ1mm spot diameter
High-speed response of 250μs for high-speed sensing of small objects at 2-3m/s

Long sensing distance
PU-LS-LT2N

Alignment sensing distance up to 2 meters
Can be used to replace the alignment fiber, and do not need to be adjusted, saving time and effort

90° corner design
PU-LS-LT2N

M7 thread, 90° corner design, can be installed in a narrow environment

Sheet metal parts inspection
Min. sensing object 0.5mm opaque or ultra-thin objects, workpiece flatness, etc. can be detected.

Conveyor plate positioning inspection
Precise positioning of the conveyor belt, as well as accurate sensing of the presence or absence of the object

Product List

Sensing method		Appearance	Sensing distance	Spot size	Output	Model
Through-Beam	Front Sensing			1mm	NPN	PU-LS-LT2N
					PNP	PU-LS-LT2P

Product Specification

Model	NPN	PU-LS-LT2N
	PNP	PU-LS-LT2P
Type	Through-beam	
Sensing distance	2m	
Spot size	1mm	
Min. object	Opaque objects with a Min. diameter of 0.5mm	
Response time	250us	
Control output	NPN: max.100mA (max. 40V) Residual voltage: max.1V	
Light source	Red laser 655nm	
Protection circuit	Reverse current protection, over-current protection, over-voltage protection	
Power	12 to 24VDC +10%	
Current consumption	Receiving 35mA, transmitting 17mA	
Enclosure rating	IP67	
Ambient temperature	-20°C~+55°C, unfrozen	
Relative humidity	35 to 85%, non-condensing	
Housing material	Amplifier: fireproof ABS, Sensor head: nickel-plated brass	
Weight (with 2m cable)	Approx. 70g	

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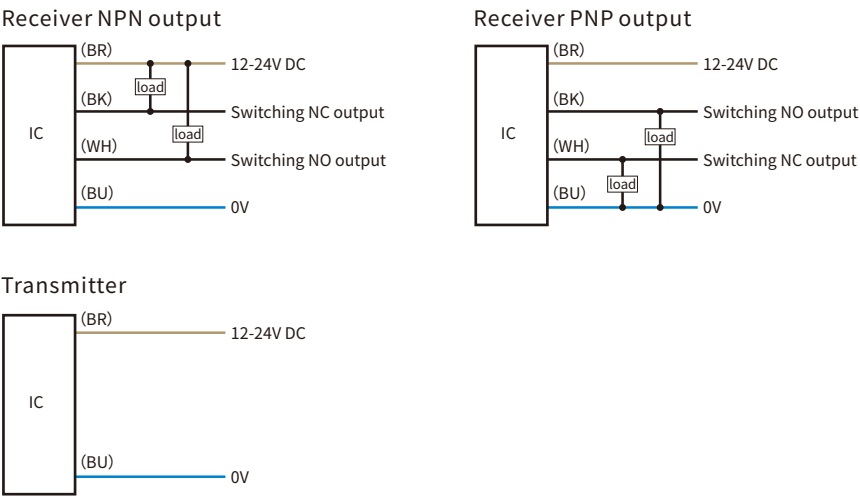
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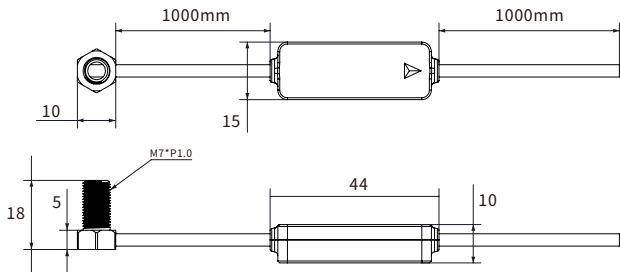
Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Mini Laser Through-beam Photoelectric Sensor

Input/Output Circuit Diagram



Size Specification



(Unit:mm)

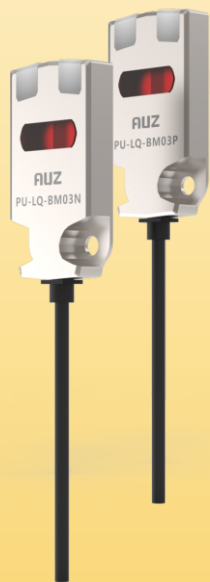
Mini Laser Through-beam Photoelectric Sensor

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
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Photoelectric
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Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Ultra- compact
Photoelectric Sensor
PU-LQ series



Features

- Small size and space-saving
- Easy installation with standard M3 screws
- Using a unique stabilization sensing algorithm
- Stainless steel SUS316L housing waterproof feature
- BGS Function
- With metal housing, it can be used in high humidity environments with water or other liquids

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Product Introduction

sensing distance
PU-LQ-BM03N : 2-30mm

Components with or without sensing

Fixture object sensing
PU-LQ-BM03N

Using a unique stable sensing algorithm

Small size and space saving
PU-LQ-BM03N

Easy to install
Mounting with standard M3 screws

Mobile phone cover placement sensing
Using a unique stabilization sensing algorithm

Waterproof feature
PU-LQ-BM03N

Metal casing for use in high humidity environments with

Product List

Sensing method		Appearance	Sensing distance	Spot size	Output	Model
BGS	Front sensing			Approx. φ2mm (at 15mm)	NPN	PU-LQ-BM03N
					PNP	PU-LQ-BM03P

Product Specification

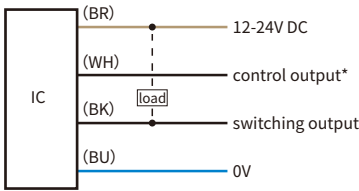
Model	NPN	PU-LQ-BM03N
	PNP	PU-LQ-BM03P
Type		Background suppression
Shape		Flat
Sensing distance		2-30mm
N.O and N.C mode		Selectable operation between light-on (ON) and dark-on (ON).
Operating mode	Output	LIGHT-ON/DARK-ON
Response time		≤1ms
Spot diameter		Approx. φ2mm (at 15mm)
Light source		Red LED (650nm)
Indicator		Output indicator (red), stable operation indicator (GRN)
Supply voltage		12 to 30VDC with ripple current (P-P) 10%
Current consumption		19mA
Enclosure rating		IP67
Control output		NPN open collector, PNP open collector 30V DC or less, 50mA or less Residual voltage:10mA or less, 1.5V or less for 10 to 30mA, 2.0V or less for 30 to 50mA Leakage current: 0.3mA or less at 3kΩ load resistance, 0.5mA or less at 1kΩ load resistance, 1.5mA or less at 0.2kΩ load resistance

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Ultra-Compact Photoelectric Sensor

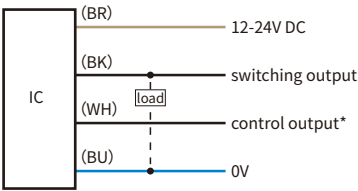
I/O Circuit Diagram

NPN output



*(NO:WH - NC (overhang) NC:WH - 0V)

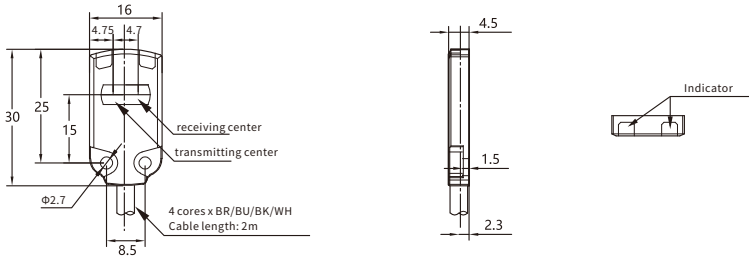
PNP output



*(NO:WH - NC (overhang) NC:WH - 0V)

Size Specification

(Unit:mm)



Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Ultra-Comapct Photoelectric Sensor

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Ultra-Thin Photoelectric Sensor
PU-LQ series

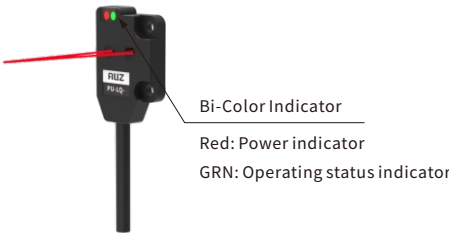


Features

- Ultra-thin and compact features
Ultra-thin and Mini size, just need to have some space, you can install it anywhere



- Clearly visible two-color indicator
This specification is equipped with a convenient two-color Indicator



- Ultra-thin and ultra-small size
(3.6mm thickness)
- Opaque objects of $\phi 1\text{mm}$ Min. can be detected.

Inquiry AUZ

en.auz-fa.com

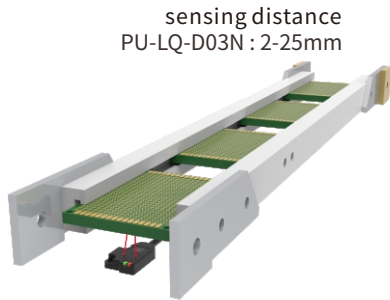


* Customized services and engineered solutions designed to your specifications.
* For any questions, please contact us via email
auz.sensor@fuazon.com

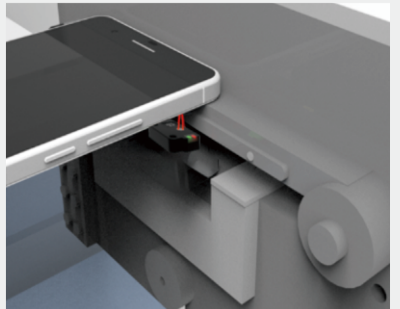
For more product information, please visit en.auz-fa.com

Product Introduction

Diffuse Reflection



Mobile phone cover placement sensing



Ultra-thin and ultra-small size

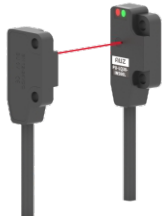
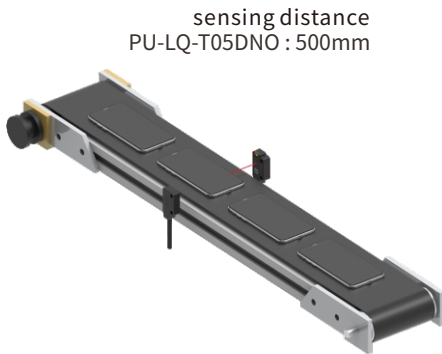
PU-LQ-D03N

Powerful function

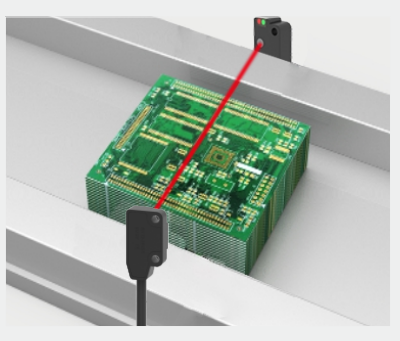
PU-LQ-D03N

3.6mm thickness, more suitable for the bottom mounting. Can detect opaque objects as small as $\phi 1\text{mm}$.

Through-Beam



PCBs position sensing



Ultra-thin and compact size

PU-LQ-T05DNO

Front emission

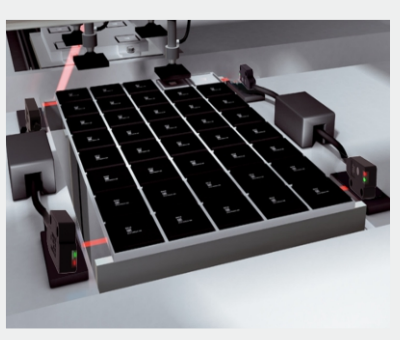
PU-LQ-T05DNO

3.6mm thickness for easy installation.

More suitable for side mounting



Pallet detection



Ultra-thin and compact size

PU-LQ-T05LNO

Side emission

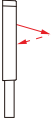
PU-LQ-T05LNO

3.6mm thickness for easy installation.

More suitable for top or bottom mounting

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Ultra-Thin Photoelectric Sensor

Product List					
Sensing method		Appearance	Sensing distance	Output	NO NC
Diffuse reflection	Front sensing		15mm	NPN	PU-LQ-D01NO PU-LQ-D01NC
				PNP	PU-LQ-D01PO PU-LQ-D01PC
			30mm	NPN	PU-LQ-D03N (NO/NC Ctrl. Switching)
				PNP	PU-LQ-D03P (NO/NC Ctrl. Switching)
Through-beam	Front sensing		500mm	NPN	PU-LQ-T05DNO PU-LQ-T05DNC
				PNP	PU-LQ-T05DPO PU-LQ-T05DPC
	Side sensing		500mm	NPN	PU-LQ-T05LNO PU-LQ-T05LNC
				PNP	PU-LQ-T05LPO PU-LQ-T05LPC

Product Specification					
Model	NPN	PU-LQ-D01NO	PU-LQ-D03N	PU-LQ-T05DNO	PU-LQ-T05LNO
	PNP	PU-LQ-D01PO	PU-LQ-D03P	PU-LQ-T05DPO	PU-LQ-T05LPO
Sensing method	Diffuse reflection			Through-beam	
Sensing direction	Front			Front	Side
Sensing distance	15mm	30mm		500mm	
Spot size	2.5X3mm/30mm			Φ50mm/500mm	
Hysteresis range	<5%			/	
Min. sensing target	10mm:Φ1.5mm	5mm:Φ0.6mm		Φ2mm opaque object	
Repeat accuracy	<5%				
Output mode	NPN Open Collector				
Switching mode	Light.on	Dark.on		Light.on	
Response time	<500 μs			<1 ms	
Response frequency	700HZ			300HZ	
Light source	700nm Visible red light			660nm Visible red light	
Operating voltage	DC12~24V±10%				
Residual voltage	<1.5V(Load current 100mA, wire 2m)				
Max. load current	100mA				
Current consumption	<10mA			Receiver:<10mA; Transmittor:<15mA	
Ambient temperature	Operating:-10℃~55℃;Storage:-25℃~70℃,no freezing				
Ambient humidity	Operating:35%~85% RH;Storage:35%~95%Rh,non-condensing				
Protection circuit	Reverse polarity protection/surge protection/short circuit protection				
Enclosure rating	IP64				
Indicator	ORG				
Connection	Lead wire type (3 cores, standard 2m cable)				
Housing material	ABS				
Vibration resistance	10~55Hz,double amplitude of 1.0mm, 30 minutes each in X/Y/Z directions.				
Impact resistance	300m/S ² , 3 times each in X/Y/Z directions.				

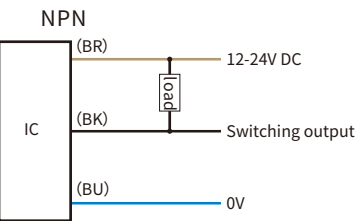
*The above models are normally open, normally closed model suffix + C; for example: PU-LQ-T05LPC

Ultra-Thin Photoelectric Sensor

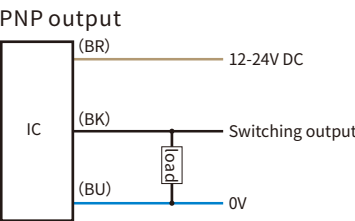
I/O Circuit Diagram

Diffuse reflection PU-LQ-D01

NPN

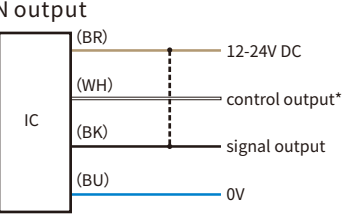


PNP output

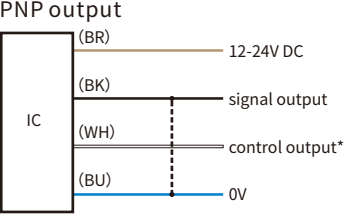


Diffuse reflection PU-LQ-D03

NPN output



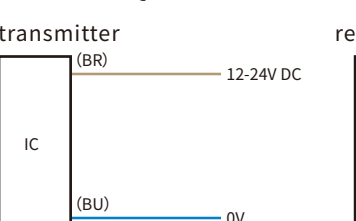
PNP output



*WH color is suspended-(NO);WH color is connected to 0V-(NC)

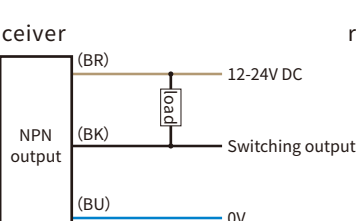
Through-beam PU-LQ-T05

transmitter

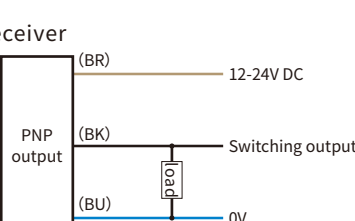


receiver

NPN output

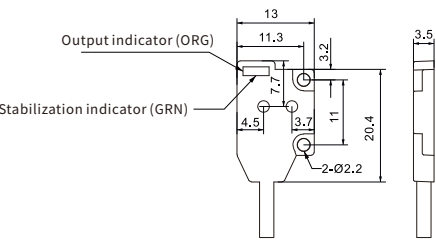


PNP output

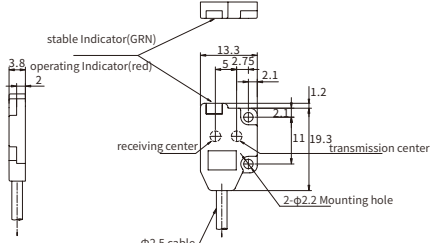


Size Specification

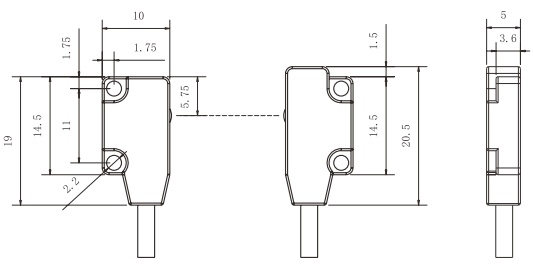
Diffuse reflection PU-LQ-D01N



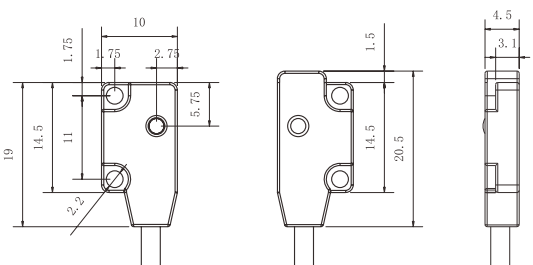
Diffuse reflection PU-LQ-D03N



Through-beam PU-LQ-T05D



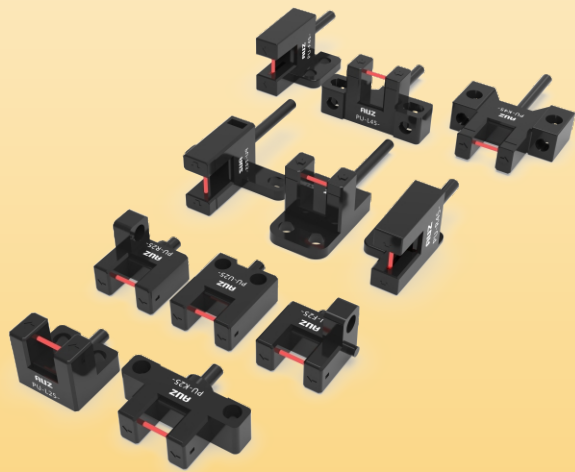
Through-beam PU-LQ-T05L



(Unit: mm)

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Slot-Type Photoelectric Sensor
PU-45/25/67 series



Features

- Integrated chip design, circuit without excessive devices, more stable performance
- One-piece injection moulding for better product consistency
- High-speed response of 3000Hz to meet high-speed repetitive motion scenarios
- Repeat accuracy $\pm 1.5\mu\text{m}$, more suitable for homing applications
- Standing stock, fast delivery
- Waterproof and dustproof, with IP67 protection level

Inquiry AUZ

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* For any questions, please contact us via email auz.sensor@fuazon.com

Product Introduction

sensing distance
PU-45/25/67 : 6mm fixed

Gear counting sensing
PU-45/25/67 series

The smallest detectable object can be opaque of 0.8mm x 1.2mm.

Response time
PU-45/25/67 series

Incoming light: less than 20 μs , Shaded: less than 80 μs
(Max. response frequency is 3KHz)

Mini and easy to install
PU-45/25/67 series

Built-in self-developed photoelectric chip: powerful, small size, high anti-interference, high stability

Limit switch

Positioning apertures in detected objects

Product List

Type		Connection	Appearance	Sensing distance	Output type	Model
Through-Beam (slot type)	L-shaped	Cable type 25 Series			NPN	PU-L25
	K-shaped				PNP	PU-L25P
	F-shaped				NPN	PU-K25
	R-shaped				PNP	PU-K25P
	U-shaped				NPN	PU-F25
					PNP	PU-F25P
	L-shaped	Cable type 45 Series			NPN	PU-R25
	T-shaped				PNP	PU-R25P
	Y-shaped				NPN	PU-U25
	K-shaped				PNP	PU-U25P
	F-shaped				NPN	PU-L45
	R-shaped				PNP	PU-L45P
	L-shaped	Plug-in type 67 series			NPN	PU-T45
	T-shaped				PNP	PU-T45P
	Y-shaped				NPN	PU-Y45
	K-shaped				PNP	PU-Y45P
					NPN	PU-K45
					PNP	PU-K45P
					NPN	PU-F45
					PNP	PU-F45P
					NPN	PU-R45
					PNP	PU-R45P
					NPN	PU-SX671
					PNP	PU-SX671P
					NPN	PU-SX672
					PNP	PU-SX672P
					NPN	PU-SX674
					PNP	PU-SX674P
					NPN	PU-SX670
					PNP	PU-SX670P

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- Fiber Optic
- BGS
- Standard
- TOF
- Compact Photoelectric
- Laser Through
- Ultra-Thin Photoelectric
- Slot-Type
- Window-Type

Slot-Type Photoelectric Sensor

Product Specification						
Appearance						
Type		L-shaped	K-shaped	F-shaped	R-shaped	U-shaped
Connection		cable type		cable type		cable type
Model	NPN	PU-L25	PU-K25	PU-F25	PU-R25	PU-U25
	PNP	PU-L25P	PU-K25P	PU-F25P	PU-R25P	PU-U25P
Sensing distance		Fixed 6mm				
Min. object		0.8mm×1.2mm opaque object				
Hysteresis		Less than 0.05mm				
Repeat accuracy		±1.5μm				
Supply voltage		5V DC~24V DC±10% pulse P—P under 10%				
Current consumption		Less than 15mA				
Output		NPN open collector transistor Applied voltage: 30V DC or less (between output and 0V) Max. inflow current: 50mA PNP open collector transistor Residual voltage: <2V (Inflow current 50mA), Applied voltage: 30V DC or less (between output and +V) Below 1V (Inflow current 16mA)				
Output action		Light-On ON / Dark-On ON, equipped with 2 types of outputs				
Short circuit protection		Included				
Response time		Light-On: Less than 20μs, Dark-On: Less than 80μs (Max. response frequency of 3KHz)				
Indicator		ORG LED (illuminates when light-on)				
Enclosure rating		IP67 (IEC)				
Ambient temperature		-25°C~+55°C (Note: No condensation or icing.) Storage: -30°C~+80°C				
Ambient humidity		5%RH~85%RH, Storage: 5%RH~95%RH				
Ambient light		Fluorescent light: illumination of the receiving surface below 1,000 lux				
Voltage resistance		AC1000V 1 minute All power connection terminals and the housing				
Insulation resistane		20MΩ or more between all power connection terminals and housing, based on DC250V high resistance meter				
Vibration resistance		Frequency 10Hz~2000Hz dual amplitude 1.5mm (Max. acceleration 196m/s²) 2 hours each for X, Y, Z direction				
Impact resistance		Acceleration 15000m/s² (approx. 1500G) 3 times in each direction of X, Y and Z.				
Light source		Infrared LED (peak throw wavelength: 855nm, non-modulated)				
Material		Housing: PBT; Display cover: Polycarbonate				
Cable		0.09mm² 4 cores with rubber insulated cable PVC 1m				
Extension cable		Cables of 0.3mm² or more, full length extendable to 100m				
Weight		Body weight: approx. 10g, package weight: approx. 15g				

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

Slot-Type Photoelectric Sensor

Size Specification						
Appearance						
Type		L-shaped	T-shaped	Y-shaped	K-shaped	F-shaped
Connection		cable type		cable type		cable type
Model	NPN	PU-L45	PU-T45	PU-Y45	PU-K45	PU-F45
	PNP	PU-L45P	PU-T45P	PU-Y45P	PU-K45P	PU-F45P
Sensing distance		Fixed 6mm				
Min. object		0.8mm×1.2mm opaque object				
Hysteresis		less than 0.05mm				
Repeat accuracy		±1.5μm				
Supply voltage		5V DC~24V DC±10% pulse P—P under 10%				
Current consumption		less than 15mA				
Output		NPN open collector transistor Applied voltage: 30V DC or less (between output and 0V) Max. inflow current: 50mA PNP open collector transistor Residual voltage: <2V (Inflow current 50mA), Applied voltage: 30V DC or less (between output and +V) Below 1V (Inflow current 16mA)				
Output action		Light-On ON / Light-Off ON, equipped with 2 types of outputs				
Short circuit protection		Included				
Response time		Light-On: Less than 20μs, Light-Off: Less than 80μs (Max. response frequency of 3KHz)				
Indicator		ORG LED (illuminates when light-on)				
Enclosure rating		IP67 (IEC)				
Ambient temperature		-25°C~+55°C (Note: No condensation or icing.) Storage: -30°C~+80°C				
Ambient humidity		5%RH~85%RH, Storage: 5%RH~95%RH				
Ambient light		Fluorescent light: illumination of the receiving surface below 1,000 lux				
Voltage resistance		AC1000V 1 minute All power connection terminals and the housing				
Insulation resistance		20MΩ or more between all power connection terminals and housing, based on DC250V high resistance meter				
Vibration resistance		Frequency 10Hz~2000Hz Dual amplitude 1.5mm (Max. acceleration 196m/s²) 2 hours for each direction of X, Y, Z.				
Impact resistance		Acceleration 15000m/s² (approx. 1500G) 3 times in each direction of X, Y and Z.				
Light source		Infrared LED (peak throw wavelength: 855nm, non-modulated)				
Material		Housing: PBT, Display cover: Polycarbonate				
Cable		0.09mm² 4 cores with rubber insulated cable PVC 1m				
Extension cable		Cables of 0.3mm² or more, full length extendable to 100m				
Weight		Body weight: approx. 10g, package weight: approx. 15g				

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
BGS
Standard
TOF
Compact Photoelectric
Laser Through
Ultra-Thin Photoelectric
Slot-Type
Window-Type

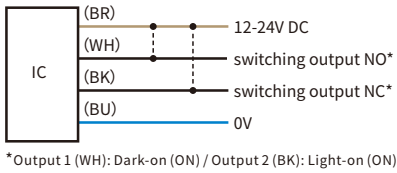
Slot-Type Photoelectric Sensor

Product Specification					
Appearance					
Type		L-shaped	T-shaped	Y-shaped	K-shaped
Connection		Plug-in type	Plug-in type	Plug-in type	Plug-in type
Model	NPN	PU-SX671	PU-SX672	PU-SX674	PU-SX670
	PNP	PU-SX671P	PU-SX672P	PU-SX674P	PU-SX670P
Sensing distance		Fixed 6mm			
Min. object		0.8mm×1.2mm opaque object			
Hysteresis		Less than 0.05mm			
Repeat accuracy		±1.5μm			
Supply voltage		5V DC~24V DC±10% pulse P—P under 10%			
Current consumption		Less than 15mA			
Output		NPN open collector transistor Applied voltage: 30V DC or less (between output and 0V) PNP open collector transistor Applied voltage: 30V DC or less (between output and +V) PNP Max. inflow current: 50mA Residual voltage: <2V (inflow current 50mA), 1V or less (inflow current 16mA)			
Output action		Light-On ON /Dark-On ON, equipped with 2 types of outputs			
Short Circuit Protection		Included			
Response time		Light-On: Less than 20μs, Dark-On: Less than 80μs (Max. response frequency of 3KHz)			
Indicator		ORG LED (illuminates when light-on)			
Enclosure rating		IP67 (IEC)			
Ambient temperature		-25°C~+55°C (Note: No condensation or icing.) Storage: -30°C~+80°C			
Ambient humidity		5%RH~85%RH, Storage: 5%RH~95%RH			
Ambient light		Fluorescent light: illumination of the receiving surface below 1,000 lux			
Voltage resistance		AC1000V 1 minute All power connection terminals and the housing			
Insulation resistance		20MΩ or more between all power connection terminals and housing, based on DC250V high resistance meter			
Vibration resistance		Frequency 10Hz~2000Hz dual amplitude 1.5mm (Max. acceleration 196m/s ²) 2 hours each for X, Y, Z direction			
Impact resistance		Acceleration 15000m/s ² (approx. 1500G) 3 times in each direction of X, Y and Z.			
Light source		Infrared LED (peak throw wavelength: 855nm, non-modulated)			
Material		Housing: PBT, Display cover: Polycarbonate			
Cable		0.09mm ² 4 cores with rubber insulated cable PVC 1m			
Extension cable		Cables of 0.3mm ² or more, full length extendable to 100m			
Weight		Body weight: approx. 10g, package weight: approx. 15g			

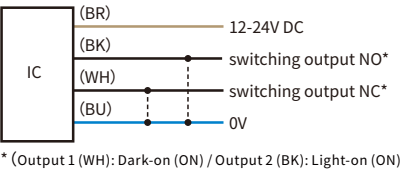
I/O Circuit Diagram

25 Series/45 Series circuit diagram

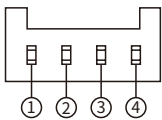
NPN output



PNP output



67 Series wiring diagram

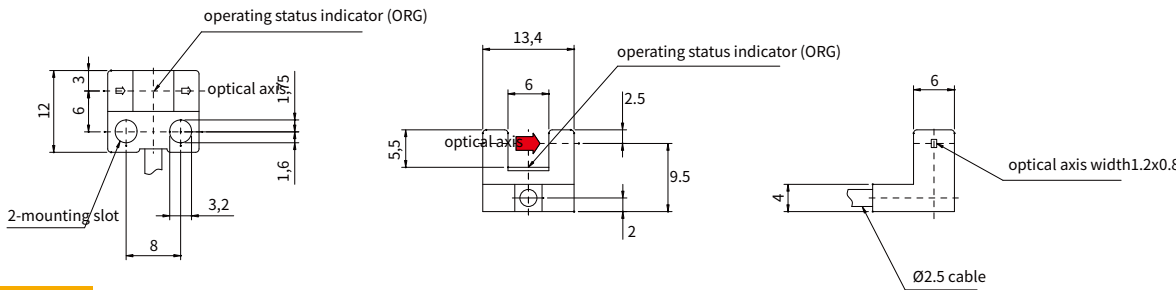


Terminal NO.	Name
①	+V
②	Output 1: ON when Light-On
③	Output 2: ON when Dark-On
④	0V

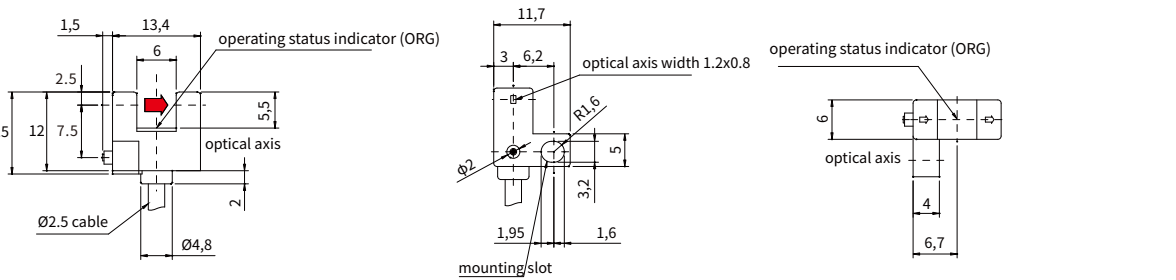
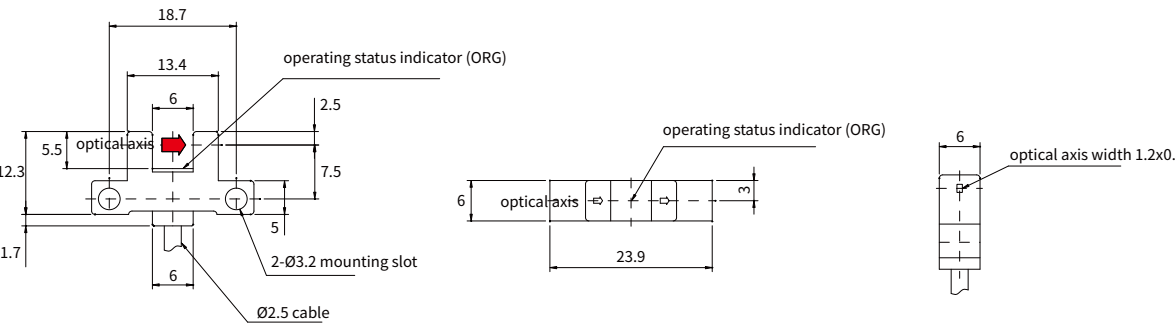
Slot-Type Photoelectric Sensor

Size Specification

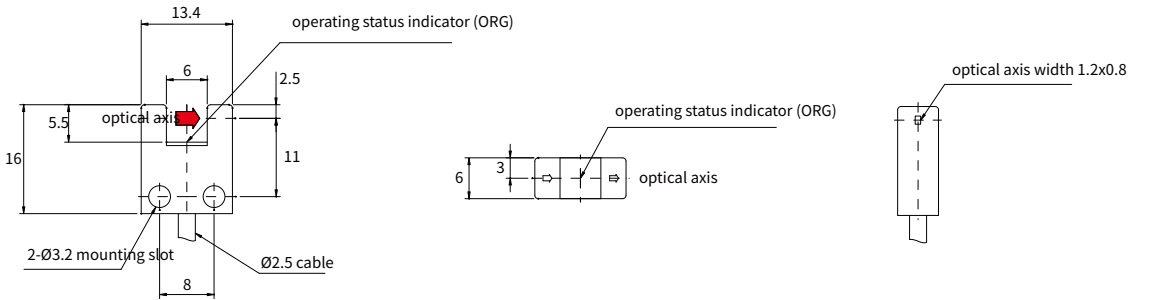
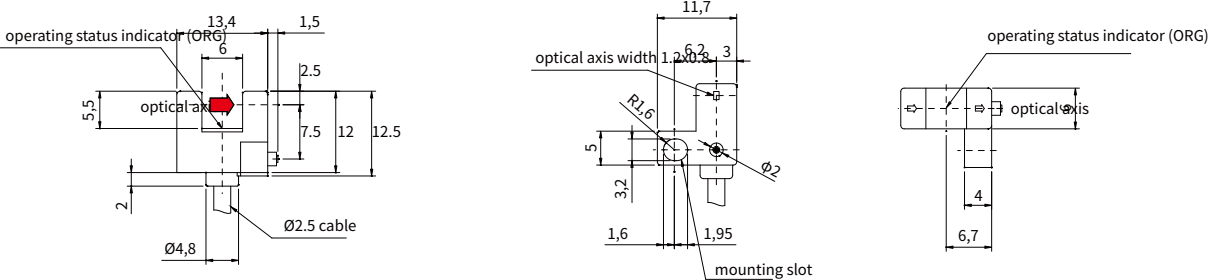
(Unti:mm



PU-K25/K25P



PU-R25/R25P

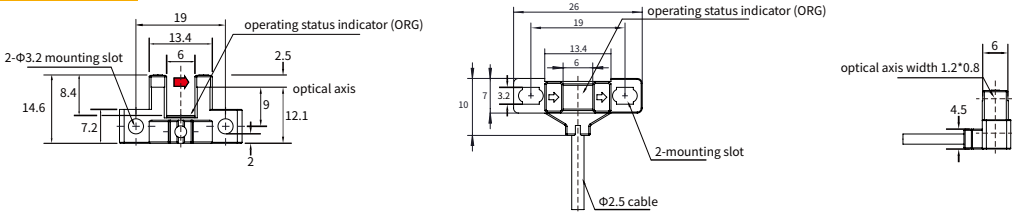


Slot-Type Photoelectric Sensor

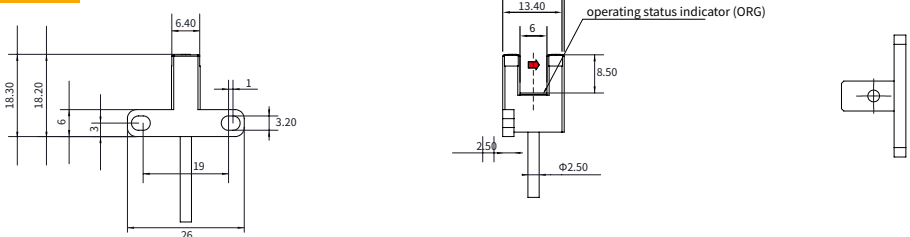
Size Specification

(Unit: mm)

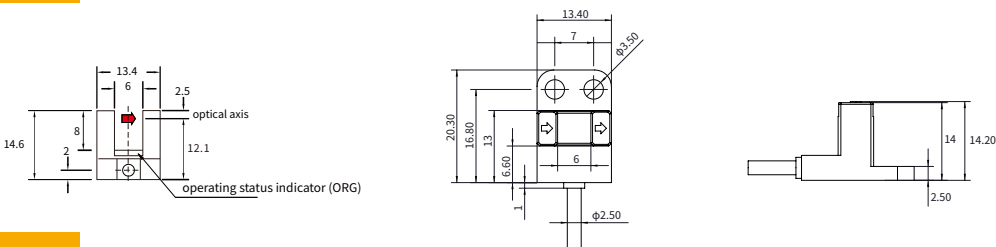
PU-L45/L45P



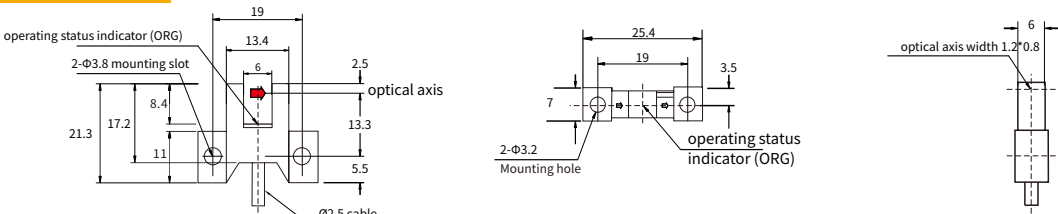
PU-T45/T45P



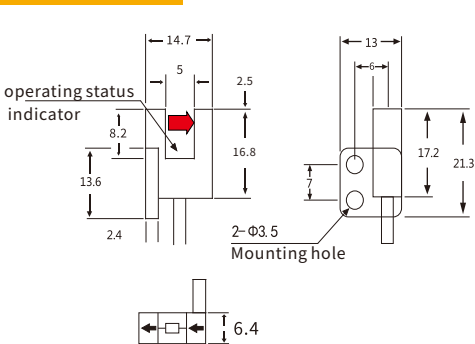
PU-Y45/Y45P



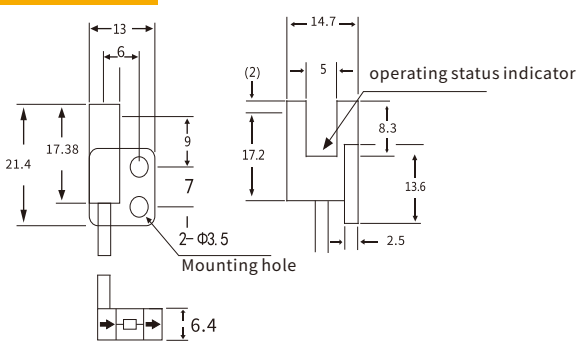
PU-K45/K45P



PU-F45/F45P



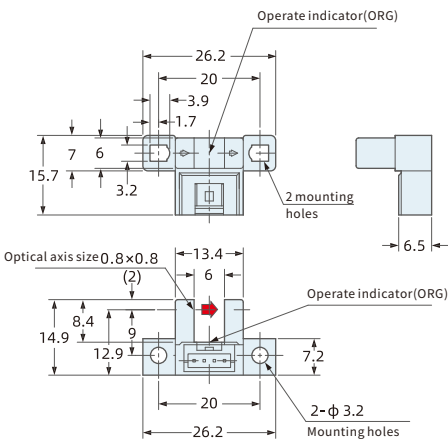
PU-R45/R45P



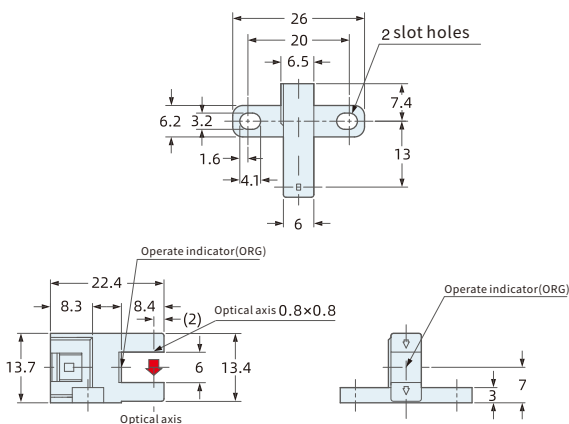
Size Specification

(Unit: mm)

PU-SX671/SX671P



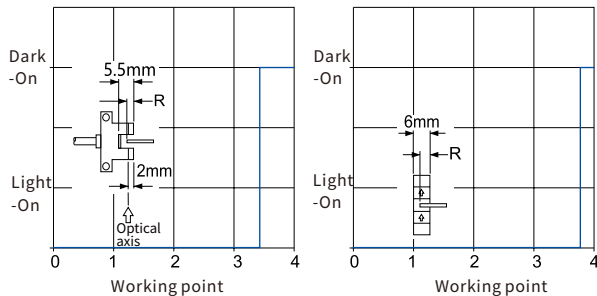
PU-SX672/SX672P



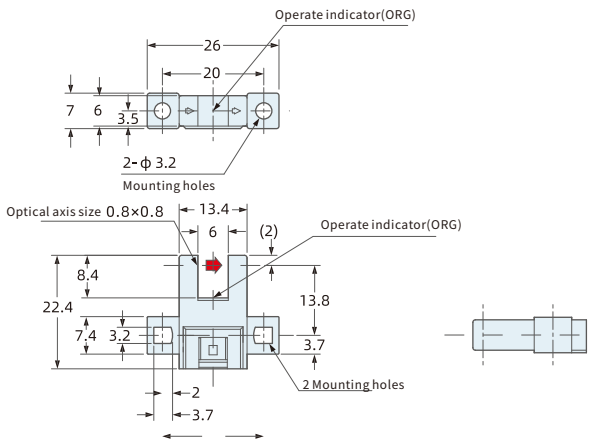
Positional Features

PU-25/45 series

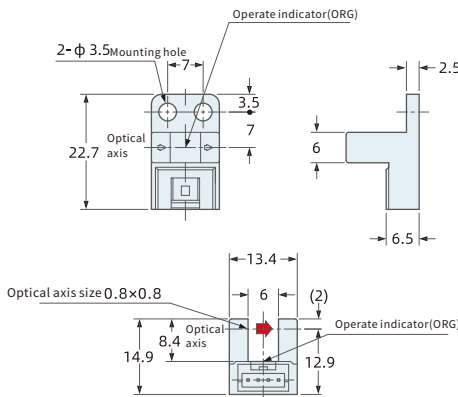
Sensing position features



PU-SX670/SX670P

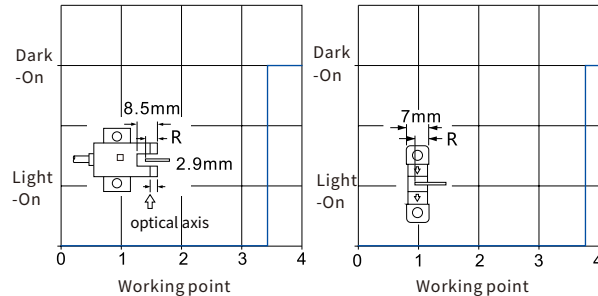


PU-SX674/SX674P

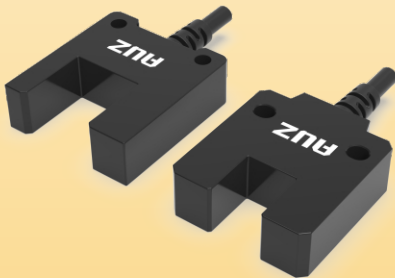


PU-SX67 series

Sensing position features



Slot-Type Photoelectric Sensor
PU-G series



Features

- High speed response : response frequency 2KHz
- 0.03mm Repeat accuracy
- Equipped with two independent outputs, normally open and normally closed available

Product Introduction

sensing distance
PU-G10N/G15N/G30N : 10mm/15mm/30mm Notch width

Positioning sensing object

Limit switch

Gear counting sensing
PU-G series

Detect 1.2mm x 0.8mm opacities

Response time
PU-G series

Response frequency of 2KHz

Various models available
PU-G series

Germany imported an ultrasonic welding process (dustproof and waterproof), a cable add-on. Copper sleeve anti-dragging, fine workmanship, high quality, IP67 protection level.

Product Specification

Model	NPN	PU-G10N	PU-G15N	PU-G30N
	PNP	PU-G10P	PU-G15P	PU-G30P
Sensing distance		10mm groove width	15mm groove width	30mm groove width
Sensing object		1.2x0.8mm opaque object		
Light source		GaAs infrared light-emitting diode (940nm)		
Response frequency		2KHz		
Supply voltage		DC12-24V		
Repeat accuracy		under 0.03mm		
Control output	Capacity	3-200mA		
	Residual voltage	less than 3V (load current 100mA and wire length 2m)		
Indicator		Motion Indicator (red)		
Output mode		Light-On ON / Dark-ON, equipped with 2 types of separate outputs		
Protection circuit		Surge protection circuit, reverse polarity protection		
Ambient temperature		Operation:-25-+55°C Storage: -40-+60°C (No condensation or icing)		
Ambient humidity		Operation, storage: 35-95% RH each (No condensation)		

I/O Circuit Diagram and Dimensional Specification

NPN output

PU-G10N

PU-G15N

PU-G30N

(Unit:mm)

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- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- Fiber Optic
- BGS
- Standard
- TOF
- Compact Photoelectric
- Laser Through
- Ultra-Thin Photoelectric
- Slot-Type
- Window-Type

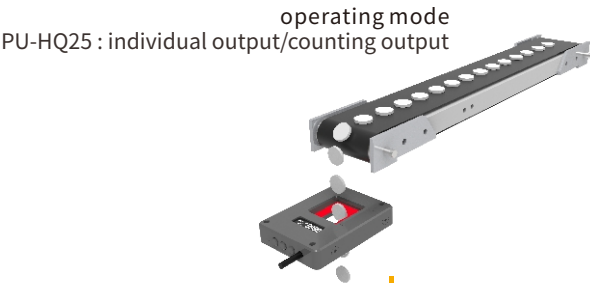
Falling Material
Detection Sensor
PU-HQ25



Features

- Material discharge sensing via positional deviation
- Detect copper wire, small hardware, screws and nuts, electronic components, small pills, small ornaments
- Detect Φ2.5mm non-transparent object

Product Introduction



Nut drop count

PU-HQ25

Material discharge sensing via positional deviation



Response time

PU-HQ25

Response time less than 900μs
Can be equipped with a high-speed Chinese amplifier, good stability, fast response time

Inspection of a wide range of small workpieces

PU-HQ25

Detect copper wire, small hardware, screws and nuts, electronic components, small pills, small ornaments

Pill drop count



Screw drop count



Product List

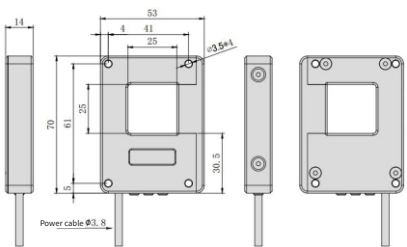
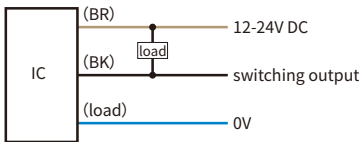
Sensing method	Appearance	Operating mode	Light source	Output type	Model
Transparent detection	Front detect	Individual output/counting output	Infrared ray940nm	NPN	PU-HQ25

Product Specification

Model	PU-HQ25
Window size	25mm*25mm
Min. object	Φ2.5mm Non-transparent objects
Supply voltage	12-24VDC ± 10%, floating P-P 10% or less
Power consumption	less than600mW
Light source	infrared ray940nm
Sensitivity	5 adjustable options
Operating mode	Individual output/counting output
Sensing output	NPN open collector output, Max. input current 100mA, connected to a Max. voltage of 30VDC, residual voltage less than 1V
Output state	Switchable
Time-delay function	Normal output/output delay/one time output, 3 output methods are optional. Two kinds of delay time adjustable: 1ms to 9999ms
Response time	less than 900μS
Monitor	OLED screen display
Protection circuit	Reverse power polarity protection; output short circuit or overload protection
Ambient light	Incandescent lamps: max: 20,000lux,Daylight: Max: 30,000lux
Vibration resistance	10 to 55Hz, Dual amplitude: 1.5mm, X,Y,Z axis respectively 2h
Ambient temperature	-25 to +55°C, unfrozen

I/O Circuit Diagram and Dimensional Specification

NPN output



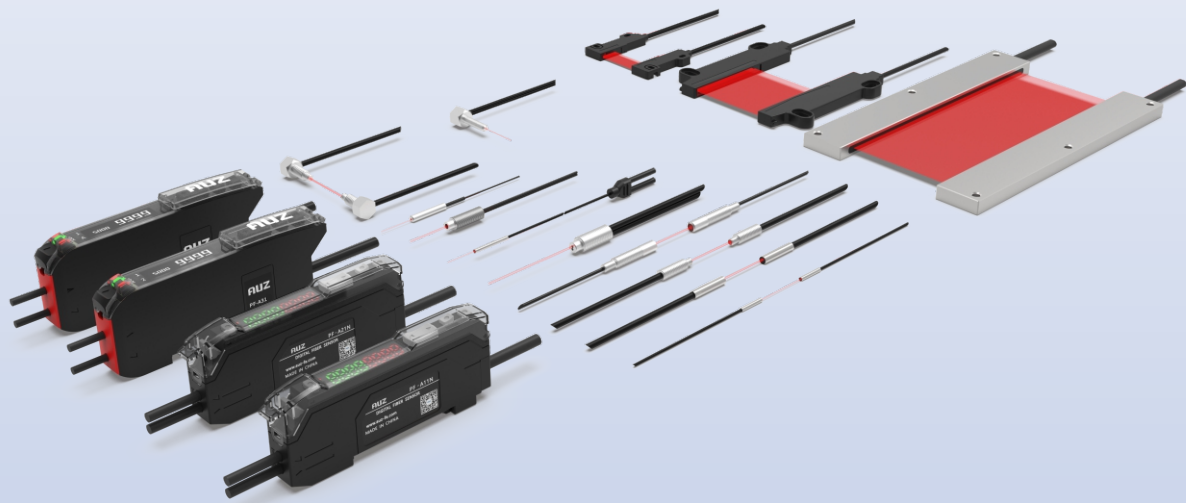
(Unit: mm)

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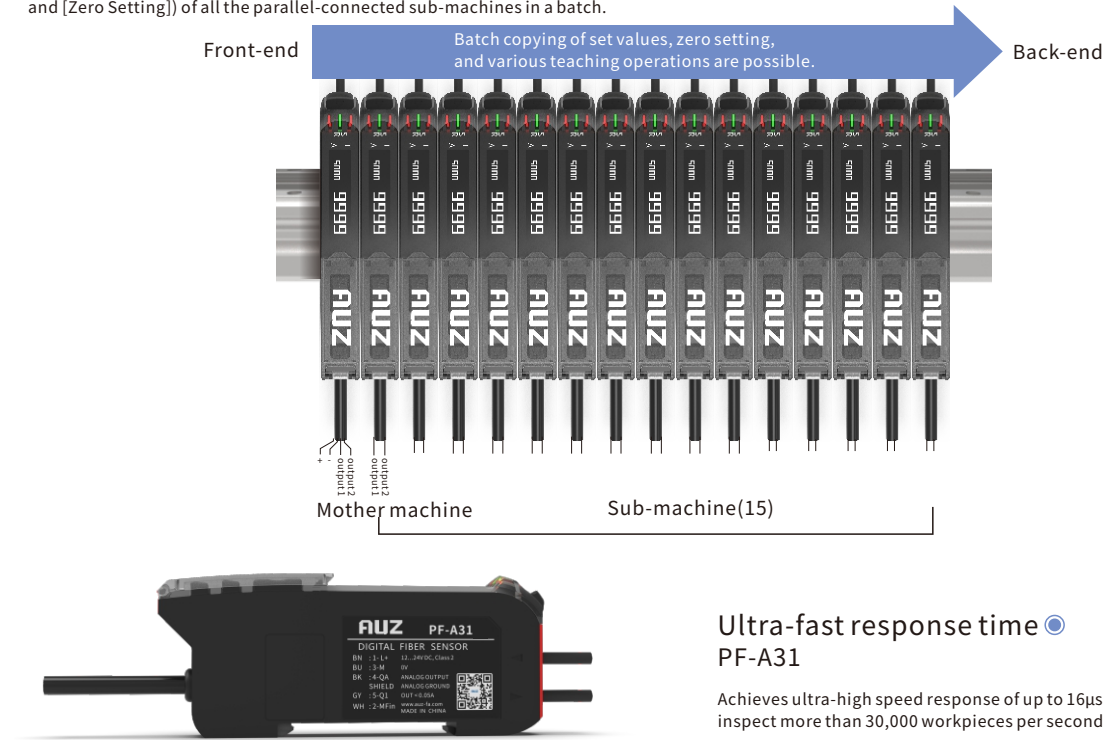
Series Catalogue

- Ultra-fast/Analog/Expandable Fiber Optic Amplifier B-03 ▶
- Economical Fiber optic Amplifier B-09 ▶

To learn more product information, please visit en.auz-fa.com.

● Sensor setpoints can be set in batches

PF-A31M/PF-A31S
Up to 16 sensors can be connected in parallel in the connected model. The [Teach All] function on the mother Unit allows to set the settings (such as [Copy All] and [Zero Setting]) of all the parallel-connected sub-machines in a batch.

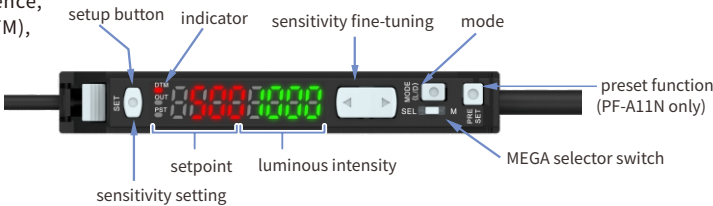


Ultra-fast response time ●
PF-A31

Achieves ultra-high speed response of up to 16μs and can inspect more than 30,000 workpieces per second.

● Powerful functionality and cost-effective
PF-A11N/PF-A21N

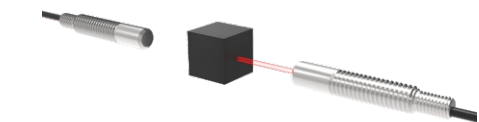
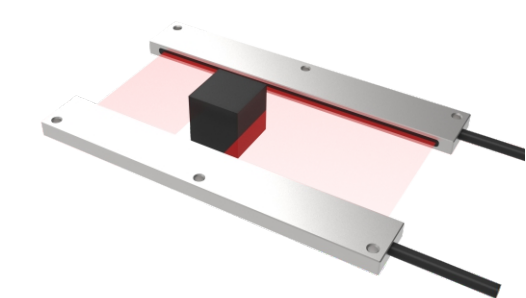
Counting, zero migration, percentage, anti-light interference, numerical amplification, area rising edge falling edge (DTM), normally open-normally closed interchange, time delay and other functions



● Intuitive and convenient LED dual digital display
PF-A11N/PF-A21N
Higher visibility, easy to set a variety of targets to meet the needs of various inspection scenarios

● Large-area fiber

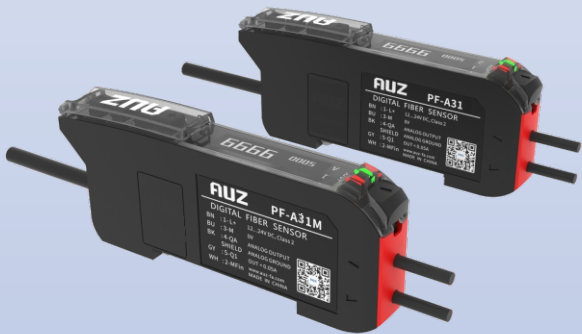
Area width up to 120mm
*PF-SI004



● Regular through-beam fiber optic

Easy to detect a variety of targets to meet the needs of various inspection scenarios

Ultra-fast Fiber Optic Amplifier
PF-A31
Analog Fiber Optic Amplifier
PF-A31AV
Expandable Fiber Optic Amplifier
PF-A31M/PF-A31S



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Features

- Organic EL display for improved ease of use and visibility
- High-power LED and high-efficiency spotting lens design to improve the sensing distance
- Ultra-fast response time: up to 16us

Product Introduction

response time
PF-A31: Up to 16μs

Fiber optic display lighting

PF-A31 series

Organic EL display for improved ease of use and visibility

Ultra-fast response time

PF-A31 series

Achieve the fastest 16us ultra-high-speed response, can detect more than 30,000 workpieces per second.

Ultra-high performance

PF-A31 series

Designed with high-power LEDs and high-efficiency spotting lens

High-speed counting of nut drops

Area-based fiber optic detection

Product Specification				
Model			PF-A31AV	PF-A31
Type			Analog output	1 output + 1 output/input switchable
Light source			Red 4-element LED (wavelength 660nm)	
Response time			16μs、70μs、250μs、500μs、1ms、2ms、8ms	
Sensitivity adjustment	Setting channel A (analog)	Various teaching modes and manual adjustment		—
	Setting channel 1 (switch)	Various types of teach-in (1-point teach-in, 2-point teach-in, auto teach-in, alignment, area, window) and manual adjustment		
Display	Display screen	Organic EL display 128x22 pixels, display language: English, Japanese, Simplified Chinese, Spanish, Korean		
	Indicator	Output indicator (ORG), Analog output indicator (ORG) Power indicator (GRN) Lights up when the power is turned ON.		Output indicator (ORG) × 2, Power indicator (GRN) lights up when power is ON (blinks during IO-Link Communication Module).
Connector	Switching output	NPN/PNP open collector or push-pull, in-function switching		
		Max.50mA/DC30V、Residual V: 1.8V or less		1 O Max. 100mA, 2 O Max. 50mA/30VDC, Residual V: 1.8V or less
	Analog output	Current output: 4-20mA, Load impedance: 300Ω or less		—
		Vout: 1-5V/0-10V; Zout: ≤100Ω, func. switchable.		—
	External input	Teach-in I/P, Laser-off I/P, AO Hold O/P, Reset I/P, Read Memory		Teach input, laser off input, counter reset input, read memory
Timer function			ON delay, OFF delay, single pulse output, ON/OFF delay, ON delay single pulse 1 to 30,000ms settable	
Output mode			Normally open, Normally closed (N.O./N.C.) Switchable within function	
Connection			Cable length: 2m ; Min. bending radius: cable diameter x 4	Cable type: Cable length 2m 4 core:2m, 4-core, 1ch out + 1ch in/out sw type, Min. BR: CD x 4
Insulation resistance			More than 20MΩ(DC500V)	
Rated	Supply voltage		DC12~24V ±10% corrugated (p-p)10%	DC12~30V ±10%
	Current consumption	Invalid mode	Max. 870mW (less than 33mA at 24V, less than 52mA at 12V)	Max. 870mW (≤29mA at 30V, ≤33mA at 24V, ≤52mA at 12V)
		Effective mode	Max. 780mW (29mA or less at 24V, 43mA or less at 12V)	Max. 780mW (≤26mA at 30V, ≤29mA at 24V, ≤43mA at 12V)
Circuit stabilisation time			300ms	
Applicable specifications			EN60947-5-2	
Protection circuit			Reverse connection protection, overcurrent protection	
Ambient resistance	Ambient temperature/humidity		-25~+55°C/35~85%RH (No condensation-icing)	
	Ambient light		Sunlight: under 10000lux Incandescent: under 3000lux	
	Vibration resistance		10~55Hz Double amplitude 1.5mm 2 hours in each direction X,Y,Z	
	Impact resistance		Approx. 50G (500m/s²) 3 times in each direction X,Y,Z	
	Enclosure rating		IP54	
Material			Housing, protective cover. PC	
Weight			Approx. 71g	

Fiber Optic

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

HIGH SPEED/AO

Economical

Ultra-fast/Analog Fiber Optic Amplifier

Product Specification					
Model		PF-A31M		PF-A31S	
Type		1 output + 1 output/input switchable			
Light source		Red 4-element LED (wavelength 660nm)			
Response time	Individual use	16μs, 70μs, 250μs, 500μs, 1ms, 2ms, 8ms		—	
	Connected Use	22μs, 70μs, 250μs, 500μs, 1ms, 2ms, 8ms			
Sensitivity adjustment		1-point teaching, 2-point teaching, auto teaching, alignment, area, window and manual adjustment			
Display	Display screen	Organic EL display 128x22 pixels, display language: English, Japanese, Simplified Chinese, Spanish, Korean			
	Indicator	Output indicator (ORG) × 2 Power indicator (GRN) Lit when power is ON			
Connector	Switching output*1	NPN/PNP open collector or push-pull switching within the function			
		1 output Max. 100mA, 2 output Max. 5 OmA/30VDC, residual voltage: 1.8V or less			
	External input	Teach-in input, laser-off input, analogue hold output, reset input, read memory*2			
Timer function		ON delay, OFF delay, single pulse output, ON/OFF delay, ON delay single pulse can be set. 1~30,000ms			
Output mode		Normally open, Normally closed (N.O./N.C.) Switchable within function			
Number of Connections		Max. 16 Units (including master)			
Connection		Cable type: cable length 2m Min. bending radius: cable diameter x4 4 pole:female 1 output + 1 input/output switchable type 2 pole:Sub 1 output + 1 input/output switchable type			
Insulation resistance		20MΩ or more (DC500V)			
Rated	Supply Voltage		DC12~24V±10%		
	Current draw	Invalid mode	Max. 792mW (less than 33mA at 24V, less than 52mA at 12V)		
		Effective mode	Max. 696mW (29mA or less at 24V, 43mA or less at 12V)		
Circuit stabilisation time		300ms			
Applicable specifications		EN 60947-5-2			
Internal specification		Noise resistance: Feilen Level 4 clear			
Protection circuit		Reverse connection protection, overcurrent protection			
Ambient resistance	Ambient temperature/humidity		-25~+55°C/35~85%RH (No condensation-icing)		
	Ambient light		Sunlight: under 10000lux Incandescent: under 3000lux		
	Vibration resistance		10~55Hz Double amplitude 1.5mm 2 hours in each direction X,Y,Z		
	Impact resistance		Approx. 50G (500m/s ²) 3 times in each direction X,Y,Z		
	Enclosure rating		IP54		
Material		Housing, protective cover. PC			
Weight		Approx. 71g			
Accessories		Mounting bracket			

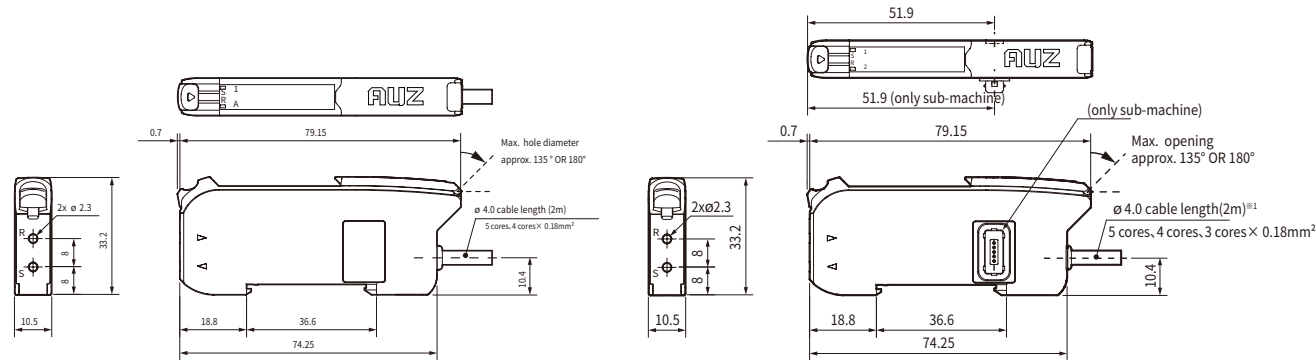
*1:The load current and operating environment for the number of Units connected to the mother Unit or the mother Unit alone are as follows: 20mA for the 1ch output setting, 10mA for the 2ch output setting, when using the standard connection type.
*2: Only the 2ch output + 1ch input type can be selected for reading memory.

Size Specification

PF-A31/PF-A31AV

PF-A31M/PF-A31S

(Unit:mm)

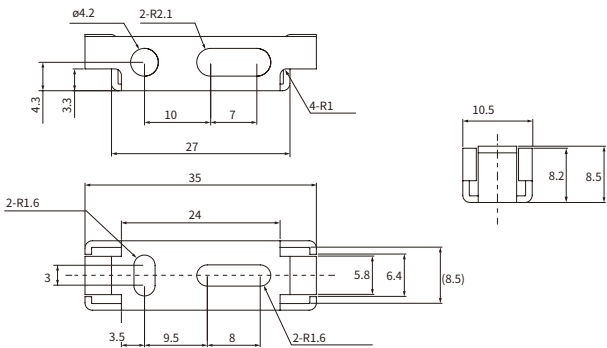


Ultra-fast/Analog Fiber Optic Amplifier

Size Specification

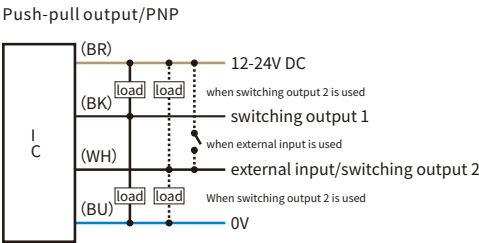
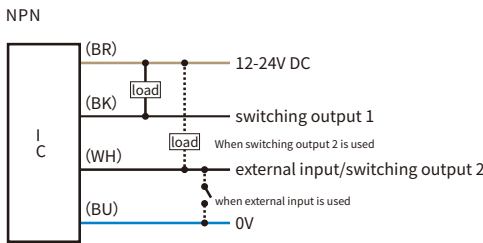
(Unit:mm)

Mounting bracket



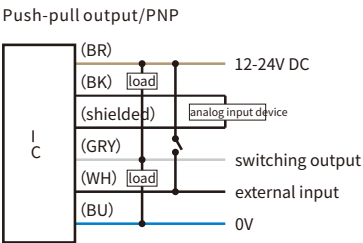
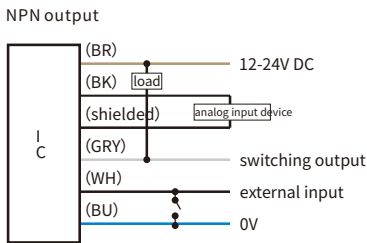
I/O Circuit Diagram

Switching output PF-A31/PF-A31M/PF-A31S



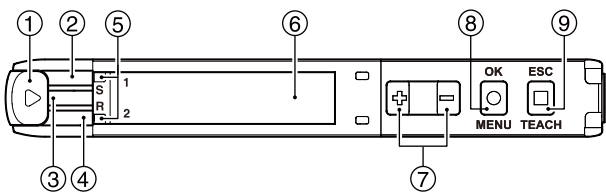
*1 When the input/output setting is Push-Pull and the load is NPN
*2 When the input/output setting is Push-Pull/PNP and the load is PNP

Analog output PF-A31AV



Ultra-fast/Analog Fiber Optic Amplifier

Button Setting



PF-A31

No.	Button Name	Status
1	Locking rod	Fixed Fiber optic cable
2	Output 1 indicator (ORG)	Lights up ORG when output 1 is ON
3	Power indicator (GRN)	Lights GRN when power is ON and blinks when IO-Link is communicating.
4	Output 2 indicator (ORG)	Lights up ORG when output 2 is ON
5	Fiber optic indicator	Displays the insertion status of the Fiber optic cable
6	Display screen	Displays the current amount of light received and the value. Items are displayed when setting.
7	Selection buttons (+/- buttons)	Fine-tune the threshold. Select the item when setting.
8	Menu button (OK)	Used to display the setup menu and determine setup items since etc
9	Teach-in button(ESC)	Used when performing demonstration teaching. In addition, it is used to cancel setting items

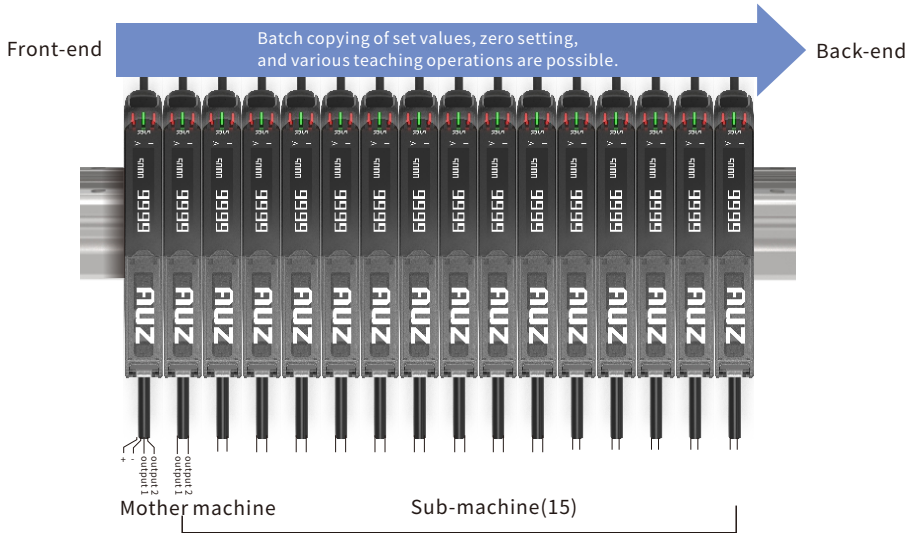
PF-A31M

No.	Component Name	Element
1	Anchor cable	Once the fibre is inserted into the fibre slot, push the anchor cable upwards to lock the fibre in place.
2	Output 1 indicator (ORG)	ORG lamp lights when output 1 ON.
3	Power indicator (GRN)	GRN lamp light is on when power is ON.
4	Analog output indicator (ORG)	The ORG lamp lights up when the workpiece is within the output range of the analogue output.
5	Fiber optic insertion indicator	Insertion status of the Fiber optic Unit.
6	Organic EL display screen	Displays the current amount of light received and the threshold value, as well as the parameters during setup.
7	Selection buttons (+/- buttons)	Select channel A: Adjust the span of the analogue output. Select channel 1: Fine-tune the threshold of the switching output. Settings: Select the menu.
8	Menu button (OK)	Used to display the setting menu, decide setting items, etc.
9	Teach-In button (ESC)	Used when performing demonstration teaching. In addition, it is used to cancel setting items

PF-A31M/PF-A31S

Sensor setpoints can be set in batches

Up to 16 sensors can be connected in parallel in the connected model. The [Teach All] function on the mother Unit allows to set the settings (such as [Copy All] and [Zero Setting]) of all the parallel-connected sub-machines in a batch.

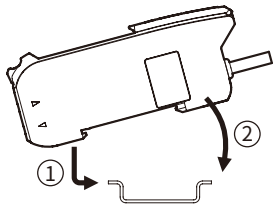


Ultra-fast/Analog Fiber Optic Amplifier

Product Installation

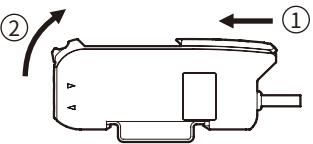
Amplifier installation

- ① Snap the tabs on the bottom of one end of the amplifier onto the side of the DIN rail.
- ② Press the other end of the amplifier until it locks onto the DIN rail.



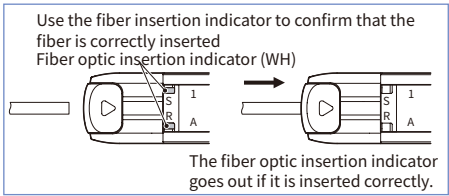
Amplifier disassembly

- ① Push the amplifier in the direction shown in the figure.
- ② Remove the amplifier by cocking the other end of the amplifier.

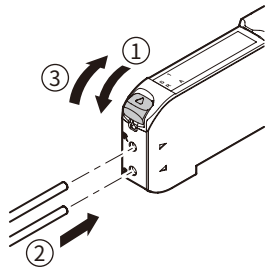
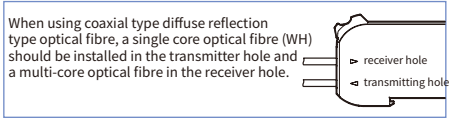


Fiber optic installation

- ① Open the Fiber optic anchor cable (push down).
- ② The fibre is inserted into the Fiber optic slot as far to the bottom of the slot as possible.

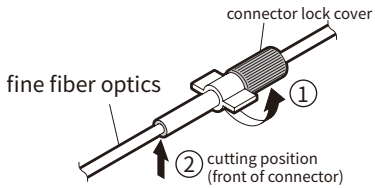


- ③ Close the fiber optic retention pins (push up).

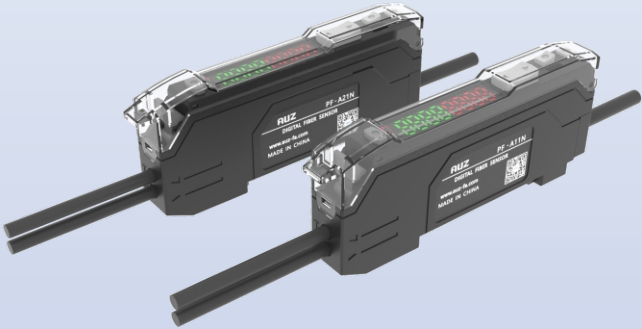


How to use fine fiber optics

- ① With the connector locking cover loosened (turn it counterclockwise), insert the optical fibre into the connector from the right side so that it passes through the front of the connector a little. Then, lock the connector locking cover (rotate it clockwise).
- ② Cut off the part of the fibre that protrudes from the front of the connector with Fiber optic scissors.



Economical Fiber Optic Amplifier
PF-A series



Features

- Flexible switching between four operation modes (MEGA\SUPER\FINE\HIGH SPEED)
- Response speed up to 50μs
- Complete circuit protection Reverse electrode, over-voltage, over-current protection
- Switching and analog selection

Product Introduction

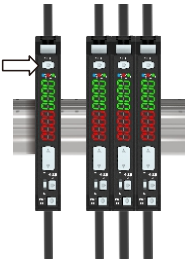
response time
PF-A: Anti oFF 50μs(high-speed)



SET button makes setting easier

PF-A series

Simply press the SET button when there is a target detector and again when there is no target to automatically determine the optimal setting



Multiple application modes

PF-A series

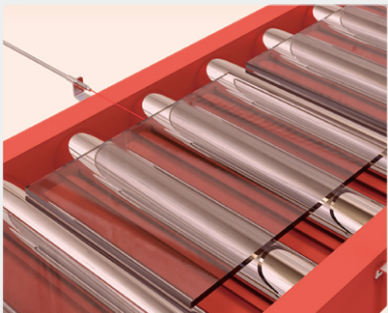
Flexible choice of 4 application modes (MEGA\SUPER\FINE\HIGH SPEED)

High-definition two-colour digital display

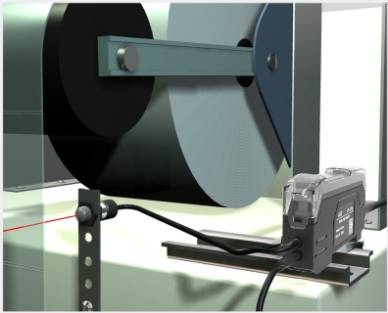
PF-A series

Setting values and light intensity are clearly visible

High-temperature sensing



Semi-transparent thin film sensing



Product Specification

Model	NPN	PF-A11N
	PNP	PF-A11P
Connection		cable
Light source		650nm Red light-emitting diode light source
Response time		Anti oFF: 50μs(HIGH SPEED) / 250μs(FINE) / 1ms(SUPER) / 16ms(MEGA)
Output mode		LIGHT-ON/DARK-ON (switching option)
Delay function		Disconnect delay timer/turn on delay timer/single timer
Control output	NPN	NPN open collector, 24V; Max. output: 100 mA or less (for connecting multiple sub-modules); Residual voltage: 1 V or less
	PNP	PNP open collector, 24V; Single-channel Max. output: 100 mA or less; Residual voltage: 1 V or less
Protection circuit		Reverse polarity protection (power supply), overcurrent protection (output), overvoltage (output)
Supply voltage		12 to 24V DC ± 10%, Ripple Voltage (P-P): 10% max.
Current consumption	NPN	Normal: Max. 900mW (At 24V, Max. 36mA; At 12V: Max. 48mA) / Power saving mode: Max. 800mW (At 24V, Max. 32mA; At 12V: Max. 39mA)
	PNP	Normal: Max. 900mW (At 24V, Max. 39mA; At 12V: Max. 52mA) / Power saving mode: Max. 850mW (At 24V, Max. 35mA; At 12V: Max. 44mA)
Ambient light		Incandescent: Max. 20,000 lux ; Daylight: Max. 30,000 lux
Ambient temperature		-20°C to +55°C (no freezing)
Relative humidity		35 to 85%RH(non-condensing)
Vibration resistance		10 to 55 Hz, compound amplitude 1.5 mm, 2 hours each in X, Y, and Z directions
Impact resistance		500m/s ² , 3 times each in X, Y and Z directions
Material		Polycarbonate
Size		30.3mm(height)X9.8mm(width)X71.8mm(depth)
Weight		approx. 66g

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Economical Fiber Optic Amplifier

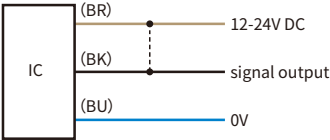
Product Specification			
Model	NPN	PF-A21N	
	PNP	PF-A21P	
Connection		Cable	
Light source		Red light-emitting diode LED tube	
Response time	MAGA Response time 8ms		Turn on to enhance anti-light interference response time of 13ms
	SUPER Response time 8ms		Turn on to enhance anti-light interference response time of 1.6ms
	FINE Response time 250us		Turn on to enhance anti-light interference response time of 400μs
	HSP response time 50us		Turn on to enhance anti-light interference response time of 200μs
Output mode		LIGHT-ON/DARK-ON (switching option)	
Delay function		Disconnect delay timer/turn on delay timer/single timer	
Control output	NPN	NPN open collector, 24V; Max. output: 100 mA; Residual voltage: 1.5 V	
	PNP	PNP open collector, 24V; Max. output: 100 mA; Residual voltage: 1.5 V	
Protection circuit		Reverse polarity protection (power supply), overcurrent protection (output), overvoltage (output)	
Supply voltage		12 to 24V DC ±10%, Ripple Voltage (P-P): 10% max.	
Current consumption	NPN	Normal: Max. 900mW (At 24V, Max. 36mA; At 12V: Max. 48mA) / Power saving mode: Max. 800mW (At 24V, Max. 32mA; At 12V: Max. 39mA)	
	PNP	Normal: Max. 900mW (At 24V, Max. 39mA; At 12V: Max. 52mA) / Power saving mode: Max. 850mW (At 24V, Max. 35mA; At 12V: Max. 44mA)	
Ambient light		Incandescent: Max. 20,000 lux; Daylight: Max. 30,000 lux	
Ambient temperature		-20°C to +55°C (no freezing)	
Relative humidity		35 to 85%RH(non-condensing)	
Vibration resistance		10 to 55 Hz, compound amplitude 1.5 mm, 2 hours each in X, Y, and Z directions	
Impact resistance		500m/s², 3 times each in X, Y and Z directions	
Material		Polycarbonate	
Size		30.3mm(height)X9.8mm(width)X71.8mm(depth)	
Weight		approx. 66g	

*When using the “High Speed” mode, the power consumption will increase by 160mW (7mA).

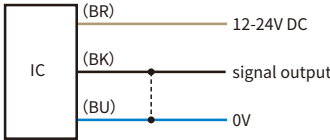
I/O Circuit Diagram

● Toggling the power selector switch will output 2 different channel (NPN/PNP) in-type switching modes.

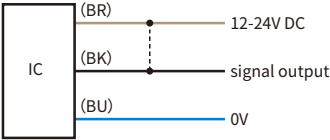
NPN output PF-A11N



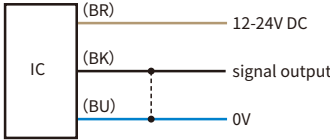
PNP output PF-A11P



NPN output PF-A21N



PNP output PF-A21P

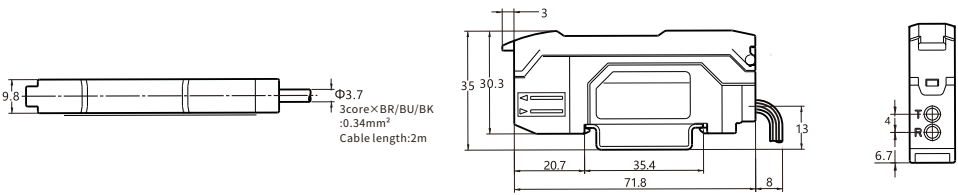


Economical Fiber Optic Amplifier

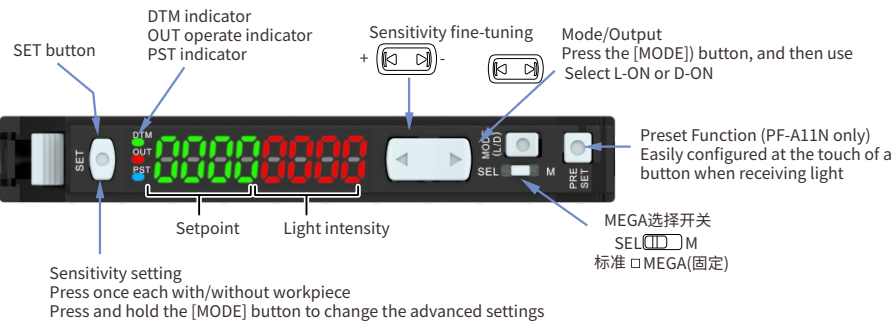
Size Specification

● PF-A11N / PF-A21N

(Unit:mm)



Button Setting





Series Catalogue

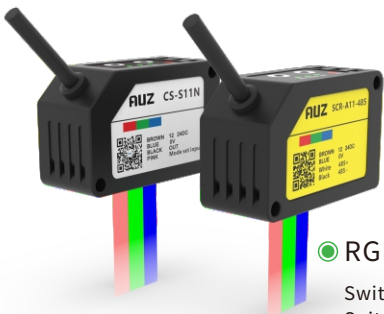
- Long-range White Light Sensor C-03 ▶
- Multi-Channel Color Sensor C-07 ▶
- Digital Color Mark Sensor C-13 ▶
- Label Sensing Sensor C-17 ▶
- Liquid Level Sensor C-21 ▶
- Laser Alignment Correction Sensor C-25 ▶
- Ultrasonic single and double sheet sensing C-29 ▶

To learn more product information, please visit en.auz-fa.com.

- Long-range white light sensor **NEW!**
Intelligent upgraded version of traditional RGB color sensors!
Performance is vastly superior to ordinary color scales.



- Economical color mark sensor
cost-effective



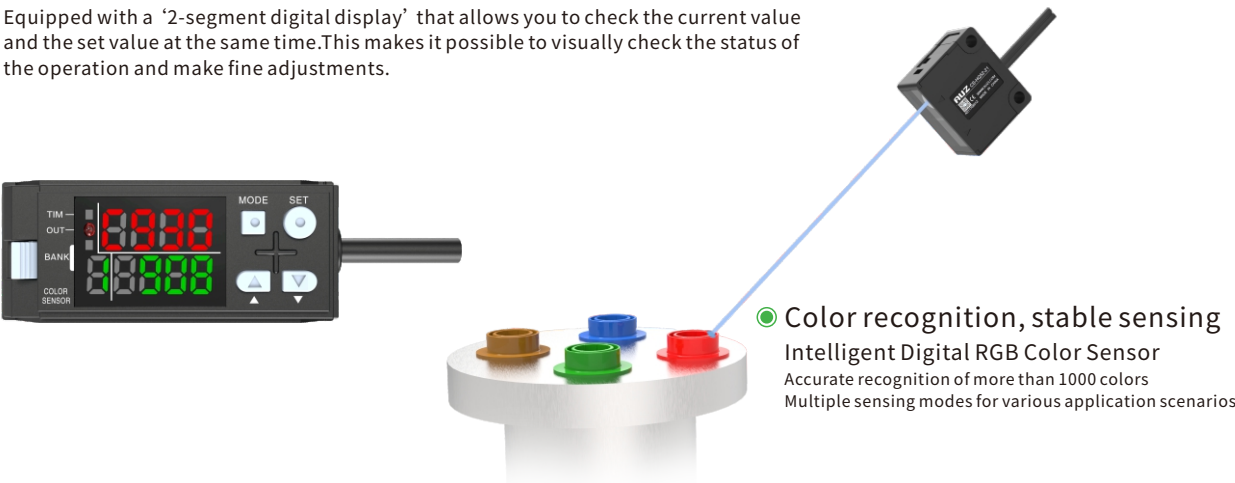
- RGB colour sensor
Switchable light switch function
Suitable for both luminous and non-luminous surfaces

- NEW!** New digital color mark sensor
High-brightness LED light, clear and crisp



- Digital display allows for accurate sensitivity setting

Equipped with a '2-segment digital display' that allows you to check the current value and the set value at the same time.This makes it possible to visually check the status of the operation and make fine adjustments.



- Color recognition, stable sensing
Intelligent Digital RGB Color Sensor
Accurate recognition of more than 1000 colors
Multiple sensing modes for various application scenarios

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic

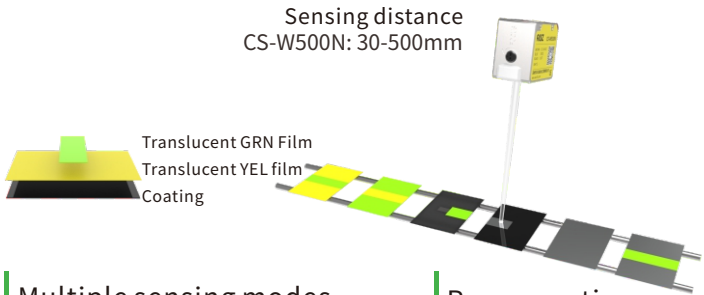
Long-range White Light Sensor
CS-W500N



Features

- Long sensing distance, up to 30-500mm
- White light spot captures subtle color differences, 3.6mm in the smallest spots
- Color modes are not susceptible to tilt and jitter of the measured object
- High-speed response of 160μs, more suitable for high-speed color sensing in motion.
- Four sensing modes are available for different colors, different shades of GRY and reflective objects.

Product Introduction



Multiple sensing modes

CS-W500N

Four sensing modes are available for different colors, different shades of gray and reflective objects.

Response time

CS-W500N

High speed response 160μs
More suitable for color sensing in high-speed sports



Stable sensing

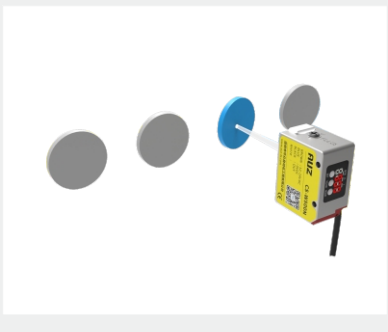
CS-W500N

Color modes are not susceptible to tilt and jitter of the measured object

■ Inspection of product handling/ coating verification



■ Detects objects without tilting



Product List

Sensing method		Appearance	Sensing distance	Light source	Output type	Model
Diffuse reflection	Front sensing			White light LED	NPN	CS-W500N
					PNP	CS-W500P

Product Specification

Model	NPN	CS-W500N
	PNP	CS-W500P
Type	1 output port, 1 external output port lead-in type	
Control output	1 output port, with short-circuit protection, with automatic anti-interference function	
Light source	WH LED, adjustable spot, Min. spot 3.6mm diameter	
Response time	200μs in AUTO, C and CI modes, 160μs in MARK.	
Output selection	LIGHT-ON/DARK-ON	
Display indicator	Operation indicator: red light-emitting diode, LED screen display	
Sensing method	AUTO,C and CI & MARK modes	
Sensing distance	30mm-500mm long range	
Time-delay function	Disconnect delay timer/on delay timer/single timer	
	Enable delay timer single timer, selectable.	
	Meter display at duration selectable:1ms to 9999ms	
Control output	NPN/PNP open collector 24V, max. 100mA (mains only) Consumption current max. 40mA (residual voltage: 2V when extension parts are connected)	
Power supply	Between 12 and 24VDC ±10%, floating ratio (P-P): Max. 10% rating 2	
Enclosure rating	IP67	
Ambient light	Incandescent:Max:20,000lux, Daylight:Max:30,000lux	
Power consumption	Current Max. voltage: 24V within 60mA	
Vibration resistance	10 to 55Hz, Dual amplitude: 1.5mm, X, Y, Z axes are 2 hours respectively	
Ambient temperature	-10 to +55°C, non-freezing	

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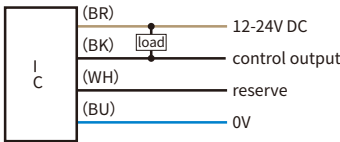
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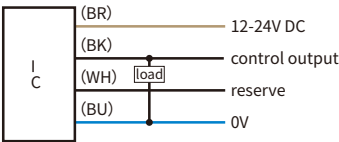
Long-Range White Light Color Sensor

I/O Circuit Diagram

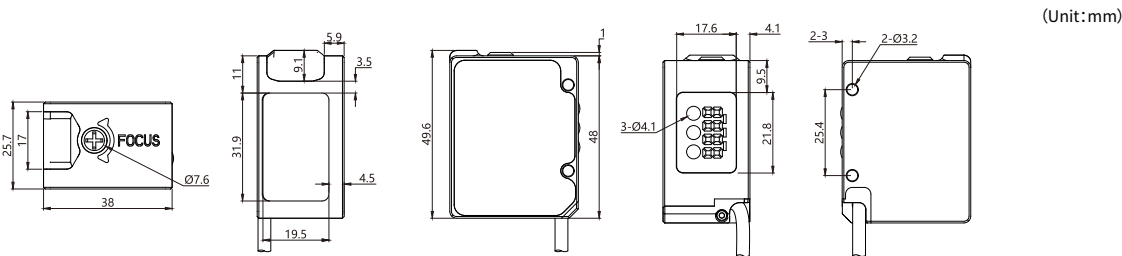
NPN output



PNP output

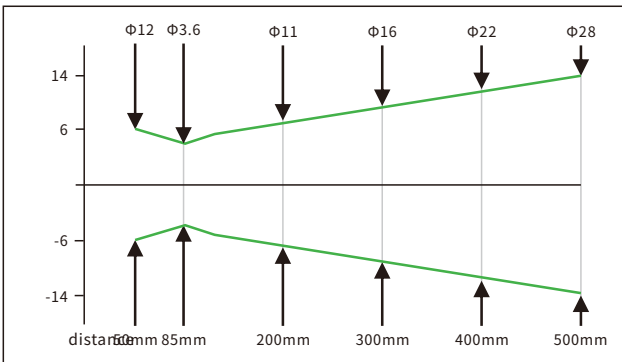


Size Specification



Spot Diagram

CS-W500N spot diagram (mm)



Basic Setting

Keyboard lock function:

Use the keypad lock function to stop all key functions
Press and hold the MODE+NO/NC keys simultaneously for more than 3 seconds, the screen will show LOC, then all keys are locked.
Press and hold the MODE+NO/NC key simultaneously for more than 3 seconds, the screen will display ULOC (Key Unlocked).

Initialization setting.

In the display mode, press MODE+SET for three seconds, the screen will display: init, which means restoring to the factory default mode.

Long-Range White Light Color Sensor

Memo

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

WH Light Color

Multi-Channel

Digital Display

Label Sensing

Liquid Level Sensing

Laser Correction

Single/Double Sheet

Multi-Channel
Color Sensor
CS-A21N



Features

- Accurate sensing of more than 3000 colors
- Detects 4 colors simultaneously, 4-channel outputs
- Can be equipped with a variety of specialized probes (long-distance, small spot, large spot), suitable for different application scenarios
- Three sensing modes are available for different colors, different grayscale, reflective objects sensing needs

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Product Introduction

response time
CS-A21N: 200μs(HSP)

Detect different color-marked positioning points of the tape

CS-A21N

3 sensing modes available for different colors, GRY levels and reflective objects

Matching color specific probes

CS-A21N

Compatible with all fiber optic type probes

Stable sensing

CS-A21N

Micro chromatic aberration recognition function for subtle color sensing

Copper/aluminium film distinction

Detecting the front and back of the chip in the package embossing

Product Specification

- Color amplifier

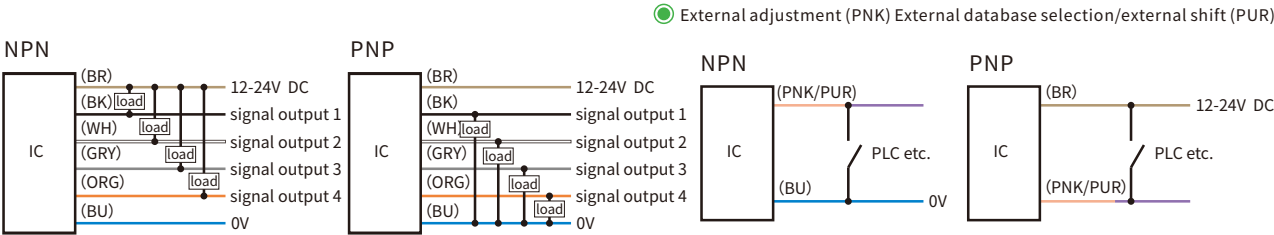
Model	NPN	CS-A21N
	PNP	CS-A21P
Response time	200μs(HSP)/1ms(FINE)/4ms(TURBO)/8ms(SUPER)	
Control output	NPN (PNP) collector open-collector X4 channels, Max. 40VDC (30VDC for one output with Max. 100mA, total of 4 outputs with Max. 200mA, residual voltage: Max. 1.0V).	
Protection circuit	Counter electrode protection, over current protection, over voltage	
External calibration input	Input time: min.20ms	
External switching input External offset input	Input time: min.20ms	
Timer function	Timer OFF/OFF-delay/ON-delay/single-shot, timer time: adjustable from 1 to 1,000ms (for each field))	
Power supply	24VDC fluctuation (P-P): 10% max.	
Current consumption	Normal Mode:1.5W (62.5mA max.), Eco Mode:1W (42.0mA max.)	
Ambient temperature	-10 to +55°C, non-condensing	
Vibration resistance	10 to 55 Hz, 1.5 mm dual amplitude, in the X, Y, and Z directions for 2 hours each	
Material	Housing ,cover: PC	
Weight (with 2m cable)	approx. 110g	

Color Sensor

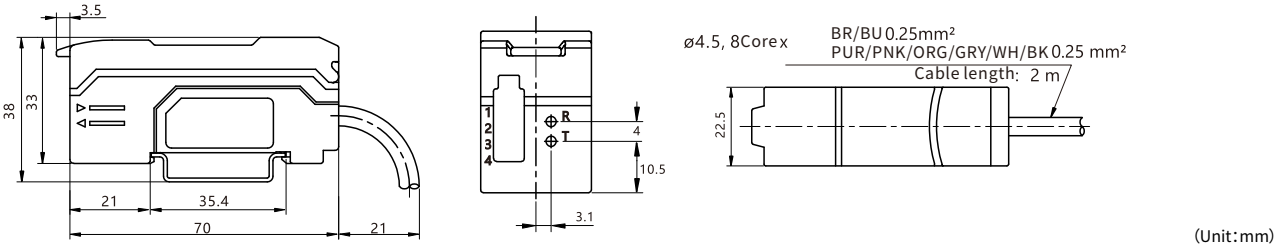
Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Correction
Single/Double Sheet

Multi-Channel Color Sensor

I/O Circuit Diagram and Dimensional Specification



CS-A21N



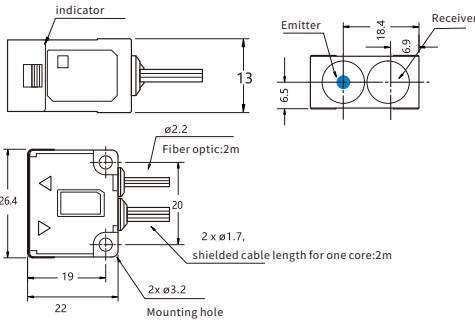
Product and Size Specification

Connector sensor probe

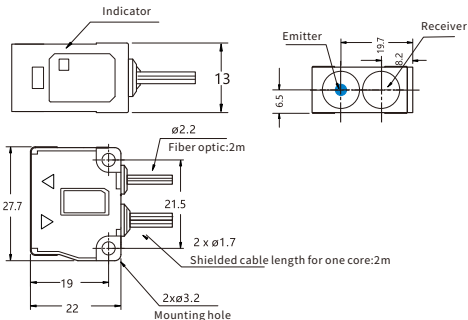
Appearance		
Type	Large spot for long distances	Eliminate glossy small beam points
Model	CS-HQ52-21	CS-HQ20P-21
Sensing range	28 to 52mm	11 to 20mm
Min. spot diameter	35mm reference distance / 4.5mm diameter	16mm reference distance/1mm diameter
Light source	Red LED (665nm) / GRN LED (520nm) BU LED (465nm)	
Min. fiber bending radius	25mm	15mm
Ambient light	Incandescent: max. 10,000lux, Daylight: max. 20,000lux	
Ambient temperature	-10 to +55°C, non-condensing	
Vibration resistance	10 to 55 Hz, 1.5 mm dual amplitude, in the X, Y, and Z directions for 2 hours each	
Enclosure rating	IP40	
Material	Housing: Polycarbonate	PC (Metal parts: Type 304 stainless steel)
Weight (with 2m cable)	approx. 40g	approx. 45g

*The CS-A21N is equipped with an external fiber optic interface, which can be connected to a common type of reflective fiber optic.

CS-HQ52-21



CS-HQ20P-21

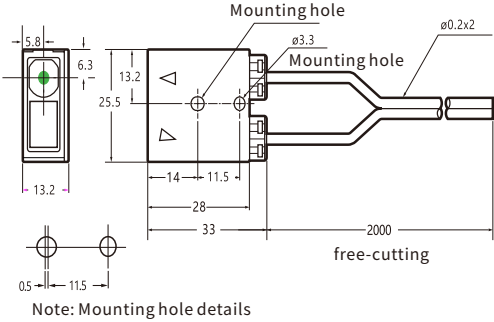


Product and Size Specification

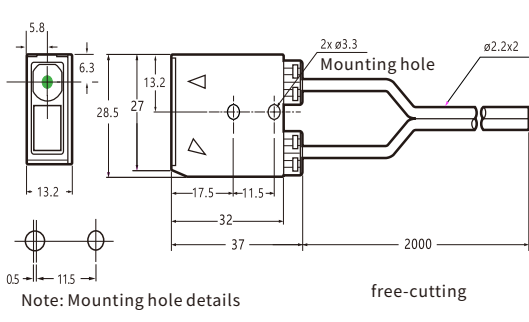
Fibre-optic Sensor Probe

Appearance						
Type	Compact adjustable	Compact adjustable	Long sensing distance	Min. spot	Sensing distance	Area beam
Model	CS-HS30	CS-HQ15V	CS-HQ70	CS-HQ16	CS-HQ95	CS-HQ20
Sensing distance	10~30mm	3~15mm	70±20mm	16±4mm	60±10mm	5~20mm
Min. spot diameter	Diameter 0.9~3.5mm	Diameter 0.9~1.5mm	Diameter 6mm	Diameter 1mm	Diameter 2mm	—
Min. bending diameter	R25mm		R15mm			R25mm
Enclosure rating	IP40		IP67			—
Ambient temperature	-40~+70°C, non-condensing					
Relative humidity	35~85%, non-condensing					
Fiber optic length	2m(free-cutting)	1m	2m(free-cutting)			—
Housing material	Lens housing: aluminum, Fiber housing: stainless steel		PC			PC, Fiber Optic: Plastic (polyethylene sheath)
Weight	approx. 10g	approx. 15g	approx. 30g			approx. 23g

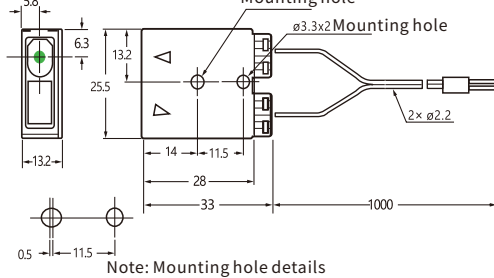
CS-HQ70



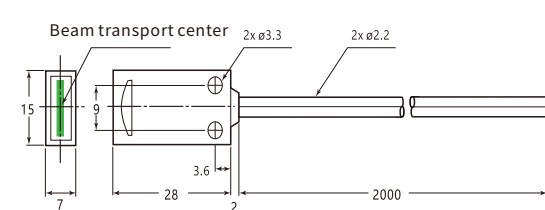
CS-HQ16



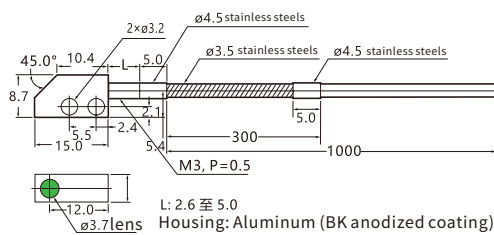
CS-HQ95



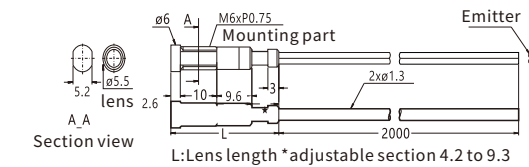
CS-HQ20



CS-HQ15V

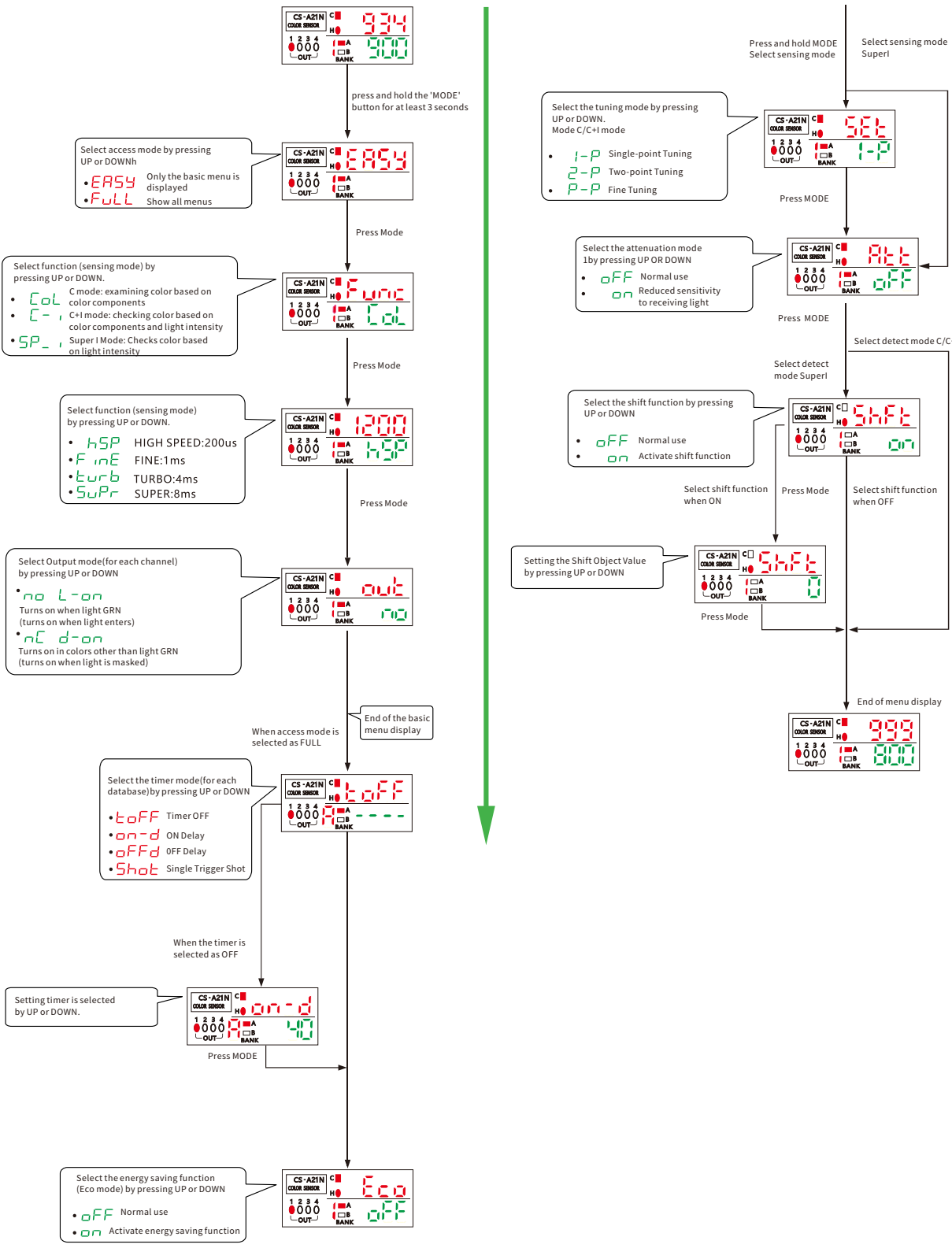


CS-HS30

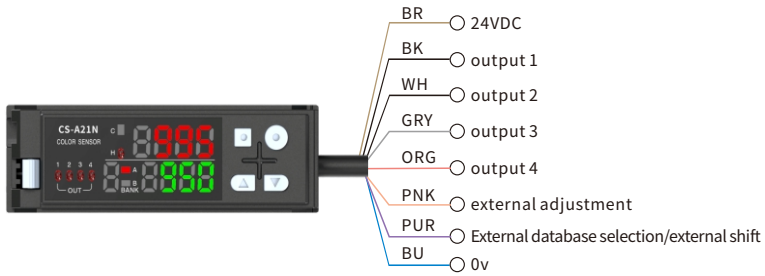


Menu selection

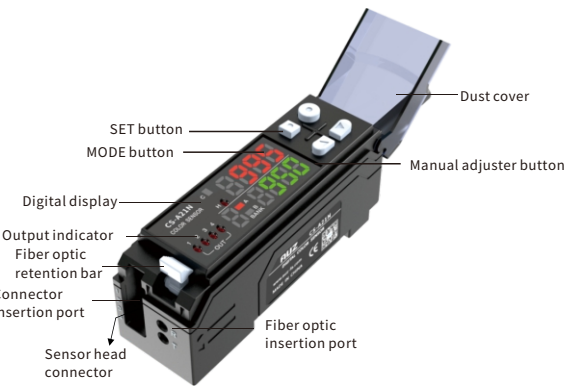
Press the MODE button for at least 3 sec and the menu will be displayed. Each mode can be configured from the menu. To exit the menu during setup, press and hold the 'MODE' button again for at least three seconds.



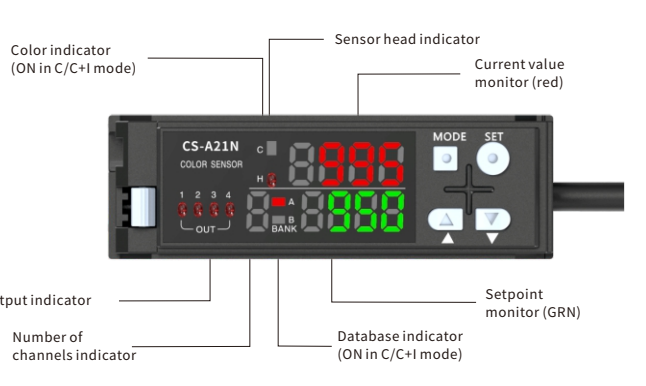
Product Wiring Diagram



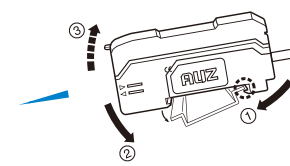
Amplifier module



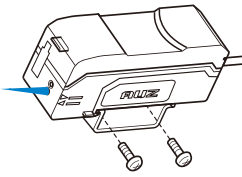
Button setting



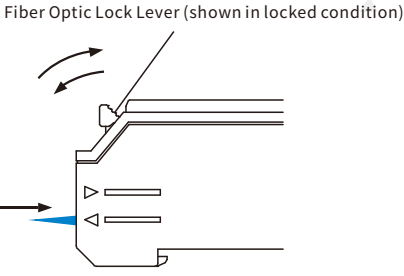
Mounting on DIN rail
Hook the jaws on the bottom of the amplifier module onto the DIN rail. Push the amplifier module in the direction of arrow 1 while pushing down in the direction of arrow 2. To remove the amplifier module, push the body in the direction of arrow 1 while lifting the body in the direction of arrow 3.



Mounting on the stand
Mount the amplifier module as shown in the figure below using the mounting bracket provided.



Insertion of connectors and fiber optic
Tilt the fiber fixing lever and insert the fiber optic cable: when using CS-HQ70/16, etc., insert the corresponding fiber optic cable into both holes; when using CS-HQ52-21/CS-HQ20P-21, insert the fiber optic cable into the illuminated holes only; make sure that the deepest part of the fiber optic cable is 20mm (Insertion length: approx. 20mm), and then lock the fiber optic cable with the fixing lever. Plug the connector of the sensor head into the corresponding connector port when using CS-HQ52-21/CS-HQ20P-21, and do not plug the connector when using CS-HQ70/16.



Three detection modes for a wide range of targets

Mode	Calibration standard	Calculate similarity or received light intensity		Advantages	Disadvantages
C mode	RGB contrast	Compare RGB and calculate change	Similarity = 1000 - (RGB average change)	Good handling of workpiece motion & vibration	Not suitable for recognizing neutral colors such as WH, BK, GY
C+I mode	RGB & brightness contrast	Compare luminance and calculate difference	Similarity = (Similarity of C patterns) - (RGB average change)	Detecting nuances	Affected by workpiece vibration
SuperI mode	Brightness contrast	Total RGB light intensity	Received light = Sum of Light Sources Received Light	Recognizes neutral colors (black and white)	

Digital Display Color Mark Sensor
CS-S21



Features

- Two-point setting Easy to operate Simple to operate
- Two sensing modes, color and color mark
- Adjustable sensing return to eliminate the effect of jitter on the measured object
- With digital display setting, debugging more convenient

Product Introduction

LED digital display

CS-S21N

High-brightness LED light design with two-point setting for easy operation

Sensing mode

CS-S21N

Switchable color mode and color mark mode

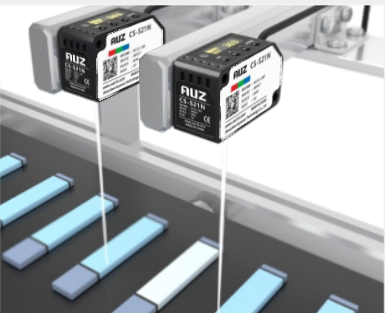
Stable sensing

CS-S21N

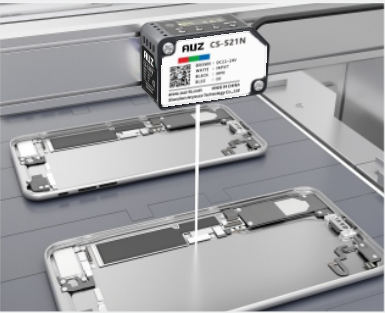
Adjustable sensing return to eliminate the effect of jitter on the measured object

sensing distance
CS-S21N: 17±3mm

Mark sensing



Mobile phone electrode tab sensing



Product List

Sensing method		Appearance	Sensing distance	Light source	Output type	Model
Diffuse reflection	Front		17±3mm	RGB tri-colour diodes	NPN	CS-S21N
					PNP	CS-S21P

Product Specification

Model	NPN	CS-S21N
	PNP	CS-S21P
Operating voltage	DC12~24V±10%	
Power consumption	≤35mA	
Sensing distance	17±3mm	
Light source	RGB Tri-Colour Diodes	
Sensing mode	Switchable color mode and color mark mode	
Response time	<1ms	
Response frequency	Color mode >1000Hz; Color mark mode >1500Hz	
Max. load current	<100mA	
Residual Voltage	<1.5V	
Switching mode	L.on (light-in)/ D.on (light-out) switchable	
Ambient light	Incandescent light ≤3000Lux; Sunlight ≤10000Lux	
Ambient temperature	Operating: -10°C~55°C; Storage: -25°C~75°C, no freezing	
Ambient humidity	Operating: 30%~85%; Storage: 30%~95%RH, non-condensing	
Protection circuit	Reverse polarity protection/surge protection/short circuit protection	
Enclosure rating	IP67	
Connection	Lead-in type (4 cores, standard 2m cable)	
Housing material	PC	
Vibration resistance	10~55Hz, double amplitude 1.0mm, X/Y/Z direction each 30 minutes	
Impact resistance	300m/S ² , 3 times each in X, Y and Z directions	

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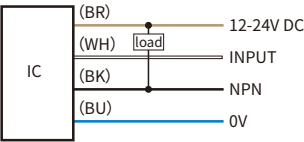
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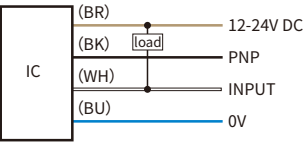
Digital Display Color Mark Sensor

I/O Circuit Diagram

NPN output

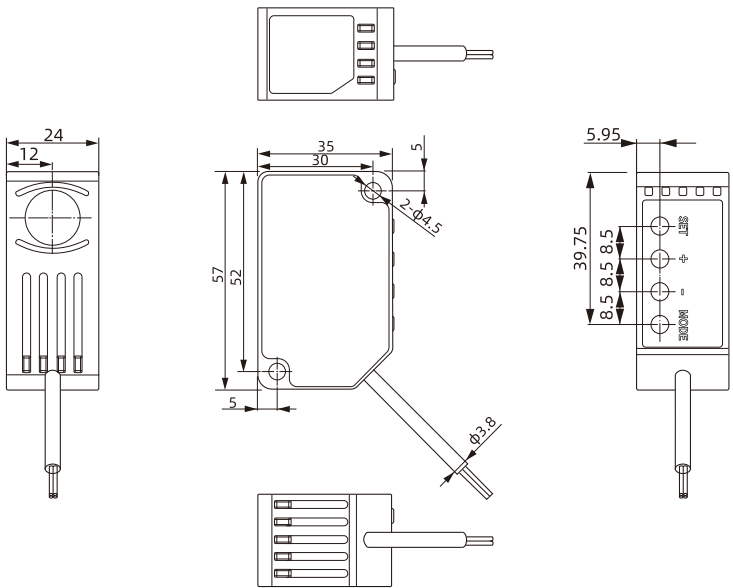


PNP output



Size Specification

(Unit:mm)



Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Correction
Single/Double Sheet

Digital Display Color Mark Sensor

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Correction
Single/Double Sheet

Label Sensor
MK-80 series



Features

- The thin design allows flexible installation adjacent to label peeling machines, ensuring higher process accuracy
- Compact housing saves installation space, simple tuning allows for easy and quick start-ups
- Fast response time of less than 100us ensures accurate sensing even at high web movement speeds
- Vs reverse polarity protection, output short circuit protection, interference suppression
- One-touch button for self-learning function
- Switching frequency up to 1000Hz
- Normally open/normally close can be switched freely

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Product Introduction

Thin design

MK-80 series

Allows flexible installation adjacent to label peeling machines, ensuring higher process accuracy

Response time

MK-80 series

Fast response time of less than 100us ensures accurate sensing even at high web movement speeds

One-touch button

MK-80 series

One-touch button for self-learning function

sensing mode

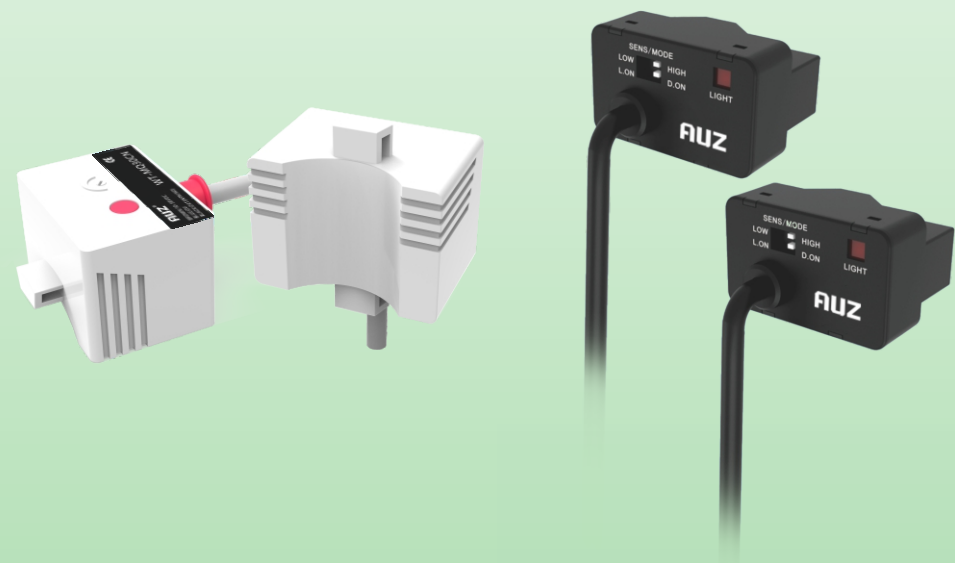
MK-80 series: photoelectric through-beam

Label detection

Color anomaly sensing for labels

Product Specification	
Model	MK-80T2B
Sensing method	Fiber optic through-beam
Slot width	2.7mm
Slot depth	53mm
Detected object	Opaque labels
Repeat accuracy	±0.5mm
Sensitivity adjustment	Key Learning, ± Key Fine Tuning
Output mode	NPN and PNP outputs at the same time
Switching mode	L.on/D.on switchable
Response time	<100μs
Response frequency	1000Hz
Light source	940nm infrared light
Operating voltage	DC12~24V±10%
Residual voltage (voltage drop)	<1.5V(Load current 50mA, 2m wire)
Max. load current	100mA
Consumption (no-load) current	<20mA
Ambient temperature	operate:-10℃~55℃; storage:-25℃~70℃, no freezing
Ambient humidity	operate:35%~85% RH; storage:35%~95% RH, non-condensing
Protection circuit	Reverse polarity protection/surge protection/short circuit protection
Enclosure rating	IP65
Indicator	Red: function indicator, GRN: output indicator
Connection	M8, 4 cores connector
Housing material	Aluminum alloy + anodized
Voltage resistance	AC 500V,50/60Hz,1min
Vibration resistance	10~55Hz, double amplitude 1.5mm, X/Y/Z direction each 2H
Impact resistance	500m/s², 10 times each in X, Y and Z directions
Insulation resistance	20MQ or more (DC500V megohmmeter)

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Correction
Single/Double Sheet



Series Catalogue

- Capacitive Liquid Level Sensor
- Photoelectric Liquid Level Sensor

C-03 ▶

C-07 ▶

To learn more product information, please visit en.auz-fa.com.

Glue hanging on the wall does not affect the sensing

PHC-20T10BNO

Stable sensing of glue in the case of hanging wall, accurate and error-free sensing without interference (Proximity series D-72)



WT-MQ30CN : 0.3-3mm

Non-contact sensing

WT-MQ30CN

Avoids damage or deformation of the object to be measured, especially suitable for soft materials or fine components.



WT-MQ15CN : 0.6-5mm

Sensing of liquid level in transparent tubes

WT-MQ30CN

Suitable for detecting 6-13mm transparent or semi-transparent catheters.



Applicable type

WT-MQ14-DN03 : external diameter ϕ 6~13mm

Multi-functional

WT-MQ14-DN03

With output action switching function and sensitivity switching function



Sensing of liquid level in transparent tubes

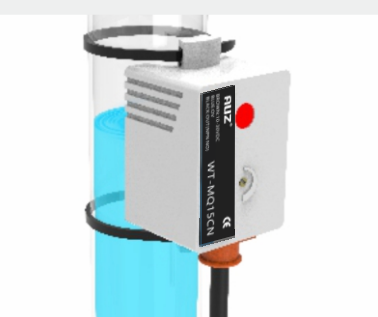
WT-MQ14-DN03

Suitable for detecting 6-13mm transparent or semi-transparent catheters.

Detection of the level of different colored liquid



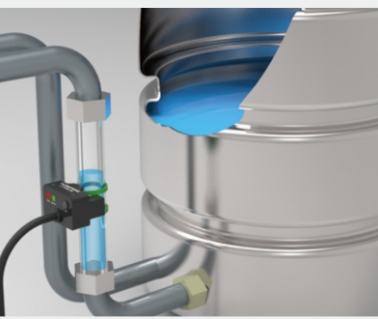
Sensing of liquid level in transparent tubes



Confirmation of dispenser application volume



Sensing of water level in storage tanks



Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

WH Light Color

Multi-Channel

Digital Display

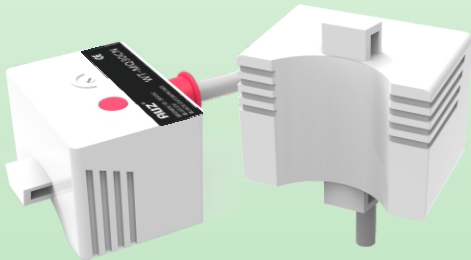
Label Sensing

Liquid Level Sensing

Laser Correction

Single/Double Sheet

Capacitive Pipeline
Level Sensor
WT-MQ series

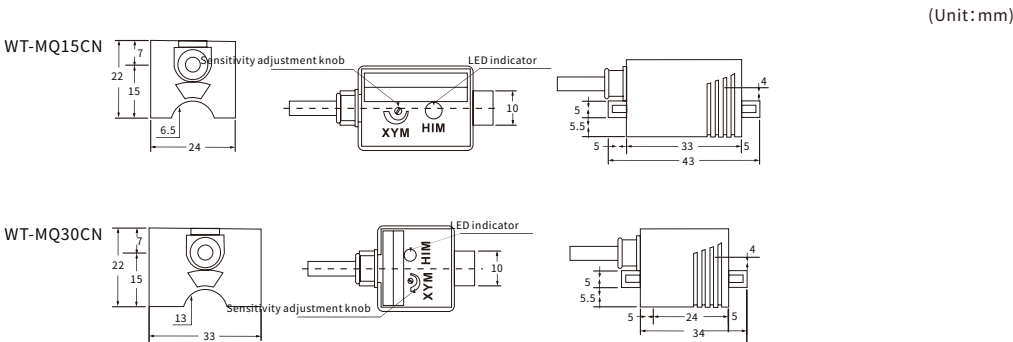


Features

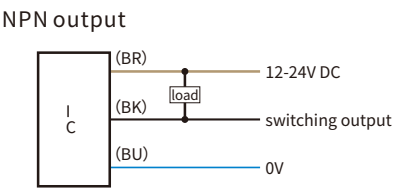
- Simple operation
- Non-contact sensing
- Vibration and impact resistant
- Suitable for detecting 6-13mm transparent or semi-transparent catheters
- With sensitivity switching function

Product Specification			
Model		WT-MQ15CN	WT-MQ30CN
Applicable pipe diameter		Wall thickness below 1.5mm Φ6~Φ13mm	Wall thickness below 2mm Φ14~Φ26mm
Hysteresis		0.6~5mm	0.3~3mm
Repeat distance accuracy		less than ±0.2mm	
Detectable object		Liquid	
Supply voltage (operating voltage)		10-30V	
Current consumption		Less than 12mA	
Control output	Switching capacity	Less than 100mA	
	Residual Voltage	Less than 1V (at a load current of 100mA and a wire length of 2m)	
Indicator		Motion indicator (red)	
Protection circuit		Surge protection circuit, short circuit protection, reverse polarity protection	
Ambient temperature		Use: 0~+55°C Storage: -10~+65°C (no icing, condensation)	
Ambient humidity		Use and storage: 25-85% RH each (no condensation)	
Temperature effect		Sensing level ±4mm at +23°C in the temperature range 0 to +55°C (pure water and 20% salt water)	
Voltage effect		Rated supply voltage range ±10%, ±0.5mm of sensing level at rated supply voltage	
Insulation resistance		50MΩ or more (DC500 megohmmeter) between the whole charging part and the case	
Voltage resistnace		AC500V50/60Hz1min between the charging part and the shell	
Vibration resistance		10-55Hz up and down amplitude 1.5mmX,Y,Z each direction 2h	
Impact resistance		500m/S² 3 times in each direction X, Y, Z	
Enclosure rating		IP66	
Connection		Wire lead type (standard wire length 2m)	
Material	Housing	Heat-resistant ABS	

Size Specification



I/O Circuit Diagram



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Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Correction
Single/Double Sheet

Pipeline Level
Photoelectric Sensor
WT-MQ series



Features

- Simple operation
- Non-contact sensing
- Vibration and impact resistant
- Suitable for detecting 6-13mm transparent or semi-transparent catheters
- With output action switching and sensitivity switching function

Inquiry AUZ :

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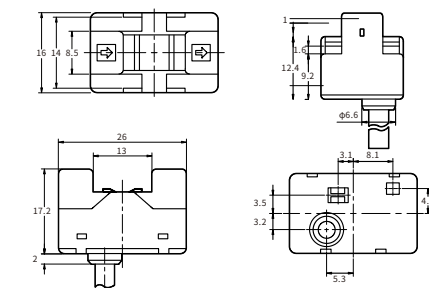
* For any questions, please contact us via email
auz.sensor@fuazon.com

Liquid Level Sensing

Product Specification

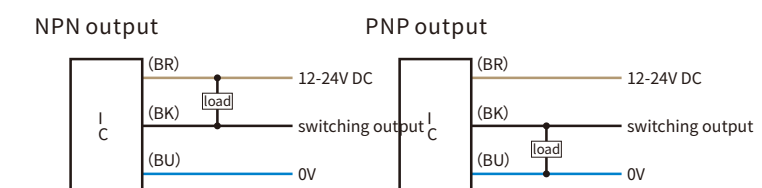
Model	WT-MQ14-DN03	WT-MQ14-DP03
Applicable pipe diameter	Transparent tubing (FEP (fluorine resin) or equivalent transparency) with an outer diameter of φ6 to 13mm (thickness of 1mm).	
Detected object	Liquid in the catheter (high viscosity or turbid liquid may not be detected on some occasions)	
Light source	GaAs IR LED (940mm)	
Operation indicator	Lights up when light is entering (red)	
Supply voltage	DC12~24V+10% pulse (P-P)under 5%	
Current consumption	Average value 30mA or less, front end value 80mA or less	
Control output	Load current voltage DC5~24V;Load current 100mA or less Residual voltage 0.8V or less (at load current 100mA) Residual voltage 0.4V or less (at 40mA load current) NPN open collector output type	
Ambient light	Incandescent lamps and sunlight: below 3,000lx each	
Ambient temperature	operate: -10~+55°C storage: -25~+65°C (No freezing and non-condensing)	
Ambient humidity	operate: 5~85%RH storage:5~95%RH (non-condensing)	
Vibration resistance	10~500Hz amplitude 1.0mm or acceleration 150m/s ² 3 times in each direction X, Y, Z (11min/time)	
Impact resistance	500m/s ² 3 times each in x, y and z direction	
Enclosure rating	IEC specification IP50	
Connection	Lead-in type (standard lead 1m cable)	
Material	PC	

Size Specification



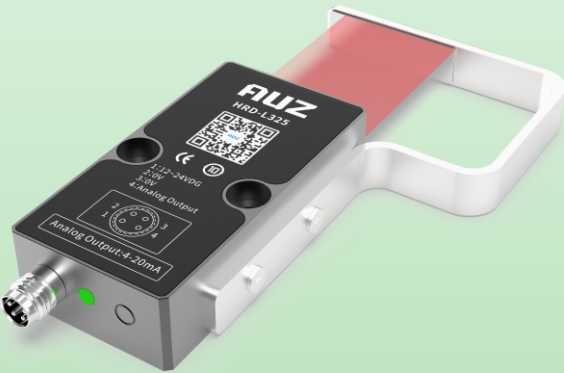
(Unit:mm)

I/O Circuit Diagram



- | |
|-------------------------------------|
| Photoelectric |
| Fiber Optic |
| Color/Liquid/Correction |
| Proximity |
| Measurement |
| Barcode Reader |
| Communication Module |
| Dust-Free Drag Chain |
| Process Control |
| Detect/Eliminate Static Electricity |
| Fiber Optic |
| WH Light Color |
| Multi-Channel |
| Digital Display |
| Label Sensing |
| Liquid Level Sensing |
| Laser Correction |
| Single/Double Sheet |

Laser Correction Sensor
HRD-L325



Features

This sensor utilizes a collimated laser beam for alignment correction, providing real-time monitoring of positional deviation at the object edge and outputting an analog signal. The laser beam width is 24mm.

- Object edge sensing (high-precision alignment)
- Factory preset, ready to use out of the box
- Repeat accuracy 30μm
- Analog 4-20mA output

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Product Introduction

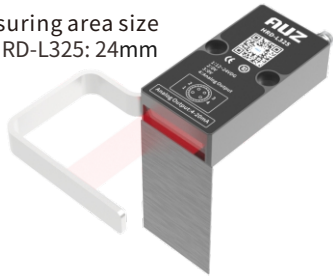
Film winding control

HRD-L325

Alignment correction measurement



measuring area size
HRD-L325: 24mm



Metal stop-rotation structure

HRD-L325

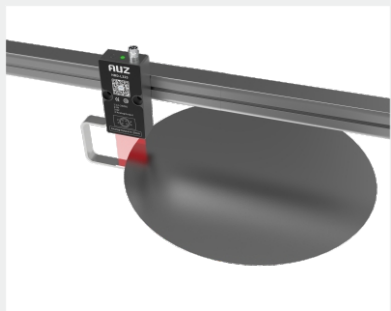
Highly rigid linear ball bearings for long service life

Stable detection

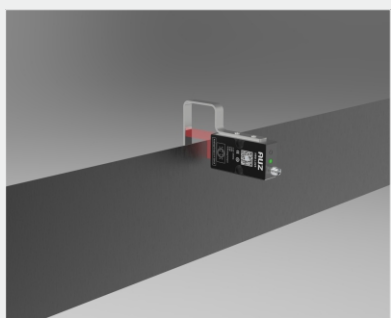
HRD-L325

High repeat accuracy

Wafer edge measurement



Electrode tab edge position sensing



Product Specification

Model		HRD-L325
Measured area size		24mm
Measured distance (from object)		0~40mm
Light source	Medium · wavelength	Red semiconductor laser · 650nm · 7mw · Class2
Spot size		3.5x25mm
Linear accuracy		±200μm
Repeat accuracy		±30μm
Response time		1ms
Temperature characteristic		±0.02%F.S./°C
RGB indicator		Green light flashes slowly (2Hz): normal operation status Red light flashes slowly (2Hz): the light path is completely blocked or abnormal state GRN light is always on: program restart is loading
Analog output		Current signal: 4~20mA (input impedance of sampling end≤250Ω)
Supply voltage		DC12~24V±10%
Current consumption		100mA or less (at DC24V)
Connection		M8 4-pin connector
Ambient resistance	Enclosure rating	IP67
	Operate temperature/humidity	-10~+50°C/35~85%RH (No condensation-icing)
	Storage temperature/humidity	-20~+60°C/35~85%RH (No condensation-icing)
	Light	Sunlight: below 10,000lux, incandescent: below 3,000lux
	Vibration resistance	10~55Hz double amplitude 1.5mm, X, Y, Z each direction 2 hours
	Impact resistance	500m/S² (approx. 50G), 3 times in each direction X, Y, Z
	Enclosure rating	Reverse connection protection, overcurrent protection
Weight		75g
Material		Housing: aluminum Alloy lens: glass

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- Fiber Optic
- WH Light Color
- Multi-Channel
- Digital Display
- Label Sensing
- Liquid Level Sensing
- Laser Correction
- Single/Double Sheet

Laser Correction Sensor

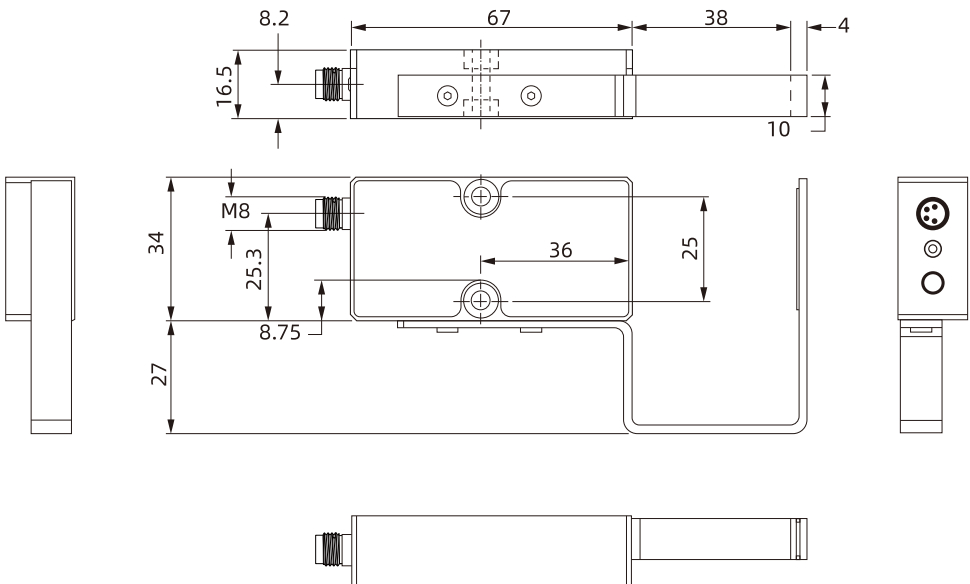
Interface definition



No.	Function	Cable wiring colors
1	DC12~24V±10%	BR
2	0V	WH
3	0V	BU
4	Analog Output	BK

Size Specification

(Unit:mm)



Measurement Mode

- Measurement mode: Measurement of the width of an object blocking the light path as it enters the light path
 - Direction of motion of the object to be measured: from the sensor opening into the optical path (the measuring reference is located at the outermost edge of the opening)
-
- Outputs 4mA when the light path is fully blocked, and 20mA when the light path is not blocked.
 - (The object to be measured is a continuous object and cannot be used to measure gaps or objects with 2 or more edges)

Laser Correction Sensor
Memo

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

Fiber Optic

WH Light Color

Multi-Channel

Digital Display

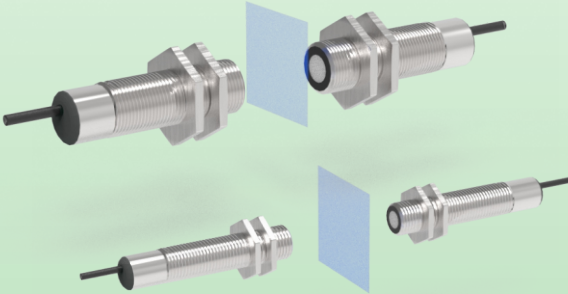
Label Sensing

Liquid Level Sensing

Laser Correction

Single/Double Sheet

Ultrasonic Single/Double Sheet Sensor
UDS series



Features

- Built-in temperature compensation
- Single and double sheet sensing M12/M18 available
- Copper nickel-plated housing can be customised with stainless steel housing
- Enclosure rating IP67
- Anti-reverse connection protection, instantaneous overvoltage protection
- Applications: single and double sheet sensing of paper, plastic, transparent materials, aluminium foil paper, silicon wafers, circuit boards, etc.

Inquiry AUZ

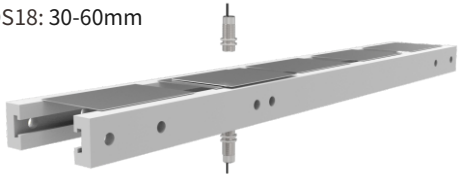
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Product Introduction

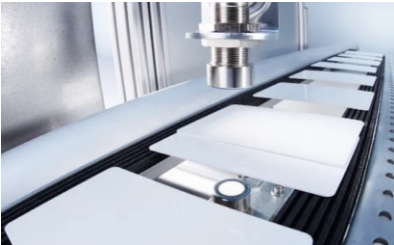
measurement range
UDS12: 30-40mm
UDS18: 30-60mm



Wafer single/double sheet sensing

UDS series

Applications: single and double sheet inspection of paper, plastic, transparent materials, aluminium foil paper, silicon wafers, circuit boards, etc.



Handles a wide range of workpieces

UDS series

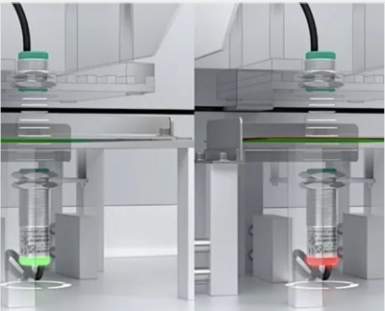
The UDS series can easily detect workpieces that are difficult to detect with reflective photoelectric sensors, such as metal, glass, and liquid surfaces. The UDS series is not affected by the colour, pattern or gloss of the surface.

Enclosure rating

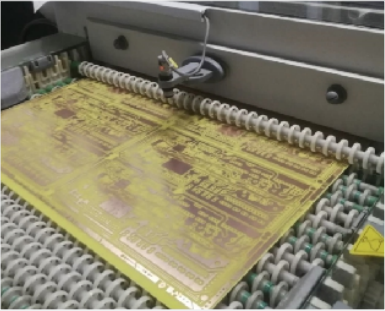
UDS series

Enclosure rating IP67

Stacked single/double sheet detection



PCB single/double sheet detection



Product Specification

Model	UDS12-24N	UDS12-24P	UDS18-36N	UDS18-36P
Output	NPN	PNP	NPN	PNP
Sensing distance	30-40mm		30-60mm	
Sensing method	contactless			
Signal output	3 NO NPN for air, sheet and multi-sheet			
Sensing material	Suitable for reliable sensing of one layer, two layers or no material, e.g. paper/plastic sheet/transparent material/aluminum			
Response time	approx. 4ms		approx. 15ms	
Ambient temperature	-20°C~+50°C(233~323K)		-20°C~+80°C	
Storage temperature	-40°C~+85°C(233~358K)		-40°C~+80°C	
Supply power	10-30V			
Material range	<1.5MM			
Housing material	Copper Nickel Plating			
EMC	GB/T17626.2-2006 / GB/T17626.4-2008			
Learning cable	Used to calibrate the energy of a single sheet for different materials			
Protection circuit	Anti-reverse connection protection, instantaneous over-voltage protection			
Operating voltage	18-30VDC, 10%Vpp			

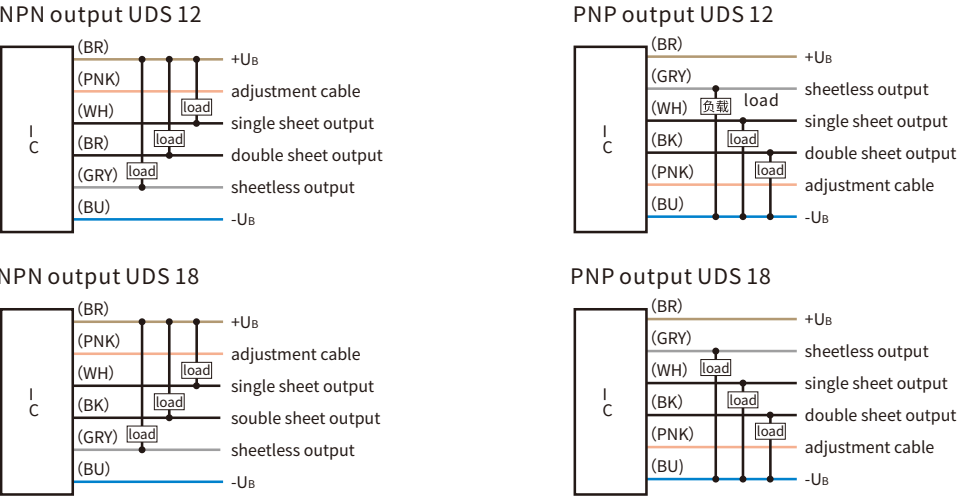
*All of the above data were tested at 25°C.

This product requires double sheet sensing position must have a gap, such as the middle of the liquid filling, the sensor may not work properly, please contact our relevant personnel to consult the customization.

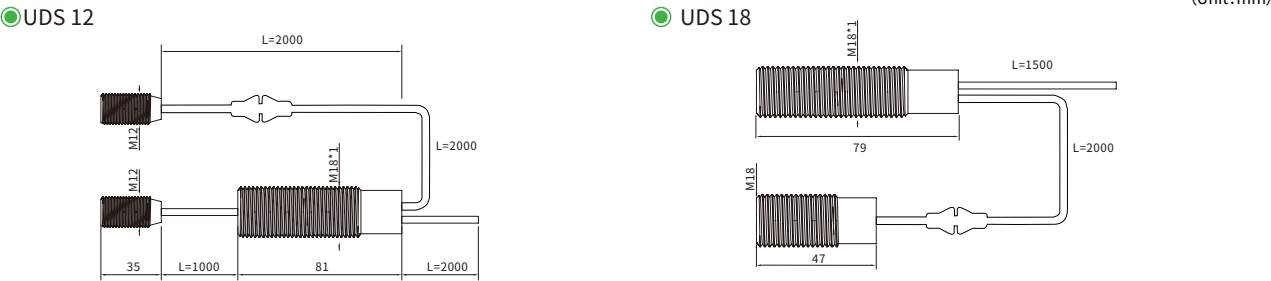
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- Fiber Optic
- WH Light Color
- Multi-Channel
- Digital Display
- Label Sensing
- Liquid Level Sensing
- Laser Alignment
- Single/Double Sheet

Ultrasonic Single/Double Sheet Sensor

I/O Circuit Diagram



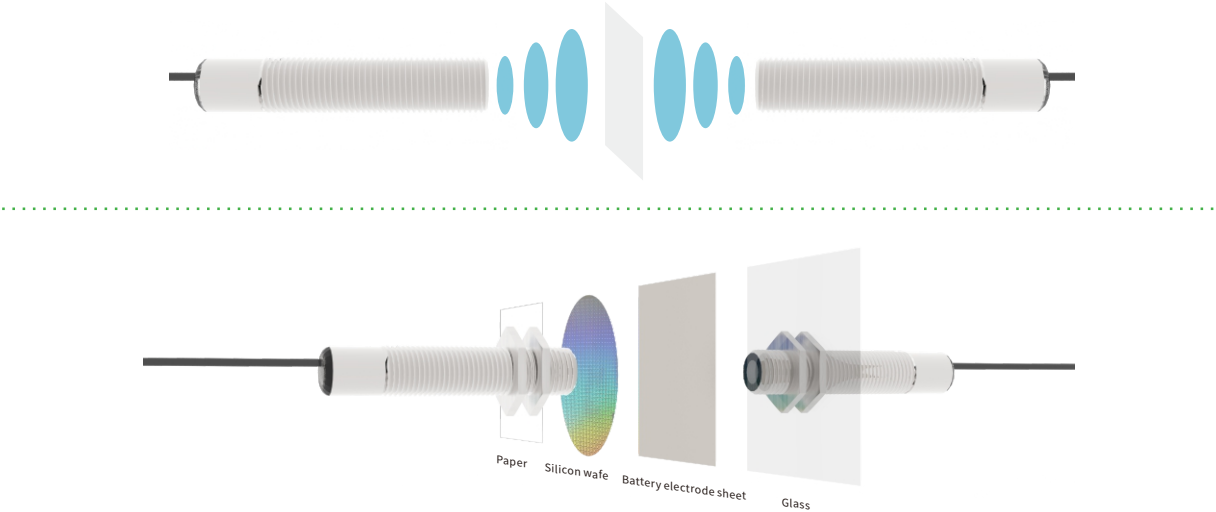
Size Specification



Installation Example

Through-beam UDS single and double sheet detection series

Stable distinction between single and double sheets of thin film, such as paper, silicon wafers, battery wafers, glass panels, wood panels, metal panels, etc.



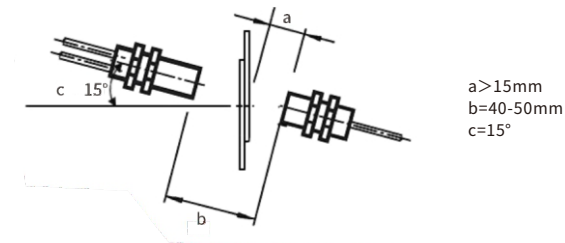
Ultrasonic Single/Double Sheet Sensor

Installation Example

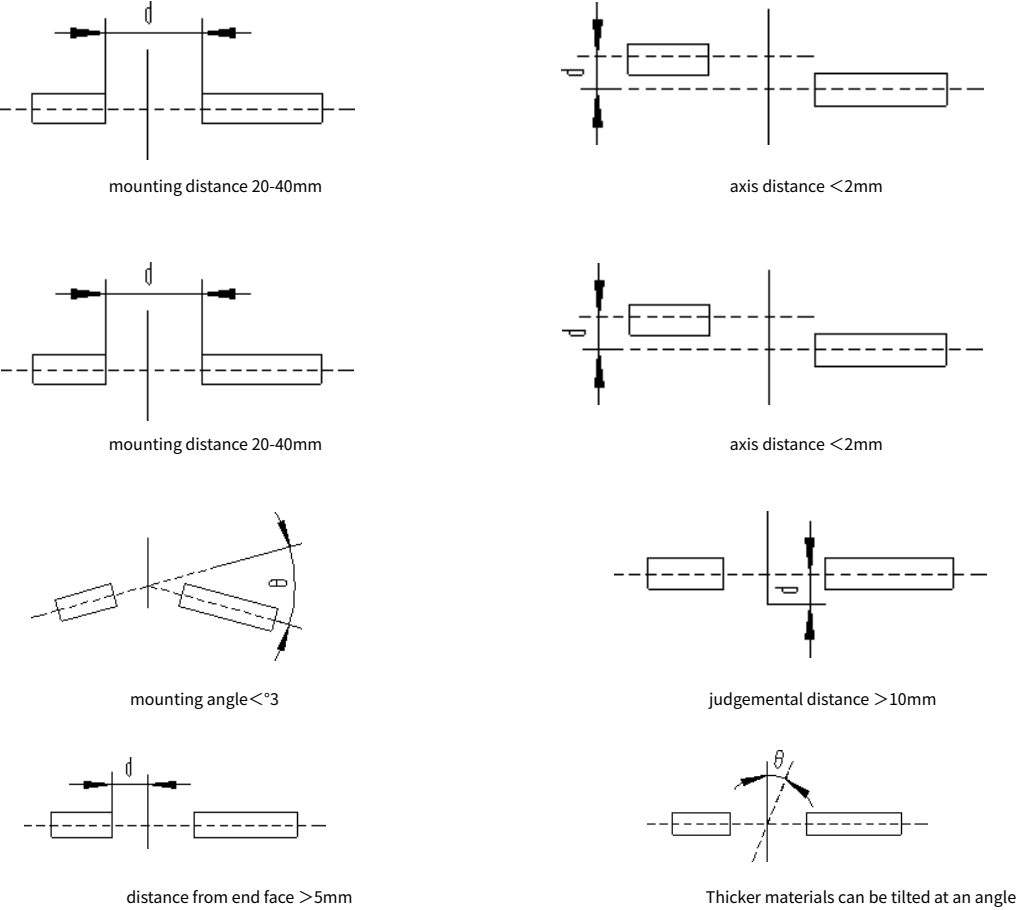
- Example of mounting the UDS 18 ultrasonic sensor:

 - The mounting distance of the sensor is adjusted to about 40-50mm. As shown in Figure b.
 - The distance between the end face of the sensor and the object to be measured needs to be greater than 15mm, as shown in Figure a.
 - Adjust the angle of the sensor to the center axis distance to 15 degrees, as shown in Figure c.
 - If the sensors need to be installed side by side, the installation distance needs to be controlled at about 10cm.
- Signal indicator

 - BU light: sheetless indicator.
 - GRN light: Single sheet indicator, flashing GRN indicates setting status or angle finding status.
 - Red light: double sheet indicator, red light flashes slowly to indicate setting failure.

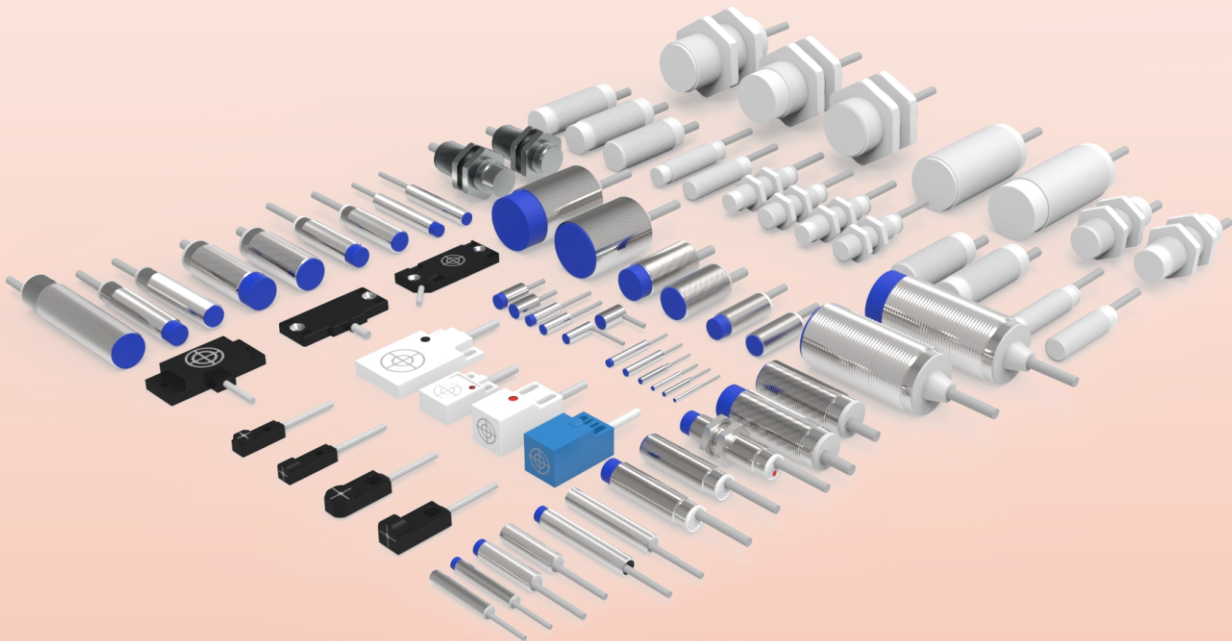


Since ultrasonic sensors are directional, attention needs to be paid to the installation position. It is recommended that the installation position of the two probes coincide with the central axis, in order to obtain a higher sensitivity; when installed vertically, it is recommended that the emitter face upward.



[Note] For example, corrugated cardboard <35°, solar cell pole piece 30°, thin metal sheet 27°, wafer 11°, the actual optimal mounting angle needs to be learned and confirmed repeatedly.

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
Fiber Optic
WH Light Color
Multi-Channel
Digital Display
Label Sensing
Liquid Level Sensing
Laser Alignment
Single/Double Sheet



Series Catalogue

- Inductive Proximity Sensor
 - Standard type
 - Ultra-compact type
 - Flat type
 - Analog output type
 - Multi-resistant Type
 - Anti-slag type
 - Iron/Aluminium sensing only

- Capacitive Proximity Sensor
 - Cylindrical capacitor
 - Corrosion-resistant type capacitor
 - Flat capacitor

- D-11
- D-11
- D-21
- D-27
- D-33
- D-35
- D-51
- D-55
- D-59
- D-59
- D-65
- D-71

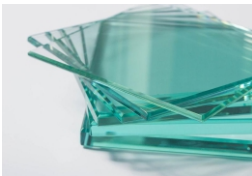
For more product information, please visit en.auz-fa.com

Meets the detection needs of most materials

Adopting both inductive and capacitive principle design, compatible with metal and non-metallic material target detection. The product can achieve the detection of metal, plastic, glass, wood, liquid and most other materials.



metal



glass



wood

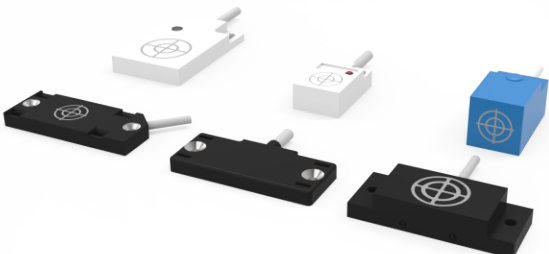


plastic

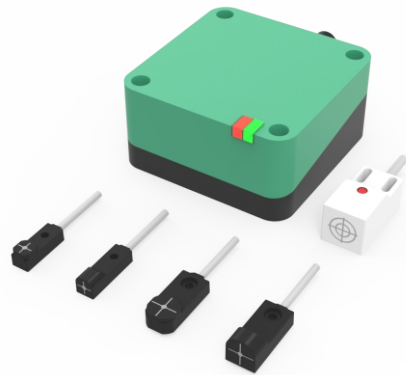
Ultra-compact cylindrical inductor
PH series
Suitable for narrow installation spaces
Ultra-compact proximity series solves the problem of narrow installation spaceStable, interference-resistant stainless steel housing for robust installation



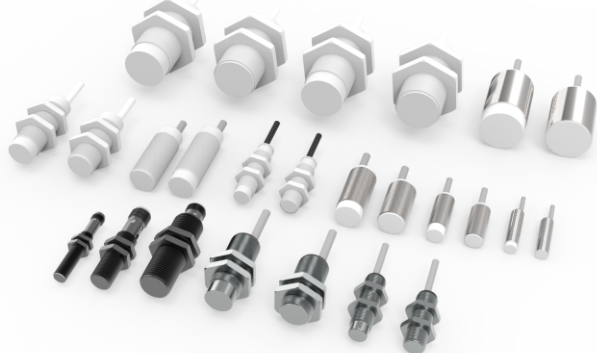
Flat capacitor
Square proximity series
Full range of categories: A full range of product sizes is available, and models can be selected according to installation and inspection requirements.



Flat inductor
PH series
Full range of categories: Product specifications and sizes are complete, and models can be selected according to installation and inspection requirements.



Cylindrical inductor
Meet different application scenarios
Anti-slag/corrosion-resistant/high-pressure-resistant/high-temp-resistant/wide-temp/sensing iron only/sensing aluminium (copper) only



Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories

Cylindrical Proximity Product Recommendation

Product Recommendation

REC!



PHM0501BNO

● Main parameters
M5/Flush /1mm/NPN Normally Open/Overall Length 28mm/BLU Sensor Housing/2m Cable

D-22



PHMSS0803BNO-L

● Main parameters
M8 / Flush / 3mm / NPN Normally Open / Total Length 18mm / BLU Sensor Housing / 2m Cable

D-24



PHMS0802BNO

● Main parameters
M8 / Flush / 2mm / NPN normally open / Total length 30mm / BLU inductive housing / 2m cable

D-13



PHMS0804NO

● Main parameters
M8/non-flush/4mm/NPN normally open/overall length 30mm/BLU inductive housing/2m cable

D-13



PHM1204BNO

● Main parameters
M12/ Flush/ 4mm/ NPN Normally Open/ Overall Length 50mm/ BLU Sensor Housing/ 2m Cable

D-14



PHM1208NO

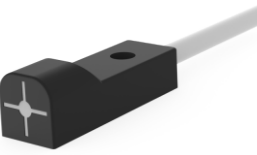
● Main parameters
M12/non-flush/8mm/NPN normally open/overall length 50mm/BLU inductive housing/2m cable

D-14

Square Proximity Product Recommendation

Product Recommendation

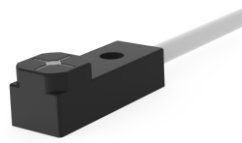
REC!



PH-Q0802NO

● Main parameters
Non-flush / 2mm / NPN normally open / 2 meter cable / standard version

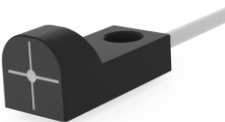
D-28



PH-Q0802DNO

● Main parameters
Non-flush / 2mm / NPN normally open / 2 meter cable / standard version

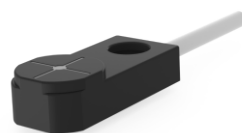
D-28



PH-Q1204NO

● Main parameters
Non-flush / 4mm / NPN normally open / 2 meter cable / standard version

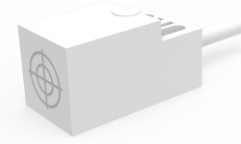
D-28



PH-Q1204DNO

● Main parameters
Non-flush / 4mm / NPN normally open / 2 meter cable / standard version

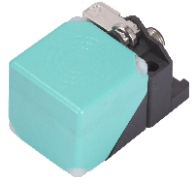
D-28



PH-Q1808BNC

● Main parameters
Flush/8mm/NPN Normally Open/2m Cable/ Standard Model

D-30



PH-Q4040NOQ12

● Main parameters
Non-flush / 40mm / NPN normally open / M12 connector / standard model

D-30

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories

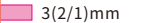
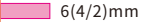
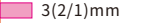
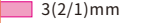
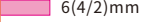
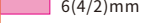
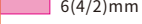
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories

Inductive Proximity Sensor

Inductive Proximity Sensor Product List

Regular Proximity Sensor

D-11 ▶

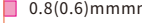
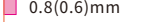
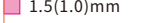
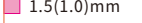
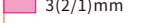
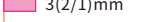
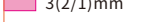
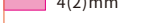
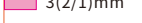
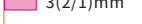
Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M8		L=45	Flush	 3(2/1)mm	NPN	PHM0803BNO	PHM0803BNC	▶ D-12
					PNP	PHM0803BPO	PHM0803BPC	
		L=45	Non-flush	 6(4/2)mm	NPN	PHM0806NO	PHM0806NC	▶ D-12
					PNP	PHM0806PO	PHM0806PC	
		L=30	Flush	 3(2/1)mm	NPN	PHMS0803BNO	PHMS0803BNC	▶ D-13
					PNP	PHMS0803BPO	PHMS0803BPC	
		L=30	Non-flush	 6(4/2)mm	NPN	PHMS0806NO	PHMS0806NC	▶ D-13
					PNP	PHMS0806PO	PHMS0806PC	
		L=22	Flush	 3(2/1)mm	NPN	PHMLS0803BNO	PHMLS0803BNC	▶ D-13
					PNP	PHMLS0803BPO	PHMLS0803BPC	
M12		L=50	Flush	 6(4/2)mm	NPN	PHM1206BNO	PHM1206BNC	▶ D-14
					PNP	PHM1206BPO	PHM1206BPC	
		L=50	Non-flush	 10(8/4)mm	NPN	PHM1210NO	PHM1210NO	▶ D-14
					PNP	PHM1210PO	PHM1210PC	
		L=30	Flush	 6(4/2)mm	NPN	PHMS1206BNO	PHMS1206BNC	▶ D-15
					PNP	PHMS1206BPO	PHMS1206BPC	
		L=30	Non-flush	 10(8/4)mm	NPN	PHMS1210NO	PHMS1210NC	▶ D-15
					PNP	PHMS1210PO	PHMS1210PC	
		L=23	Flush	 6(4/2)mm	NPN	PHMLS1206BNO	PHMLS1206BNO	▶ D-15
					PNP	PHMLS1206BPO	PHMLS1206BPC	
M18		L=55	Flush	 12(8/5)mm	NPN	PHM1812BNO	PHM1812BNC	▶ D-16
					PNP	PHM1812BPO	PHM1812BPC	
		L=55	Non-flush	 20(16/12/8)mm	NPN	PHM1820NO	PHM1820NC	▶ D-16
					PNP	PHM1820PO	PHM1820PC	
		L=38	Flush	 12(8/5)mm	NPN	PHMS1812BNO	PHMS1812BNC	▶ D-17
					PNP	PHMS1812BPO	PHMS1812BPC	
		L=46	Non-flush	 20(16/12/8)mm	NPN	PHMS1820NO	PHMS1820NC	▶ D-17
					PNP	PHMS1820PO	PHMS1820PC	
		L=30	Flush	 8(5)mm	NPN	PHMLS1808BNO	PHMLS1808BNC	▶ D-17
					PNP	PHMLS1808BPO	PHMLS1808BPC	
M30		L=55	Flush	 22(15/10)mm	NPN	PHM3022BNO	PHM3022BNC	▶ D-18
					PNP	PHM3022BPO	PHM3022BPC	
		L=55	Non-flush	 40(25/15)mm	NPN	PHM3040NO	PHM3040NC	▶ D-18
					PNP	PHM3040PO	PHM3040PC	
		L=40	Flush	 22(15/10)mm	NPN	PHMS3022BNO	PHMS3022BNC	▶ D-19
					PNP	PHMS3022BPO	PHMS3022BPC	
		L=40	Non-flush	 40(25/15)mm	NPN	PHMS3040NO	PHMS3040NC	▶ D-19
					PNP	PHMS3040PO	PHMS3040PC	

Inductive Proximity Sensor

Inductive Proximity Sensor Product List

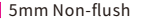
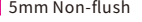
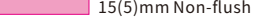
Ultra-compact Inductive Proximity Sensor

D-21 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
Φ3		L=26	Flush	 0.8(0.6)mmmm	NPN	PH030.8BNO	PH030.8BNC	▶ D-22
					PNP	PH030.8BPO	PH030.8BPC	
M4		L=25	Flush	 0.8(0.6)mm	NPN	PHM040.8BNO	PHM040.8BNC	▶ D-22
					PNP	PHM040.8BPO	PHM040.8BPC	
Φ4		L=25	Flush	 1.5(1.0)mm	NPN	PH041.5BNO	PH041.5BNC	▶ D-22
					PNP	PH041.5BPO	PH041.5BPC	
M5		L=28	Flush	 1.5(1.0)mm	NPN	PHM051.5BNO	PHM051.5BNC	▶ D-22
					PNP	PHM051.5BPO	PHM051.5BPC	
Φ6		L=18	Flush	 3(2/1)mm	NPN	PHS0603BNO	PHS0603BNC	▶ D-23
					PNP	PHS0603BPO	PHS0603BPC	
		L=18	Flush	 3(2/1)mm	NPN	PHS0603BNO-L	PHS0603BNC-L	▶ D-23
					PNP	PHS0603BPO-L	PHS0603BPC-L	
		L=30	Flush	 3(2/1)mm	NPN	PH0603BNO	PH0603BNC	▶ D-23
					PNP	PH0603BPO	PH0603BPC	
		L=30	Non-flush	 4(2)mm	NPN	PH0604NO	PH0604NC	▶ D-23
					PNP	PH0604PO	PH0604PC	
M8		L=18	Flush	 3(2/1)mm	NPN	PHMSS0803BNO	PHMSS0803BNC	▶ D-24
					PNP	PHMSS0803BPO	PHMSS0803BPC	
		L=18	Flush	 3(2/1)mm	NPN	PHMSS0803BNO-L	PHMSS0803BNC-L	▶ D-24
					PNP	PHMSS0803BPO-L	PHMSS0803BPC-L	

Flat Inductive Proximity Sensor

D-27 ▶

SP	Appearance	Width	Sensing distance	Output	Model		Page
					NO	NC	
Top		W=8.5	 2mm Non-flush	NPN	*PH-Q08T02DNO	*PH-Q08T02DNC	 D-28
				PNP	*PH-Q08T02DPO	*PH-Q08T02DPC	
Top		W=7.5	 2mm Non-flush	NPN	*PH-Q0802DNO	*PH-Q0802DNC	 D-28
				PNP	*PH-Q0802DPO	*PH-Q0802DPC	
Bottom		W=8	 2mm Non-flush	NPN	*PH-Q0802NO	*PH-Q0802NC	 D-28
				PNP	*PH-Q0802PO	*PH-Q0802PC	
Top		W=10	 3mm Non-flush	NPN	PH-Q1003DNO	PH-Q1003DNC	 D-28
				PNP	PH-Q1003DPO	PH-Q1003DPC	
Top		W=12	 4mm Non-flush	NPN	*PH-Q1204DNO	*PH-Q1204DNC	 D-28
				PNP	*PH-Q1204DPO	*PH-Q1204DPC	
Bottom		W=12	 4mm Non-flush	NPN	*PH-Q1204NO	*PH-Q1204NC	 D-28
				PNP	*PH-Q1204PO	*PH-Q1204PC	
Top		W=15	 5mm Non-flush	NPN	PH-Q1505DNO	PH-Q1505DNC	 D-28
				PNP	PH-Q1505DPO	PH-Q1505DPC	
Bottom		W=15	 5mm Non-flush	NPN	PH-Q1505NO	PH-Q1505NC	 D-28
				PNP	PH-Q1505PO	PH-Q1505PC	
Bottom		W=18	 5mm Half -flush	NPN	PH-Q1805BNO-H	PH-Q1805BNC-H	 D-30
				PNP	PH-Q1805BPO-H	PH-Q1805BPC-H	
Bottom		W=18	 8mm Flush	NPN	PH-Q1808BNO	PH-Q1808BNC	 D-30
				PNP	PH-Q1808BPO	PH-Q1808BPC	
Bottom		W=18	 15(5)mm Non-flush	NPN	PH-Q1815NO	PH-Q1815NC	 D-30
				PNP	PH-Q1815PO	PH-Q1815PC	
Bottom		W=40	 40(20)mm Non-flush	NPN	PH-Q4040NOQ12	PH-Q4040NCQ12	 D-30
				PNP	PH-Q4040POQ12	PH-Q4040PCQ12	
Top		W=80	 60(50)mm Non-flush	NPN	PH-Q8060NOQ12	PH-Q8060NCQ12	 D-30
				PNP	PH-Q8060POQ12	PH-Q8060PCQ12	

Inductive Proximity Sensor

Inductive Proximity Sensor Product List

Analog Inductive Proximity Sensor

D-33 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model	Page
						NC	
M12		L=50	Flush		current output	PHM1203BA	▶ D-34
					voltage output	PHM1203BV	
					dual current/voltage	PHM1203BAV	
		L=50	Non-flush		current output	PHM1204A	▶ D-34
					voltage output	PHM1204V	
					dual current/voltage	PHM1204AV	
M18		L=55	Flush		current output	PHM1804BA	▶ D-34
					voltage output	PHM1804BV	
					dual current/voltage	PHM1804BAV	
		L=55	Non-flush		current output	PHM1807A	▶ D-34
					voltage output	PHM1807V	
					dual current/voltage	PHM1807AV	

Corrosion-resistant Inductive Proximity Sensor (One-piece Teflon housing)

D-35 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M12		L=50	Flush		NPN	PHM1203BNO-CR	PHM1203BNC-CR	 D-36
					PNP	PHM1203BPO-CR	PHM1203BPC-CR	
		L=50	Non-flush		NPN	PHM1204NO-CR	PHM1204NC-CR	 D-36
					PNP	PHM1204PO-CR	PHM1204PC-CR	
M18		L=55	Flush		NPN	PHM1805BNO-CR	PHM1805BNC-CR	 D-37
					PNP	PHM1805BPO-CR	PHM1805BPC-CR	
		L=55	Non-flush		NPN	PHM1808NO-CR	PHM1808NC-CR	 D-37
					PNP	PHM1808PO-CR	PHM1808PC-CR	
M30		L=80	Flush		NPN	PHM3010BNO-CR	PHM3010BNC-CR	 D-38
					PNP	PHM3010BPO-CR	PHM3010BPC-CR	
		L=80	Non-flush		NPN	PHM3015NO-CR	PHM3015NC-CR	 D-38
					PNP	PHM3015PO-CR	PHM3015PC-CR	

High Temperature Resistant Inductive Proximity Sensor

D-41 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M12		L=50	Flush		NPN	PHM1202BNO-GW110	PHM1202BNC-GW110	 D-42
					PNP	PHM1202BPO-GW110	PHM1202BPC-GW110	
		L=50	Non-flush		NPN	PHM1204NO-GW110	PHM1204NC-GW110	 D-42
					PNP	PHM1204PO-GW110	PHM1204PC-GW110	
M18		L=55	Flush		NPN	PHM1805BNO-GW110	PHM1805BNC-GW110	 D-43
					PNP	PHM1805BPO-GW110	PHM1805BPC-GW110	
		L=55	Non-flush		NPN	PHM1808NO-GW110	PHM1808NC-GW110	 D-43
					PNP	PHM1808PO-GW110	PHM1808PC-GW110	
M30		L=55	Flush		NPN	PHM3010BNO-GW110	PHM3010BNC-GW110	 D-43
					PNP	PHM3010BPO-GW110	PHM3010BPC-GW110	
		L=55	Non-flush		NPN	PHM3015NO-GW110	PHM3015NC-GW110	 D-43
					PNP	PHM3015PO-GW110	PHM3015PC-GW110	

Inductive Proximity Sensor

Inductive Proximity Sensor Product List

Wide Temperature Protection Inductive Proximity Sensor

D-45 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M12		L=50	Flush		NPN	PHM1204BNO-KW85	PHM1204BNC-KW85	
					PNP	PHM1204BPO-KW85	PHM1204BPC-KW85	
		L=50	Non-flush		NPN	PHM1208NO-KW85	PHM1208NC-KW85	
					PNP	PHM1208PO-KW85	PHM1208PC-KW85	
M18		L=55	Flush		NPN	PHM1808BNO-KW85	PHM1808BNC-KW85	
					PNP	PHM1808BPO-KW85	PHM1808BPC-KW85	
		L=55	Non-flush		NPN	PHM1812NO-KW85	PHM1812NC-KW85	
					PNP	PHM1812PO-KW85	PHM1812PC-KW85	

High Pressure Resistant Inductive Proximity Sensor

D-49 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M14		L=56.5	Flush		NPN	PHM1403BNO-HP500	PHM1403BNC-HP500	 D-50
					PNP	PHM1403BPO-HP500	PHM1403BPC-HP500	
		L=65	Flush		NPN	PHM1403BNO-HP500Q12	PHM1403BNC-HP500Q12	 D-50
					PNP	PHM1403BPO-HP500Q12	PHM1403BPC-HP500Q12	

Anti-slag Inductive Proximity Sensor

D-51 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M8		L=53	Flush		NPN	PHM0802BNO-WSQ12-ST	PHM0802BNC-WSQ12-ST	D-52
					PNP	PHM0802BPO-WSQ12-ST	PHM0802BPC-WSQ12-ST	
M12		L=62	Flush		NPN	PHM1204BNO-WSQ12	PHM1204BNC-WSQ12	D-52
					PNP	PHM1204BPO-WSQ12	PHM1204BPC-WSQ12	
M18		L=68	Flush		NPN	PHM1808BNO-WSQ12	PHM1808BNC-WSQ12	D-52
					PNP	PHM1808BPO-WSQ12	PHM1808BPC-WSQ12	

Inductive Proximity Sensor for Iron/Aluminium-copper Only

D-55 ▶

Size	Appearance	Sensing only	Length	Type	Sensing distance	Output	Model		Page
							NO	NC	
M12		iron	L=50	Flush		NPN	PHM1202BNO-FE	PHM1202BNC-FE	 D-56
						PNP	PHM1202BPO-FE	PHM1202BPC-FE	
		iron	L=50	Non-flush		NPN	PHM1204NO-FE	PHM1204NC-FE	 D-56
						PNP	PHM1204PO-FE	PHM1204PC-FE	
M12		aluminium-copper	L=50	Flush		NPN	PHM1202BNO-AL	PHM1202BNC-AL	 D-56
						PNP	PHM1202BPO-AL	PHM1202BPC-AL	
		aluminium-copper	L=50	Non-flush		NPN	PHM1204NO-AL	PHM1204NC-AL	 D-56
						PNP	PHM1204PO-AL	PHM1204PC-AL	
M18		iron	L=55	Flush		NPN	PHM1805BNO-FE	PHM1805BNC-FE	 D-56
						PNP	PHM1805BPO-FE	PHM1805BPC-FE	
		iron	L=55	Non-flush		NPN	PHM1808NO-FE	PHM1808NC-FE	 D-56
						PNP	PHM1808PO-FE	PHM1808PC-FE	
M18		aluminium-copper	L=55	Flush		NPN	PHM1805BNO-AL	PHM1805BNC-AL	 D-56
						PNP	PHM1805BPO-AL	PHM1805BPC-AL	
		aluminium-copper	L=55	Non-flush		NPN	PHM1808NO-AL	PHM1808NC-AL	 D-56
						PNP	PHM1808PO-AL	PHM1808PC-AL	

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Capacitive Proximity Sensor

Capacitive Proximity Sensor Product List

Cylindrical Capacitive Proximity Sensor

D-59 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M12		L=59	Flush	 1-3mm	NPN	PHC-M1203BNO	PHC-M1203BNC	▶ D-60
					PNP	PHC-M1203BPO	PHC-M1203BPC	
		L=59	Non-flush	 1-6mm	NPN	PHC-M1206NO	PHC-M1206NC	▶ D-60
					PNP	PHC-M1206PO	PHC-M1206PC	
		L=59	Flush (Plastic case)	 1-3mm	NPN	PHC-MP1203BNO	PHC-MP1203BNC	▶ D-60
					PNP	PHC-MP1203BPO	PHC-MP1203BPC	
		L=59	Non-flush (Plastic case)	 1-6mm	NPN	PHC-MP1206NO	PHC-MP1206NC	▶ D-60
					PNP	PHC-MP1206PO	PHC-MP1206PC	
M18		L=80	Flush	 2-8mm	NPN	PHC-M1808BNO	PHC-M1808BNC	▶ D-61
					PNP	PHC-M1808BPO	PHC-M1808BPC	
		L=80	Non-flush	 2-15mm	NPN	PHC-M815NO	PHC-M815NC	▶ D-61
					PNP	PHC-M815PO	PHC-M815PC	
		L=80	Flush (Plastic case)	 2-8mm	NPN	PHC-MP1808BNO	PHC-MP1808BNC	▶ D-61
					PNP	PHC-MP1808BPO	PHC-MP1808BPC	
		L=80	Non-flush (Plastic case)	 2-15mm	NPN	PHC-MP1815NO	PHC-MP1815NC	▶ D-61
					PNP	PHC-MP1815PO	PHC-MP1815PC	
M30		L=80	Flush	 2-20mm	NPN	PHC-M3020BNO	PHC-M3020BNC	▶ D-63
					PNP	PHC-M3020BPO	PHC-M3020BPC	
		L=80	Non-flush	 2-30mm	NPN	PHC-M3030NO	PHC-M3030NC	▶ D-63
					PNP	PHC-M3030PO	PHC-M3030PC	
		L=80	Flush (Plastic case)	 2-20mm	NPN	PHC-MP3020BNO	PHC-MP3020BNC	▶ D-63
					PNP	PHC-MP3020BPO	PHC-MP3020PC	
		L=80	Non-flush (Plastic case)	 2-30mm	NPN	PHC-MP3030NO	PHC-MP3030NC	▶ D-63
					PNP	PHC-MP3030PO	PHC-MP3030PC	

Corrosion-resistant Capacitive Proximity Sensor (One-piece Teflon housing)

D-65 ▶

Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M12		L=50	Flush	 1-3mm	NPN	PHC-M1203BNOCR-U	PHC-M1203BNCCR-U	▶ D-66
					PNP	PHC-M1203BPOCR-U	PHC-M1203BPCCR-U	
		L=50	Non-flush	 1-6mm	NPN	PHC-M1206NOCR-U	PHC-M1206NCCR-U	▶ D-66
					PNP	PHC-M1206POCR-U	PHC-M1206PCCR-U	
		L=50	Flush	 1-3mm	NPN	PHC-M1203BNOCR-F	PHC-M1203BNCCR-F	▶ D-66
					PNP	PHC-M1203BPOCR-F	PHC-M1203BPCCR-F	
		L=50	Non-flush	 1-6mm	NPN	PHC-M1206NOCR-F	PHC-M1206NCCR-F	▶ D-66
					PNP	PHC-M1206POCR-F	PHC-M1206PCCR-F	
M18		L=80	Flush	 2-8mm	NPN	PHC-M1808BNOCR-U	PHC-M1808BNCCR-U	▶ D-67
					PNP	PHC-M1808BPOCR-U	PHC-M1808BPCCR-U	
		L=80	Non-flush	 2-10mm	NPN	PHC-M1810NOCR-U	PHC-M1810NCCR-U	▶ D-67
					PNP	PHC-M1810POCR-U	PHC-M1810PCCR-U	
		L=80	Flush	 2-8mm	NPN	PHC-M1808BNOCR-F	PHC-M1808BNCCR-F	▶ D-67
					PNP	PHC-M1808BPOCR-F	PHC-M1808BPCCR-F	
		L=80	Non-flush	 2-10mm	NPN	PHC-M1810NOCR-F	PHC-M1810NCCR-F	▶ D-67
					PNP	PHC-M1810POCR-F	PHC-M1810PCCR-F	

Capacitive Proximity Sensor

Capacitive Proximity Sensor Product List

Corrosion-resistant Capacitive Proximity Sensor (One-piece Teflon housing)

D-57 ▶

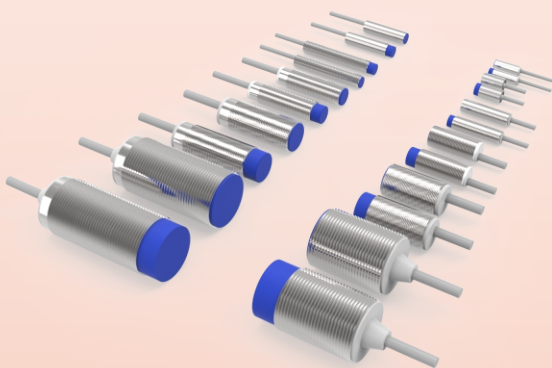
Size	Appearance	Length	Type	Sensing distance	Output	Model		Page
						NO	NC	
M30		L=80	Flush	 2-20mm	NPN	PHC-M3020BNOCR-U	PHC-M3020BNCCR-U	▶ D-68
					PNP	PHC-M3020BPOCR-U	PHC-M3020BPCCR-U	
		L=80	Non-flush	 2-25mm	NPN	PHC-M3025NOCR-U	PHC-M3025NCCR-U	▶ D-68
					PNP	PHC-M3025POCR-U	PHC-M3025PCCR-U	
		L=80	Flush	 2-20mm	NPN	PHC-M3020BNOCR-F	PHC-M3020BNCCR-F	▶ D-68
					PNP	PHC-M3020BPOCR-F	PHC-M3020BPCCR-F	
		L=80	Non-flush	 2-25mm	NPN	PHC-M3025NOCR-F	PHC-M3025NCCR-F	▶ D-68
					PNP	PHC-M3025POCR-F	PHC-M3025PCCR-F	

Flat Capacitive Proximity Sensor

D-71 ▶

SP	Appearance	Width	Sensing distance	Output	Model		Page
					NO	NC	
Bottom		W=18	 1-4mm Flush	NPN	PHC-Q1804FBNO	PHC-Q1804FBNC	▶ D-72
				PNP	PHC-Q1804FBPO	PHC-Q1804FBPC	
Bottom		W=18	 1-8mm Non-flush	NPN	PHC-Q1808FNO	PHC-Q1808FNC	▶ D-72
				PNP	PHC-Q1808FPO	PHC-Q1808FPC	
Top		W=18	 1-4mm Flush	NPN	PHC-Q1804BNO	PHC-Q1804BNC	▶ D-72
				PNP	PHC-Q1804BPO	PHC-Q1804BPC	
Top		W=18	 1-6mm Non-flush	NPN	PHC-Q1806NO	PHC-Q1806NC	▶ D-72
				PNP	PHC-Q1806PO	PHC-Q1806PC	
Top		W=30	 1-6mm Flush	NPN	PHC-Q3006BNO	PHC-Q3006BNC	▶ D-72
				PNP	PHC-Q3006BPO	PHC-Q3006BPC	
Top		W=30	 2-10mm Non-flush	NPN	PHC-Q3010NO	PHC-Q3010NC	▶ D-72
				PNP	PHC-Q3010PO	PHC-Q3010PC	
Top		W=20	 2-10mm Non-flush	NPN	PHC-Q2010NO	PHC-Q2010NC	▶ D-72
				PNP	PHC-Q2010PO	PHC-Q2010PC	
Top		W=20	 2-20mm Non-flush	NPN	PHC-Q2020NO	PHC-Q2020NC	▶ D-72
				PNP	PHC-Q2020PO	PHC-Q2020PC	
Top		W=20	 2-10mm Half-flush	NPN	PHC-Q20T10BNO	PHC-Q20T10BNC	▶ D-72
				PNP	PHC-Q20T10BPO	PHC-Q20T10BPC	

Standard Inductive Proximity Sensor



REC!

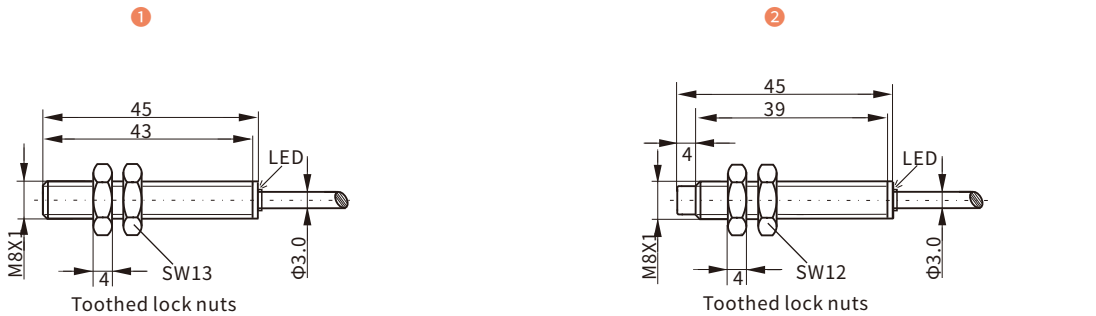
Features

- Fully potted process, enclosure rating IP67
- Various sizes, ultra-short design fits into tight installation spaces
- Same size 2x Sensing distance
- Available in nickel-plated copper and stainless steel housings

M8 Series Product Specification

Appearance							
Size		M8			M8		
Installation method		Flush			Non-flush		
Appearance length		L=45			L=45		
Sensing distance		1.2mm	2.0mm	3.0mm	2.0mm	4.0mm	6.0mm
Model	NPN N.O	PHM0801BNO	PHM0802BNO	PHM0803BNO	PHM0802NO	PHM0804NO	PHM0806NO
	NPN N.C	PHM0801BNC	PHM0802BNC	PHM0803BNC	PHM0802NC	PHM0804NC	PHM0806NC
	PNP N.O	PHM0801BPO	PHM0802BPO	PHM0803BPO	PHM0802PO	PHM0804PO	PHM0806PO
	PNP N.C	PHM0801BPC	PHM0802BPC	PHM0803BPC	PHM0802PC	PHM0804PC	PHM0806PC
Objects detected		iron 8*8*1mm	iron 8*8*1mm	iron 9*9*1mm	iron 8*8*1mm	iron 12*12*1mm	iron 18*18*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4					
Stable sensing distance		1.0mm	1.6mm	2.4mm	1.6mm	3.2mm	4.8mm
Switching frequency		2000Hz		1000Hz	2000Hz		500Hz
Response time		0.1ms/0.1ms		0.2ms/0.2ms	0.1ms/0.1ms		0.5ms/0.5ms
Operating voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25 °C~ +70°C					
Enclosure rating		IP67					
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)					
Sensing surface material		PC					
Connection		2m Cable					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					

M8 Dimension



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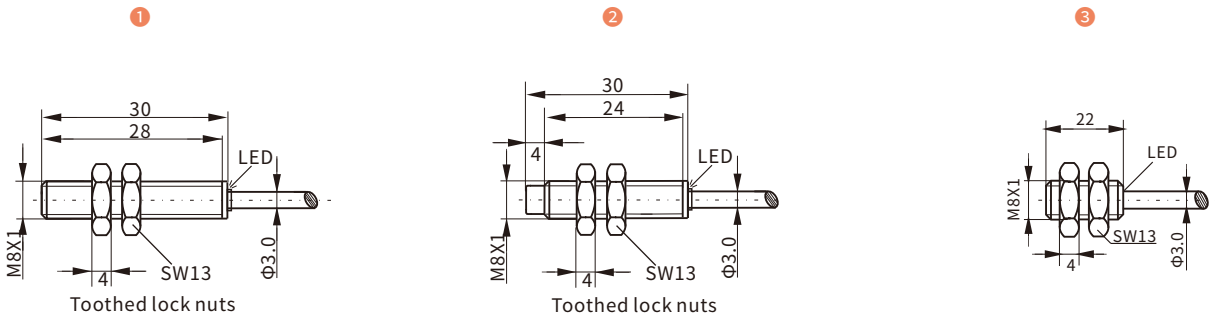
* For any questions, please contact us via email auz.sensor@fuazon.com

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Inductive Proximity
 - Standard Type
 - Ultra-Compact Type
 - Flat Type
 - Analog Proximity
 - Corrosion-Resistant
 - High-Temp Resistant
 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

Regular Inductive Proximity Sensor

M8 Series Product Specification										
Appearance										
		1			2			3		
Size		M8			M8			M8		
Installation method		Flush			Non-flush			Flush		
Appearance length		L=30			L=30			L=22		
Sensing distance		1.2mm	2.0mm	3.0mm	2.0mm	4.0mm	6.0mm	1.0mm	2.0mm	3.0mm
Model	NPN N.O	PHMS0801BNO	PHMS0802BNO	PHMS0803BNO	PHMS0802NO	PHMS0804NO	PHMS0806NO	PHMLS0801BNO	PHMLS0802BNO	PHMLS0803BNO
	NPN N.C	PHMS0801BNC	PHMS0802BNC	PHMS0803BNC	PHMS0802NC	PHMS0804NC	PHMS0806NC	PHMLS0801BNC	PHMLS0802BNC	PHMLS0803BNC
	PNP N.O	PHMS0801BPO	PHMS0802BPO	PHMS0803BPO	PHMS0802PO	PHMS0804PO	PHMS0806PO	PHMLS0801BPO	PHMLS0802BPO	PHMLS0803BPO
	PNP N.C	PHMS0801BPC	PHMS0802BPC	PHMS0803BPC	PHMS0802PC	PHMS0804PC	PHMS0806PC	PHMLS0801BPC	PHMLS0802BPC	PHMLS0803BPC
Objects detected		iron 8*8*1mm	iron 8*8*1mm	iron 9*9*1mm	iron 8*8*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 8*8*1mm	iron 8*8*1mm	iron 9*9*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4								
Stable sensing distance		1.0mm	1.6mm	2.4mm	1.6mm	3.2mm	4.8mm	0.8mm	1.6mm	2.4mm
Switching frequency		2000Hz		1000Hz	2000Hz		500Hz	2000Hz		1000Hz
Response time		0.1ms/0.1ms		0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms
Operating voltage		10-30VDC								
Voltage drop		<2.0VDC								
Max. load current		200mA								
No-load current		≤10mA								
Hysteresis		<15%								
Repeat accuracy		<1%								
Temperature drift		<10%								
Polarity/short protection		Built-in/Pulse								
Overload protection current		220mA								
Switch status display		LED								
Ambient temperature		-25℃~ +70℃								
Enclosure rating		IP67								
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)								
Sensing surface material		PC								
Connection		2m Cable								
Impact resistance		30gn,11ms								
Vibration resistance		55Hz,1mm ampl.,3×30min.								
EMC		IEC 60947-5-2								

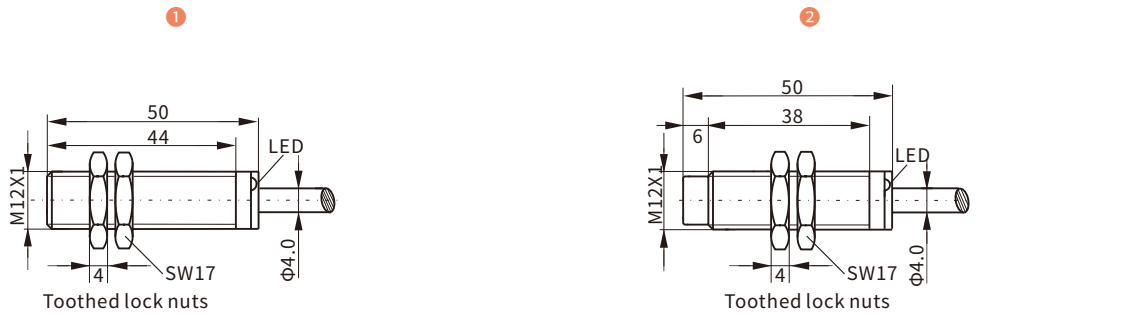
M8 Dimension



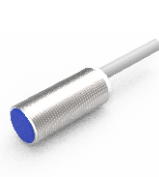
Regular Inductive Proximity Sensor

M12 Series Product Specification							
Appearance							
		1			2		
Size		M12			M12		
Installation method		Flush			Non-flush		
Appearance length		L=50			L=50		
Sensing distance		2.0mm	4.0mm	6.0mm	4.0mm	8.0mm	10.0mm
Model	NPN N.O	PHM1202BNO	PHM1204BNO	PHM1206BNO	PHM1204NO	PHM1208NO	PHM1210NO
	NPN N.C	PHM1202BNC	PHM1204BNC	PHM1206BNC	PHM1204NC	PHM1208NC	PHM1210NC
	PNP N.O	PHM1202BPO	PHM1204BPO	PHM1206BPO	PHM1204PO	PHM1208PO	PHM1210PO
	PNP N.C	PHM1202BPC	PHM1204BPC	PHM1206BPC	PHM1204PC	PHM1208PC	PHM1210PC
Objects detected		iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 12*12*1mm	iron 24*24*1mm	iron 30*30*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminium approx. 0.45/copper approx. 0.4					
Stable sensing distance		1.6mm	3.2mm	4.8mm	3.2mm	6.4mm	8mm
Switching frequency		2000Hz	1000Hz	800Hz	1000Hz	500Hz	400Hz
Response time		0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.3ms/0.3ms	0.5ms/0.5ms
Operating voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25℃~ +70℃					
Enclosure rating		IP67					
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)					
Sensing surface material		PC					
Connection		2m Cable					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					

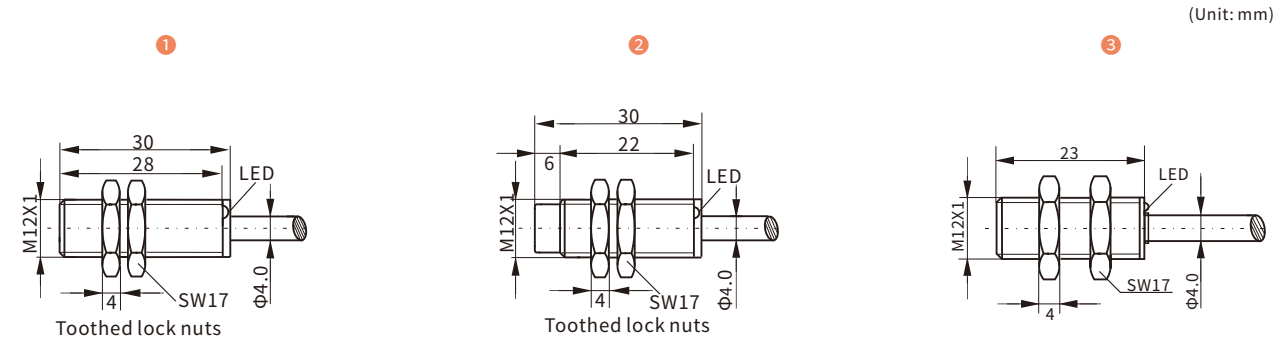
M12 Dimension



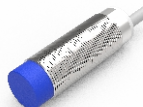
Regular Inductive Proximity Sensor

M12 Series Product Specification										
Appearance										
Size		M12			M12			M12		
Installation method		Flush			Non-flush			Flush		
Appearance length		L=30			L=30			L=23		
Sensing distance		2.0mm	4.0mm	6.0mm	4.0mm	8.0mm	10.0mm	2.0mm	4.0mm	6.0mm
Model	NPN N.O	PHMS1202BNO	PHMS1204BNO	PHMS1206BNO	PHMS1204NO	PHMS1208NO	PHMS1210NO	PHMLS1202BNO	PHMLS1204BNO	PHMLS1206BNO
	NPN N.C	PHMS1202BNC	PHMS1204BNC	PHMS1206BNC	PHMS1204NC	PHMS1208NC	PHMS1210NC	PHMLS1202BNC	PHMLS1204BNC	PHMLS1206BNC
	PNP N.O	PHMS1202BPO	PHMS1204BPO	PHMS1206BPO	PHMS1204PO	PHMS1208PO	PHMS1210PO	PHMLS1202BPO	PHMLS1204BPO	PHMLS1206BPO
	PNP N.C	PHMS1202BPC	PHMS1204BPC	PHMS1206BPC	PHMS1204PC	PHMS1208PC	PHMS1210PC	PHMLS1202BPC	PHMLS1204BPC	PHMLS1206BPC
Objects detected		iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 12*12*1mm	iron 24*24*1mm	iron 30*30*1mm	iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminium approx. 0.45/copper approx. 0.4								
Stable sensing distance		1.6mm	3.2mm	4.8mm	3.2mm	6.4mm	8.0mm	1.6mm	3.2mm	4.8mm
switching frequency		2000Hz	1000Hz	800Hz	1000Hz	500Hz	400Hz	2000Hz	1000Hz	800Hz
Response time		0.1ms/0.1ms	0.2ms/0.2ms		0.2ms/0.2ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	
Opearting voltage		10-30VDC								
Voltage drop		<2.0VDC								
Max. load current		200mA								
No-load current		≤10mA								
Hysteresis		<15%								
Repeat accuracy		<1%								
Temperature drift		<10%								
Polarity/short protection		Built-in/Pulse								
Overload protection current		220mA								
Switch status display		LED								
Ambient temperature		-25℃~ +70℃								
Enclosure rating		IP67								
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)								
Sensing surface material		PC								
Connection		2m Cable								
Impact resistance		30gn,11ms								
Vibration resistance		55Hz,1mm ampl.,3×30min.								
EMC		IEC 60947-5-2								

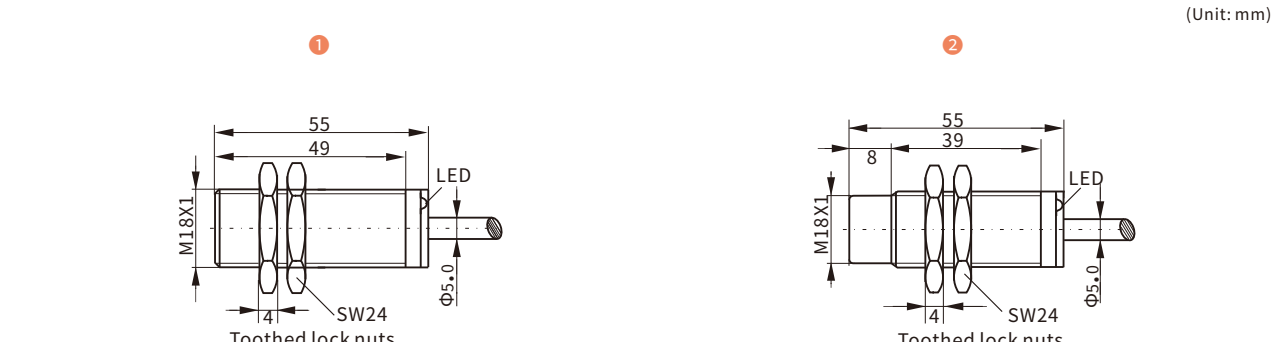
M12 Dimension



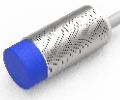
Regular Inductive Proximity Sensor

M18 Series Product Specification								
Appearance								
Size		M18			M18			
Installation method		Flush			Non-flush			
Appearance length		L=55			L=55			
Sensing distance		5.0mm	8.0mm	12.0mm	8.0mm	12.0mm	16.0mm	20.0mm
Model	NPN N.O	PHM1805BNO	PHM1808BNO	PHM1812BNO	PHM1808NO	PHM1812NO	PHM1816NO	PHM1820NO
	NPN N.C	PHM1805BNC	PHM1808BNC	PHM1812BNC	PHM1808NC	PHM1812NC	PHM1816NC	PHM1820NC
	PNP N.O	PHM1805BPO	PHM1808BPO	PHM1812BPO	PHM1808PO	PHM1812PO	PHM1816PO	PHM1820PO
	PNP N.C	PHM1805BPC	PHM1808BPC	PHM1812BPC	PHM1808PC	PHM1812PC	PHM1816PC	PHM1820PC
Objects detected		iron 18*18*1mm	iron 24*24*1mm	iron 36*36*1mm	iron 24*24*1mm	iron 48*48*1mm	iron 48*48*1mm	iron 60*60*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4						
Stable sensing distance		4.0mm	6.4mm	9.6mm	6.4mm	9.6mm	12.8mm	16mm
Switching frequency		1000Hz	500Hz	300Hz	500Hz	150Hz	150Hz	100Hz
Response time		0.2ms/0.2ms	0.5ms/0.5ms		0.5ms/0.5ms	1.0ms/1.0ms		
Operating voltage		10-30VDC						
Voltage drop		<2.0VDC						
Max. load current		200mA						
No-load current		≤10mA						
Hysteresis		<15%						
Repeat accuracy		<1%						
Temperature drift		<10%						
Polarity/short protection		Built-in/Pulse						
Overload protection current		220mA						
Switching status display		LED						
Ambient temperature		-25 °C~ +70°C						
Enclosure rating		IP67						
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)						
Sensing surface material		PC						
Connection		2m Cable						
Impact resistance		30gn,11ms						
Vibration resistance		55Hz,1mm ampl.,3×30min.						
EMC		IEC 60947-5-2						

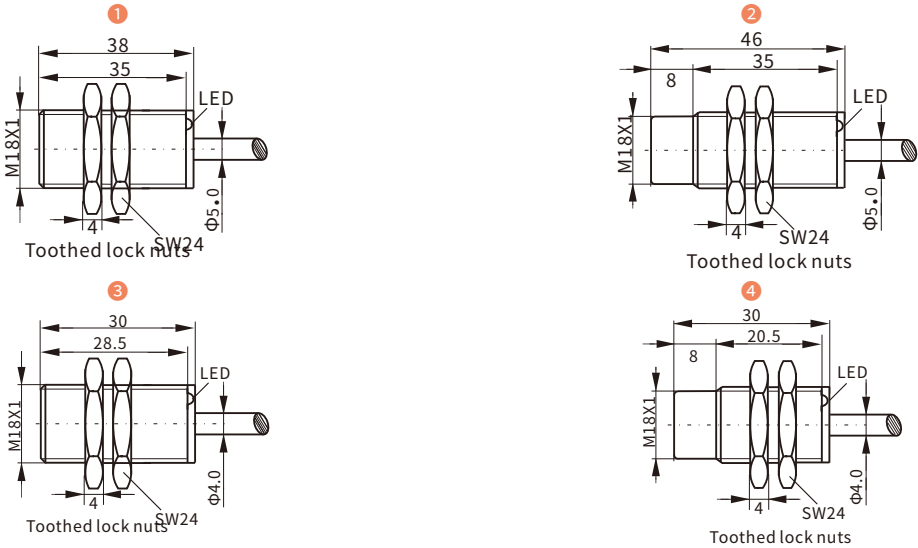
M18 Dimension



Regular Inductive Proximity Sensor

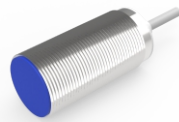
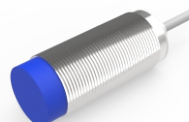
M18 Series Product Specification											
Appearance											
Size		M18			M18			M18		M18	
Installation method		Flush			Non-flush			Flush		Non-flush	
Appearance length		L=38			L=46			L=30		L=30	
Sensing distance		5.0mm	8.0mm	12.0mm	8.0mm	16.0mm	20.0mm	5.0mm	8.0mm	8.0mm	12.0mm
Model	NPN N.O	PHMS1805BNO	PHMS1808BNO	PHMS1812BNO	PHMS1808NO	PHMS1816NO	PHMS1820NO	PHMLS1805BNO	PHMLS1808BNO	PHMLS1808NO	PHMLS1812NO
	NPN N.C	PHMS1805BNC	PHMS1808BNC	PHMS1812BNC	PHMS1808NC	PHMS1816NC	PHMS1820NC	PHMLS1805BNC	PHMLS1808BNC	PHMLS1808NC	PHMLS1812NC
	PNP N.O	PHMS1805BPO	PHMS1808BPO	PHMS1812BPO	PHMS1808PO	PHMS1816PO	PHMS1820PO	PHMLS1805BPO	PHMLS1808BPO	PHMLS1808PO	PHMLS1812PO
	PNP N.C	PHMS1805BPC	PHMS1808BPC	PHMS1812BPC	PHMS1808PC	PHMS1816PC	PHMS1820PC	PHMLS1805BPC	PHMLS1808BPC	PHMLS1808PC	PHMLS1812PC
Objects detected		iron 18*18*1mm	iron 24*24*1mm	iron 36*36*1mm	iron 24*24*1mm	iron 48*48*1mm	iron 60*60*1mm	iron 18*18*1mm	iron 24*24*1mm	iron 24*24*1mm	iron 36*36*1mm
Correction factor		Fe37 = 1 / stainless steel approx. 0.85 / brass approx. 0.5 / aluminium approx. 0.45 / copper approx. 0.4									
Stable sensing distance		4.0 mm	6.4 mm	9.6 mm	6.4 mm	12.8 mm	16.0 mm	4.0 mm	6.4 mm	6.4 mm	9.6 mm
Switching frequency		1000Hz	500Hz	300Hz	500Hz	150Hz	100Hz	1000Hz	500Hz	500Hz	150Hz
Response time		0.2ms/0.2ms	0.5ms/0.5ms		0.5ms/0.5ms	1.0ms/1.0ms		0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	1.0ms/1.0ms
Operating voltage		10-30VDC									
Voltage drop		<2.0VDC									
Max. load current		200mA									
No-load current		≤10mA									
Hysteresis		<15%									
Repeat accuracy		<1%									
Temperature drift		<10%									
Polarity/short protection		Built-in/Pulse									
Overload protection current		220mA									
Switch status display		LED									
Ambient temperature		-25℃~ +70℃									
Enclosure rating		IP67									
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)									
Sensing surface material		PC									
Connection		2m cable									
Impact resistance		30gn,11ms									
Vibration resistance		55Hz,1mm ampl.,3×30min.									
EMC		IEC 60947-5-2									

M18 Dimension



(Unit: mm)

Regular Inductive Proximity Sensor

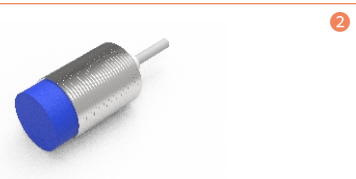
M30 Series Product Specification							
Appearance							
Size		M30			M30		
Installation method		Flush			Non-flush		
Appearance length		L=55			L=55		
Sensing distance		10.0mm	15.0mm	22.0mm	15.0mm	25.0mm	40.0mm
Model	NPN N.O	PHM3010BNO	PHM3015BNO	PHM3022BNO	PHM3015NO	PHM3025NO	PHM3040NO
	NPN N.C	PHM3010BNC	PHM3015BNC	PHM3022BNC	PHM3015NC	PHM3025NC	PHM3040NC
	PNP N.O	PHM3010BPO	PHM3015BPO	PHM3022BPO	PHM3015PO	PHM3025PO	PHM3040PO
	PNP N.C	PHM3010BPC	PHM3015BPC	PHM3022BPC	PHM3015PC	PHM3025PC	PHM3040PC
Objects detected		iron 30*30*1mm	iron 45*45*1mm	iron 66*66*1mm	iron 45*45*1mm	iron 75*75*1mm	iron 120*120*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4					
Stable sensing distance		8.0 mm	12 mm	17.6 mm	12 mm	20 mm	32 mm
Switching frequency		300Hz	150Hz	100Hz	150Hz	100Hz	
Response time		0.5ms/0.5ms	1.0ms/1.0ms		1.0ms/1.0ms		
Operating voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25°C~ +70°C					
Enclosure rating		IP67					
Shell material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)					
Sensing surface material		PC					
Connection		2m cable					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					

M30 Dimension



(Unit: mm)

Regular Inductive Proximity Sensor

M30 Series Product Specification							
Appearance							
		1			2		
Size		M30			M30		
Installation method		Flush			Non-flush		
Appearance length		L=40			L=40		
Sensing distance		10mm	15mm	22mm	15mm	25mm	40mm
Model	NPN N.O	PHMS3010BNO	PHMS3015BNO	PHMS3022BNO	PHMS3015NO	PHMS3025NO	PHMS3040NO
	NPN N.C	PHMS3010BNC	PHMS3015BNC	PHMS3022BNC	PHMS3015NC	PHMS3025NC	PHMS3040NC
	PNP N.O	PHMS3010BPO	PHMS3015BPO	PHMS3022BPO	PHMS3015PO	PHMS3025PO	PHMS3040PO
	PNP N.C	PHMS3010BPC	PHMS3015BPC	PHMS3022BPC	PHMS3015PC	PHMS3025PC	PHMS3040PC
Objects detected		iron 30*30*1mm	iron 45*45*1mm	iron 66*66*1mm	iron 45*45*1mm	iron 75*75*1mm	iron 120*120*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4					
Stable sensing distance		8.0mm	12mm	17.6mm	12mm	20mm	32mm
Switching frequency		300Hz	150Hz	100Hz	150Hz	100Hz	
Response time		0.5ms/0.5ms	1.0ms/1.0ms		1.0ms/1.0ms		
Operating voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25°C~ +70°C					
Enclosure rating		IP67					
Housing material		Copper nickel plated (optional stainless steel housing, add suffix -ST to model number)					
Sensing surface material		PC					
Connection		2m cable					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					

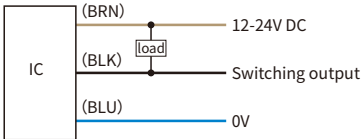
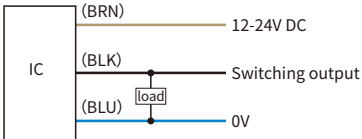
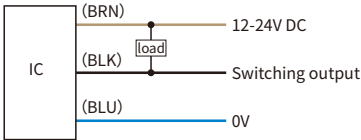
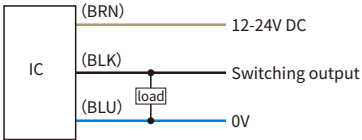
M30 Dimension

M30 Dimension



(Unit: mm)

Regular Inductive Proximity Sensor

I/O Circuit Diagram	
NPN NO 	
PNP NO 	
NPN NC 	
PNP NC 	

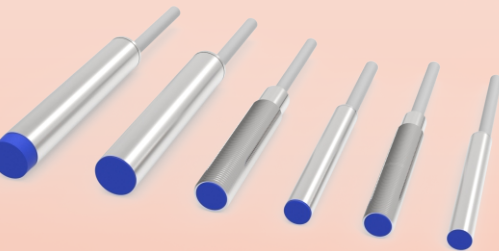
Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Inductive Proximity
Standard Type
Ultra-Compact Type
Flat Type
Analog Proximity
Corrosion-Resistant
High-Temp Resistant
Wide-Temp Range Type
High-Pressure Resistant
Welding Splash-Resistant
Inductive for Fe/Al/Cu

Photoelectric
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Proximity
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High-Pressure Resistant
Welding Splash-Resistant
Inductive for Fe/Al/Cu

Capacitive Proximity
Cylindrical
Corrosion-Resistant
Flat Capacitive

Capacitive Proximity
Cylindrical
Corrosion-Resistant
Flat Capacitive

Ultra-Compact Inductive Proximity Sensor



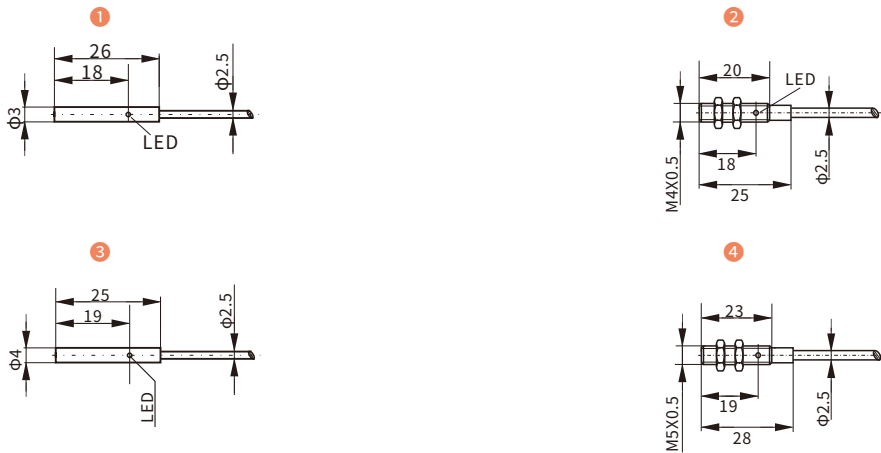
Features

- Fully potted process, enclosure rating IP67
- Smaller sizes are better suited to tight installation spaces
- Same size 2x sensing distance
- Stainless steel housing

Product Specification

Appearance									
Size		Φ3		M4		Φ4		M5	
Installation method		Flush		Flush		Flush		Flush	
Appearance length		L=26		L=25		L=25		L=28	
Sensing distance		0.6mm	0.8mm	0.6mm	0.8mm	1.0mm	1.5mm	1.0mm	1.5mm
Model	NPN N.O	PH030.6BNO	PH030.8BNO	PHM040.6BNO	PHM040.8BNO	PH0401BNO	PH041.5BNO	PHM0501BNO	PHM051.5BNO
	NPN N.C	PH030.6BNC	PH030.8BNC	PHM040.6BNC	PHM040.8BNC	PH0401BNC	PH041.5BNC	PHM0501BNC	PHM051.5BNC
	PNP N.O	PH030.6BPO	PH030.8BPO	PHM040.6BPO	PHM040.8BPO	PH0401BPO	PH041.5BPO	PHM0501BPO	PHM051.5BPO
	PNP N.C	PH030.6BPC	PH030.8BPC	PHM040.6BPC	PHM040.8BPC	PH0401BPC	PH041.5BPC	PHM0501BPC	PHM051.5BPC
Objects detected		iron 3*3*1mm	iron 3*3*1mm	iron 4*4*1mm	iron 4*4*1mm	iron 4*4*1mm	iron 4*4*1mm	iron 5*5*1mm	iron 5*5*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4							
Stable sensing distance		0.48mm	0.64mm	0.48mm	0.64mm	0.8mm	1.2mm	0.8mm	1.2mm
Switching frequency		2000Hz							
Response time		0.1ms/0.1ms							
Operating voltage		10-30VDC							
Voltage drop		<2.0VDC							
Max. load current		100mA				200mA			
No-load current		≤10mA							
Hysteresis		<15%							
Repeat accuracy		<1%							
Temperature drift		<10%							
Polarity/short protection		Built-in/Pulse							
Overload protection current		120mA				220mA			
Switching status display		LED							
Ambient temperature		-25 °C~ +70°C							
Enclosure rating		IP67							
Housing material		stainless steels							
Sensing surface material		POM							
Connection		2m cable							
Impact resistance		30gn,11ms							
Vibration resistance		55Hz,1mm ampl.,3×30min.							
EMC		IEC 60947-5-2							

Dimension



(Unit: mm)

Inquiry AUZ

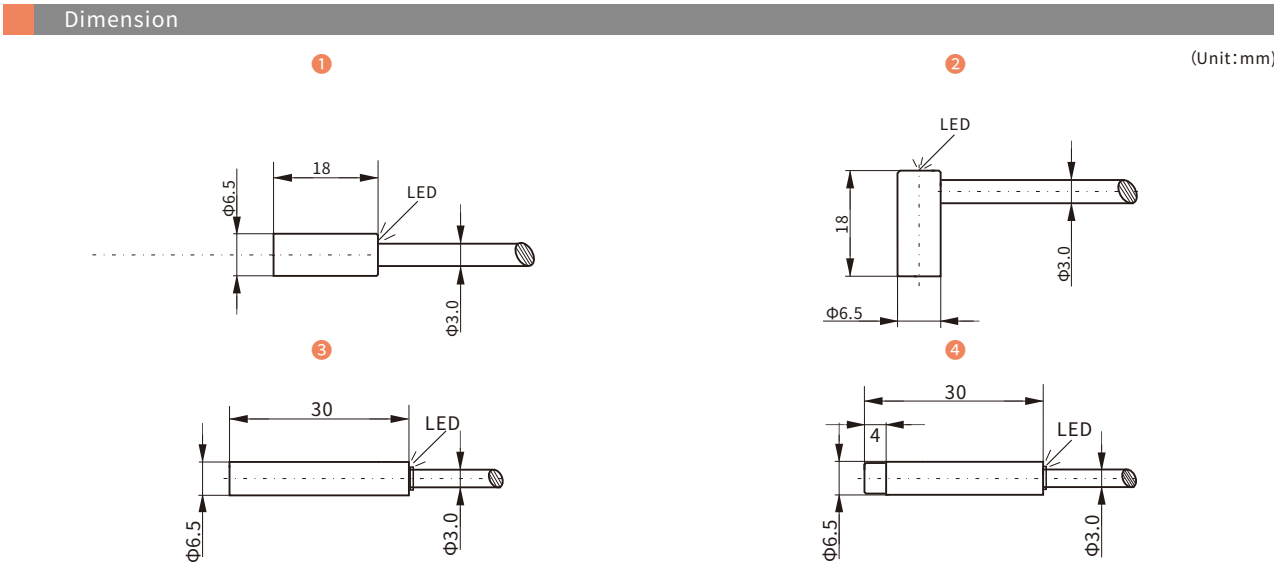
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* For any questions, please contact us via email auz.sensor@fuazon.com

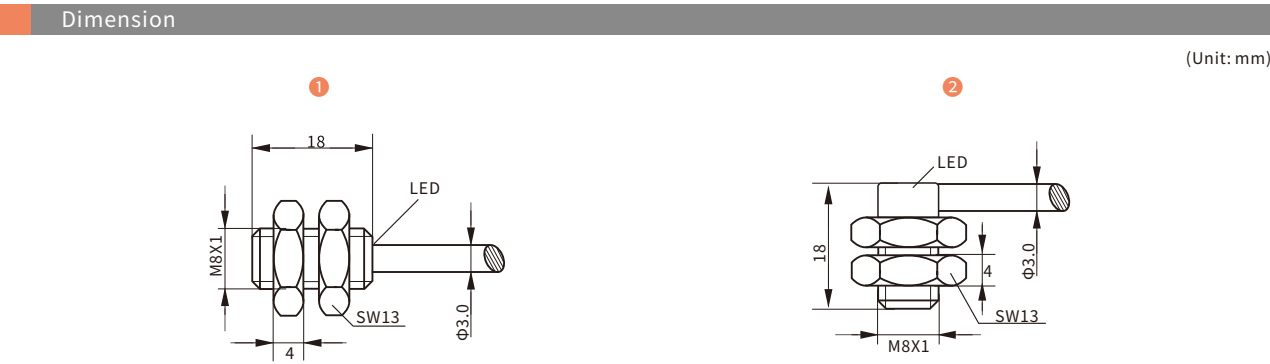
Ultra-Compact Inductive Proximity Sensor

Product Specification												
Appearance												
Size		Φ6.5			Φ6.5			Φ6.5			Φ6.5	
Installation method		Flush			Flush			Flush			Non-flush	
Appearance length		L=18			L=18			L=30			L=30	
Sensing distance		1.0mm	2.0mm	3.0mm	1.0mm	2.0mm	3.0mm	1.0mm	2.0mm	3.0mm	2.0mm	4.0mm
Model	NPN N.O	PHS0601BNO	PHS0602BNO	PHS0603BNO	PHS0601BNO-L	PHS0602BNO-L	PHS0603BNO-L	PH0601BNO	PH0602BNO	PH0603BNO	PH0602NO	PH0604NO
	NPN N.C	PHS0601BNC	PHS0602BNC	PHS0603BNC	PHS0601BNC-L	PHS0602BNC-L	PHS0603BNC-L	PH0601BNC	PH0602BNC	PH0603BNC	PH0602NC	PH0604NC
	PNP N.O	PHS0601BPO	PHS0602BPO	PHS0603BPO	PHS0601BPO-L	PHS0602BPO-L	PHS0603BPO-L	PH0601BPO	PH0602BPO	PH0603BPO	PH0602PO	PH0604PO
	PNP N.C	PHS0601BPC	PHS0602BPC	PHS0603BPC	PHS0601BPC-L	PHS0602BPC-L	PHS0603BPC-L	PH0601BPC	PH0602BPC	PH0603BPC	PH0602PC	PH0604PC
Objects detected		iron 6.5*6.5*1mm		iron 9*9*1mm	iron 6.5*6.5*1mm		iron 9*9*1mm	iron 6.5*6.5*1mm		iron 9*9*1mm	iron 6.5*6.5*1mm	iron 12*12*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4										
Stable sensing distance		0.8mm	1.6mm	2.4mm	0.8mm	1.6mm	2.4mm	0.8mm	1.6mm	2.4mm	1.6mm	3.2mm
Switching frequency		2000Hz		1000Hz	2000Hz		1000Hz	2000Hz		1000Hz	2000Hz	1000Hz
Response time		0.1ms/0.1ms		0.2ms/0.2ms	0.1ms/0.1ms		0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms
Operating voltage		10-30VDC										
Voltage drop		<2.0VDC										
Max. load current		200mA										
No-load current		≤10mA										
Hysteresis		<15%										
Repeat accuracy		<1%										
Temperature drift		<10%										
Polarity/short protection		Built-in/Pulse										
Overload protection current		220mA										
Switch status display		LED										
Ambient temperature		-25℃~ +70℃										
Enclosure rating		IP67										
Housing material		stainless steels										
Sensing surface material		PC										
Connection		2m cable										
Impact resistance		30gn,11ms										
Vibration resistance		55Hz,1mm ampl.,3×30min.										
EMC		IEC 60947-5-2										

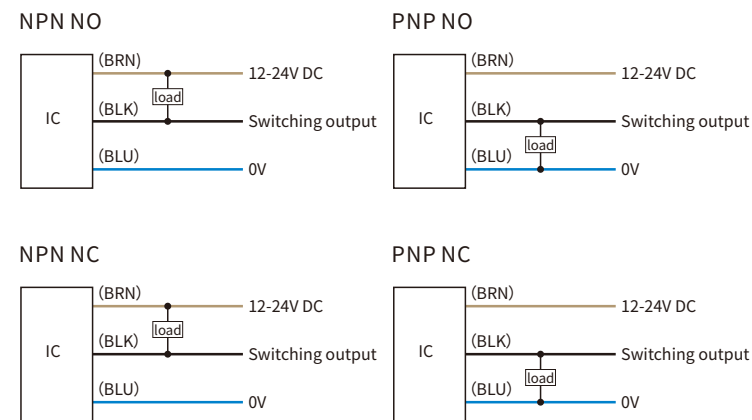


Ultra-Compact Inductive Proximity Sensor

Product Specification							
Appearance							
Size		M8			M8		
Installation method		Flush			Flush		
Appearance length		L=18			L=18		
Sensing distance		1.0mm	2.0mm	3.0mm	1.0mm	2.0mm	3.0mm
Model	NPN N.O	PHMSS0801BNO	PHMSS0802BNO	PHMSS0803BNO	PHMSS0801BNO-L	PHMSS0802BNO-L	PHMSS0803BNO-L
	NPN N.C	PHMSS0801BNC	PHMSS0802BNC	PHMSS0803BNC	PHMSS0801BNC-L	PHMSS0802BNC-L	PHMSS0803BNC-L
	PNP N.O	PHMSS0801BPO	PHMSS0802BPO	PHMSS0803BPO	PHMSS0801BPO-L	PHMSS0802BPO-L	PHMSS0803BPO-L
	PNP N.C	PHMSS0801BPC	PHMSS0802BPC	PHMSS0803BPC	PHMSS0801BPC-L	PHMSS0802BPC-L	PHMSS0803BPC-L
Objects detected		iron 8*8*1mm		iron 9*9*1mm	iron 8*8*1mm		iron 9*9*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminium approx. 0.45/copper approx. 0.4					
Stable sensing distance		0.8mm	1.6mm	2.4mm	0.8mm	1.6mm	2.4mm
Switching frequency		2000Hz		1000Hz	2000Hz		1000Hz
Response time		0.1ms/0.1ms		0.2ms/0.2ms	0.1ms/0.1ms		0.2ms/0.2ms
Operating voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25 °C~ +70°C					
Enclosure rating		IP67					
Housing material		stainless steels					
Sensing surface material		PC					
Connection		2m cable					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					



I/O Circuit Diagram



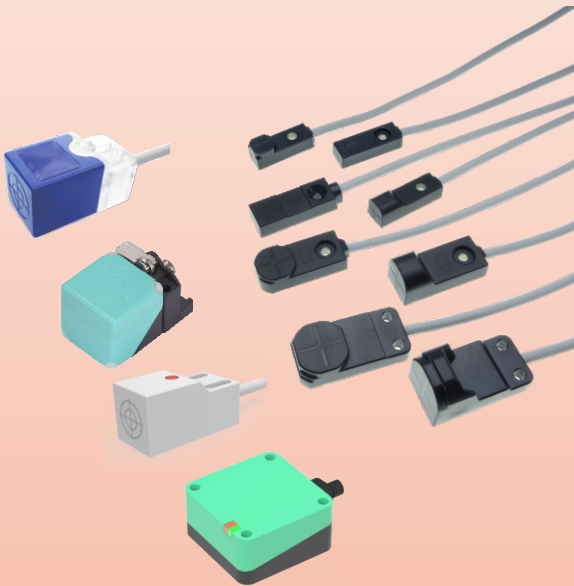
- | |
|-------------------------------------|
| Photoelectric |
| Fiber Optic |
| Color/Liquid/Correction |
| Proximity |
| Measurement |
| Barcode Reader |
| Communication Module |
| Dust-Free Drag Chain |
| Process Control |
| Detect/Eliminate Static Electricity |
| FO Accessories |
| Inductive Proximity |
| Standard Type |
| Ultra-Compact Type |
| Flat Type |
| Analog Proximity |
| Corrosion-Resistant |
| High-Temp Resistant |
| Wide-Temp Range Type |
| High-Pressure Resistant |
| Welding Splash-Resistant |
| Inductive for Fe/Al/Cu |
| Capacitive Proximity |
| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Memo

Proximity Sensor

- | |
|-------------------------------------|
| Photoelectric |
| Fiber Optic |
| Color/Liquid/Correction |
| Proximity |
| Measurement |
| Barcode Reader |
| Communication Module |
| Dust-Free Drag Chain |
| Process Control |
| Detect/Eliminate Static Electricity |
| FO Accessories |
| Inductive Proximity |
| Standard Type |
| Ultra-Compact Type |
| Flat Type |
| Analog Proximity |
| Corrosion-Resistant |
| High-Temp Resistant |
| Wide-Temp Range Type |
| High-Pressure Resistant |
| Welding Splash-Resistant |
| Inductive for Fe/Al/Cu |
| Capacitive Proximity |
| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Flat-type Inductive Proximity Sensor

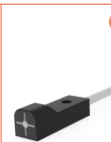


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Features

- Flat and square type
- Bottom and top sensing
- Up to 1KHz switching frequency

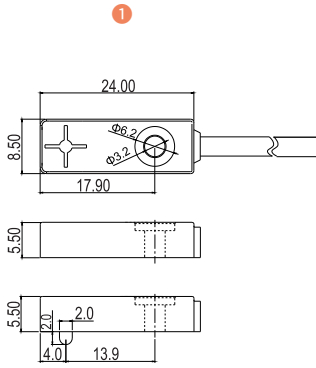
Product Specification

Appearance									
Size		W=8.5	W=7.5	W=8	W=10	W=12	W=12	W=15	W=15
Installation method		Non-flush	Non-flush	Non-flush	Non-flush	Non-flush	Non-flush	Non-flush	Non-flush
Sensing position		top	top	bottom	top	top	bottom	top	bottom
Sensing distance (mm)		2.0mm	2.0mm	2.0mm	3.0mm	4.0mm	4.0mm	5.0mm	5.0mm
Model	NPN N.O	*PH-Q08T02DNO	*PH-Q0802DNO	*PH-Q0802NO	PH-Q1003DNO	*PH-Q1204DNO	*PH-Q1204NO	PH-Q1505DNO	PH-Q1505NO
	NPN N.C	*PH-Q08T02DNC	*PH-Q0802DNC	*PH-Q0802NC	PH-Q1003DNC	*PH-Q1204DNC	*PH-Q1204NC	PH-Q1505DNC	PH-Q1505NC
	PNP N.O	*PH-Q08T02DPO	*PH-Q0802DPO	*PH-Q0802PO	PH-Q1003DPO	*PH-Q1204DPO	*PH-Q1204PO	PH-Q1505DPO	PH-Q1505PO
	PNP N.C	*PH-Q08T02DPC	*PH-Q0802DPC	*PH-Q0802PC	PH-Q1003DPC	*PH-Q1204DPC	*PH-Q1204PC	PH-Q1505DPC	PH-Q1505PC
Objects detected		iron 8*8*1mm	iron 8*8*1mm	iron 8*8*1mm	iron 10*10*1mm	iron 12*12*1mm	iron 12*12*1mm	iron 15*15*1mm	iron 15*15*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminium approx. 0.45/copper approx. 0.4							
Stable sensing distance		1.6 mm	1.6 mm	1.6 mm	2.4 mm	3.2 mm	3.2 mm	4.0 mm	4.0 mm
Switching frequency		1000Hz	1000Hz	1000Hz	1000Hz	1000Hz	1000Hz	500Hz	500Hz
Response time(ms)		0.2ms/0.2ms						0.5ms/0.5ms	
Operating voltage		10-30VDC							
Voltage drop		<1.5VDC							
Max. load current		200mA							
No-load current		≤10mA							
Hysteresis		<15%							
Repeat accuracy		<1%							
Temperature drift		<10%							
Polarity/short protection		Built-in polarity protection, short circuit protection							
Overload protection current		220mA							
Switch status display		LED							
Ambient temperature		-25 °C~ +70°C							
Enclosure rating		IP67							
Housing material		Plastic housing (with embedded metal inserts)						Plastic housing	
Connection		2m Cable							
Impact resistance		30gn,11ms							
Vibration resistance		55Hz,1mm ampl.,3×30min.							
EMC		IEC 60947-5-2							

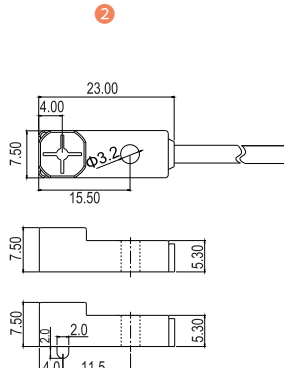
*With positioning post model number ending in -T; Example: PH-Q0802DNO-T

Dimension

(Unit: mm)



(Note: With positioning column model product size specification)



(Note: With positioning column model product size specification)

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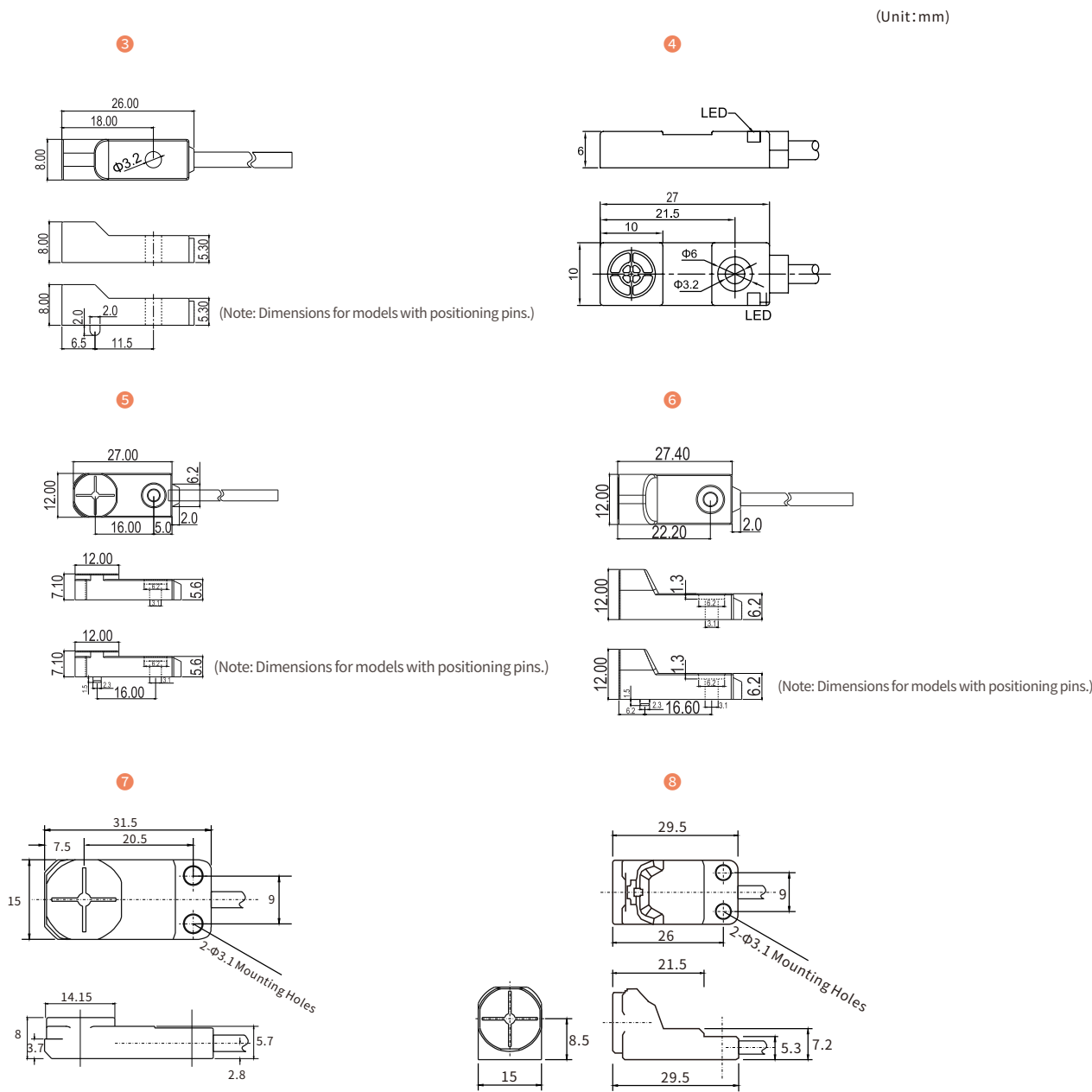
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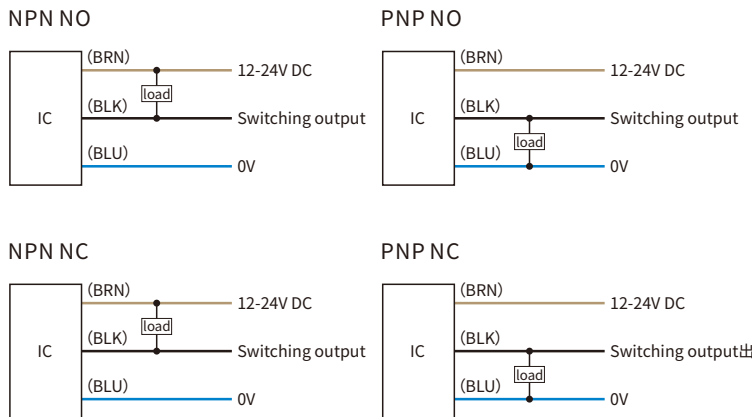
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Inductive Proximity
 - Standard Type
 - Ultra-Compact Type
 - Flat Type
 - Analog Proximity
 - Corrosion-Resistant
 - High-Temp Resistant
 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

Flat-Type Inductive Proximity Sensor

Dimension

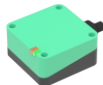


I/O Circuit Diagram

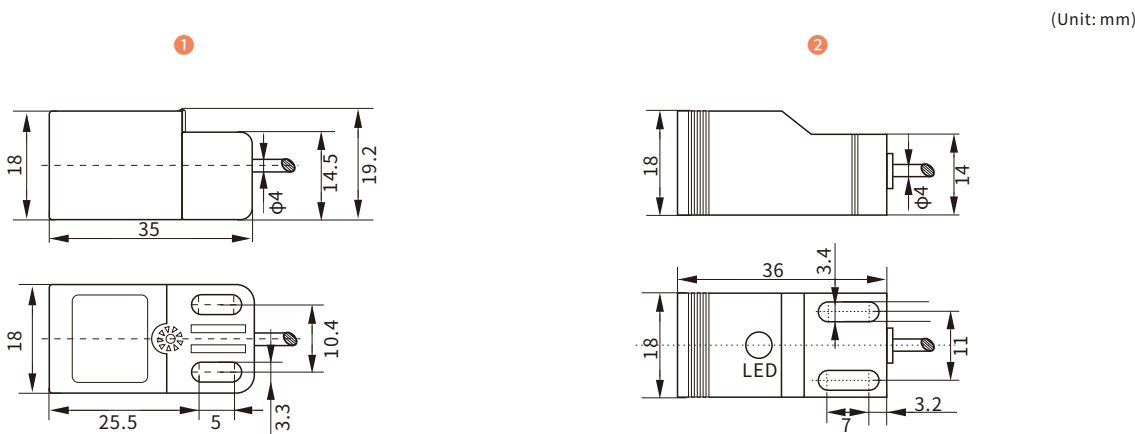


Flat-Type Inductive Proximity Sensor

Product Specification

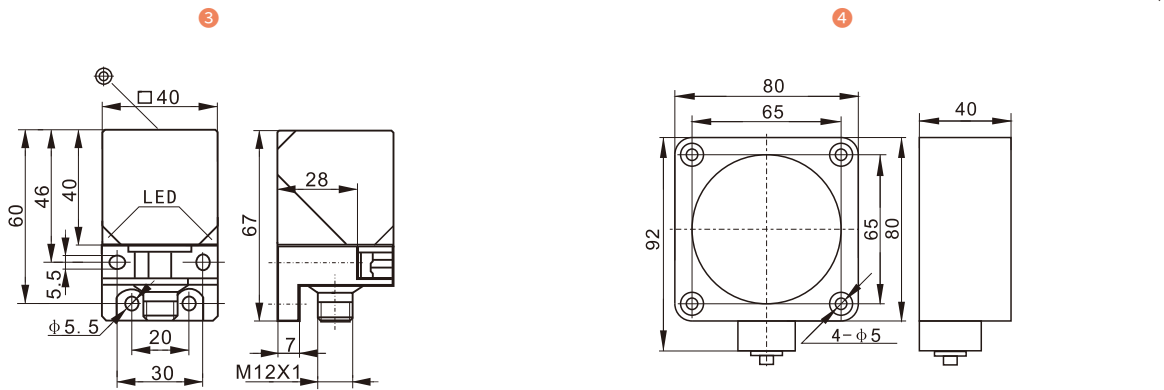
Appearance		1 		2 		3 		4 											
Size		W=18		W=18		W=18		W=40		W=40		W=80							
Installation method		Half-flush		Flush		Non-flush		Flush		Non-flush		Non-flush							
Sensing position		bottom		bottom		bottom		bottom		bottom		top							
Sensing distance (mm)		5.0mm		8.0mm		15.0mm		15.0mm		20.0mm		20.0mm		40.0mm		50.0mm		60.0mm	
Model	NPN N.O	PH-Q1805BNO-H	PH-Q1808BNO	PH-Q1815NO	PH-Q4015BNOQ12	PH-Q4020BNOQ12	PH-Q4020NOQ12	PH-Q4040NOQ12	PH-Q8050NOQ12	PH-Q8060NOQ12									
	NPN N.C	PH-Q1805BNC-H	PH-Q1808BNC	PH-Q1815NC	PH-Q4015BNCQ12	PH-Q4020BNCQ12	PH-Q4020NCQ12	PH-Q4040NCQ12	PH-Q8050NCQ12	PH-Q8060NCQ12									
	PNP N.O	PH-Q1805BPO-H	PH-Q1808BPO	PH-Q1815PO	PH-Q4015BPOQ12	PH-Q4020BPOQ12	PH-Q4020POQ12	PH-Q4040POQ12	PH-Q8050POQ12	PH-Q8060POQ12									
	PNP N.C	PH-Q1805BPC-H	PH-Q1808BPC	PH-Q1815PC	PH-Q4015BPCQ12	PH-Q4020BPCQ12	PH-Q4020PCQ12	PH-Q4040PCQ12	PH-Q8050PCQ12	PH-Q8060PCQ12									
Objects detected		iron 18*18*1mm		iron 24*24*1mm		iron 45*45*1mm		iron 45*45*1mm		iron 60*60*1mm		iron 60*60*1mm		iron 120*120*1mm		iron 150*150*1mm		iron 210*210*1mm	
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminium approx. 0.45 / Copper approx. 0.4																	
Stable sensing distance		4 mm		6.4 mm		12mm		12 mm		16 mm		16 mm		32 mm		40 mm		48 mm	
Switching frequency		1000Hz		500Hz		100Hz													
Response time(ms)		0.2ms/0.2ms		0.5ms/0.5ms		1.0ms/1.0ms													
Operating voltage		10-30VDC																	
Voltage drop		<1.5VDC																	
Max. load current		200mA																	
No-load current		≤10mA																	
Hysteresis		<15%																	
Repeat accuracy																			
Temperature drift		<10%																	
Polarity/short protection		Built-in polarity protection, short circuit protection																	
Overload protection current		220mA																	
Switch status display		LED																	
Ambient temperature		-25 °C~ +70 °C																	
Enclosure rating		IP67																	
Housing material		ABS		PBT		ABS													
Connection		2m cable				M12 connector													
Impact resistance		30gn,11ms																	
Vibration resistance		55Hz,1mm ampl.,3×30min.																	
EMC		IEC 60947-5-2																	

Dimension



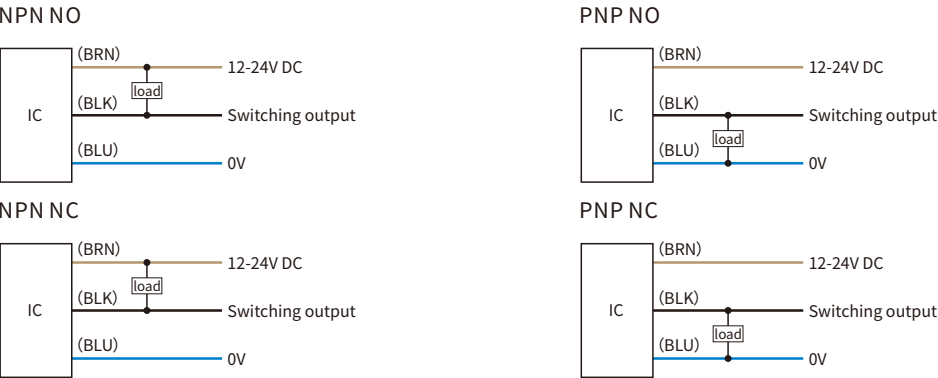
Flat-Type Inductive Proximity Sensor

Dimension

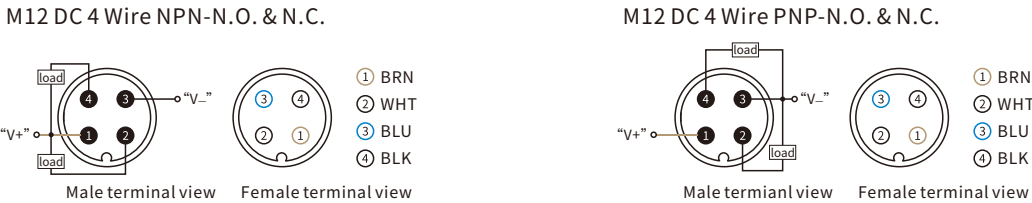


I/O Circuit Diagram

1 2 2m cable



3 4 M12 connector



Flat-Type Inductive Proximity Sensor

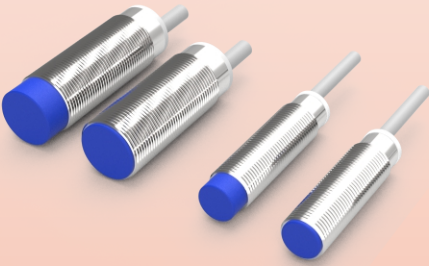
Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement
Barcode Reader
Communication Module
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories

Inductive Proximity
Standard Type
Ultra-Compact Type
Flat Type
Analog Proximity
Corrosion-Resistant
High-Temp Resistant
Wide-Temp Range Type
High-Pressure Resistant
Welding Splash-Resistant
Inductive for Fe/Al/Cu

Capacitive Proximity
Cylindrical
Corrosion-Resistant
Flat Capacitive

Analog Inductive Proximity Sensor



REC!

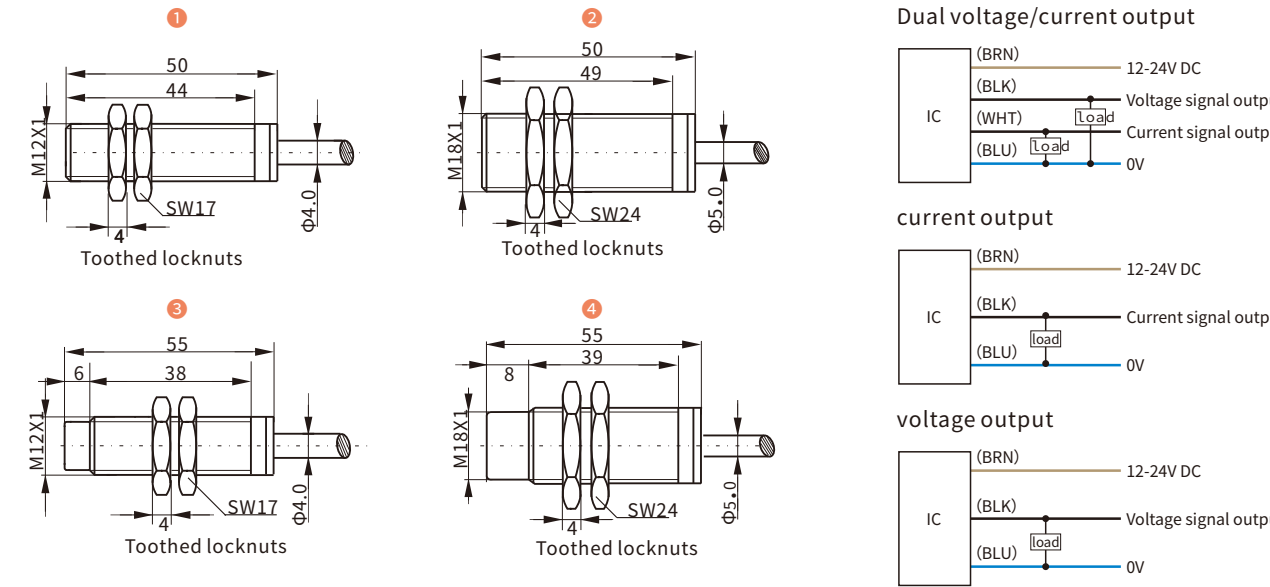
Features

- Linear accuracy less than 5%
- Provides analog current, analog voltage, analog current + voltage dual outputs
- Fully potted process, enclosure rating IP67

Product Specification

Appearance				
Size	M12	M12	M18	M18
Installation method	Flush	Non-flush	Flush	Non-flush
Appearance length	L=50	L=50	L=55	L=55
Sensing distance	0.1-3.0mm	0.1-4.0mm	1.0-4.0mm	1.0-7.0mm
Linear accuracy	5%	5%	5%	5%
Model	current output	PHM1203BA	PHM1204A	PHM1804BA
	voltage output	PHM1203BV	PHM1204V	PHM1804BV
	Dual voltage/current output	PHM1203BAV	PHM1204AV	PHM1804BAV
Objects detected	iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 18*18*1mm
Correction factor	Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4			
Switching frequency	100Hz			
Opearting voltage	10-30VDC			
Voltage drop	<2.0VDC			
No-load current	<35mA			
Output current/load resistance	4-20mA/<400Ω			
Output voltage/load resistance	0-10VDC/>2KΩ			
Repeat accuracy	0.02mm			
Temperature drift	<10%			
Polarity/short protection	built-in			
Switch status display	No			
Ambient temperature	-25 - +70°C			
Enclosure rating	IP67			
Housing material	Copper Nickel Plating			
Sensing surface material	PBT			
Connection	2m cable			
Impact resistance	30gn,11ms			
Virbration resistance	55Hz,1mm ampl.,3×30min.			
EMC	IEC 60947-5-2			

I/O Circuit and Dimensional Diagram



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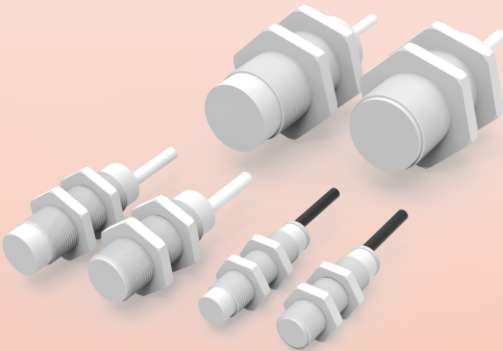


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- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
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- Barcode Reader
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- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories

- Inductive Proximity
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 - Ultra-Compact Type
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 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

Corrosion-Resistant Inductive Proximity Sensor



REC!

Features

- One-piece Teflon housing
- Enclosure rating IP69

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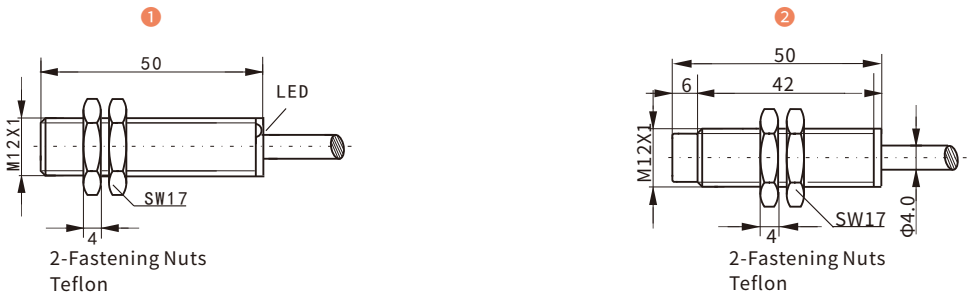


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Product Specification

Appearance				
Size		M12		M12
Installation method		Flush		Non-flush
Appearance length		L=50		L=50
Sensing distance		2.0mm	3.0mm	4.0mm
Model	NPN N.O	PHM1202BNO-CR	PHM1203BNO-CR	PHM1204NO-CR
	NPN N.C	PHM1202BNC-CR	PHM1203BNC-CR	PHM1204NC-CR
	PNP N.O	PHM1202BPO-CR	PHM1203BPO-CR	PHM1204PO-CR
	PNP N.C	PHM1202BPC-CR	PHM1203BPC-CR	PHM1204PC-CR
Objects detected		iron 12*12*1mm		
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminum approx. 0.45/copper approx. 0.4		
Stable sensing distance		1.6mm	2.4mm	3.2mm
Switching frequency		1000Hz		
Response time		0.2ms/0.2ms		
Operating voltage		10-30VDC		
Voltage drop		<2.0VDC		
Max. load current		200mA		
No-load current		≤10mA(24V)		
Hysteresis		<15%		
Repeat accuracy		<1%		
Temperature drift		<10%		
Polarity/short protection		Built-in/Pulse		
Overload protection current		220mA		
Switch status display		LED		
Ambient temperature		-25℃ ~ +70℃		
Enclosure rating		IP69		
Housing material		PTFE		
Sensing surface material		PTFE		
Connection		2m TPU Cable		
Impact resistance		30gn,11ms		
Vibration resistance		55Hz,1mm ampl.,3×30min.		
EMC		IEC 60947-5-2		

Dimension



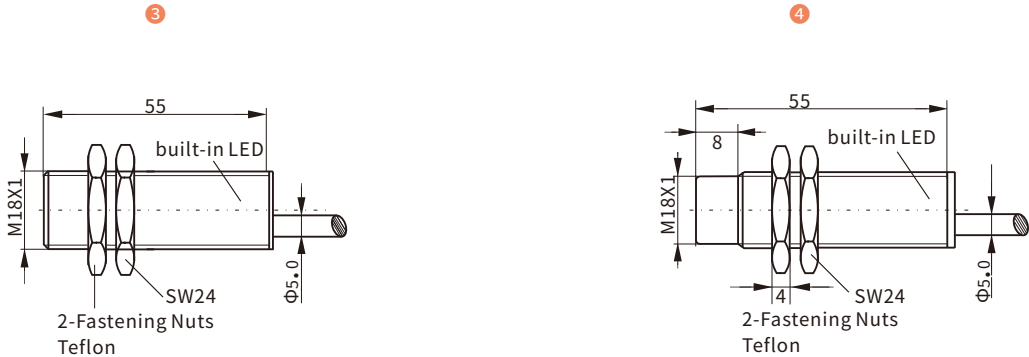
(Unit: mm)

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Inductive Proximity
 - Standard Type
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 - Analog Proximity
- Corrosion-Resistant
 - High-Temp Resistant
 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

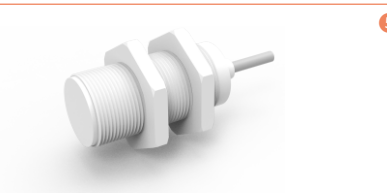
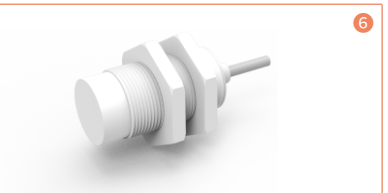
Corrosion-Resistant Inductive Proximity Sensor

Product Specification			
Appearance			
Size		M18	M18
Installation method		Flush	Non-flush
Appearance length		L=55	L=55
Sensing distance		5.0mm	8.0mm
Model	NPN N.O	PHM1805BNO-CR	PHM1808NO-CR
	NPN N.C	PHM1805BNC-CR	PHM1808NC-CR
	PNP N.O	PHM1805BPO-CR	PHM1808PO-CR
	PNP N.C	PHM1805BPC-CR	PHM1808PC-CR
Objects detected		iron 18*18*1mm	iron 24*24*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4	
Stable sensing distance		4 mm	6.4 mm
Switching frequency		1000Hz	800Hz
Response time		0.2ms/0.2ms	0.2ms/0.2ms
Operating voltage		10-30VDC	
Voltage drop		<2.0VDC	
Max. load current		200mA	
No-load current		≤10mA(24V)	
Hysteresis		<15%	
Repeat accuracy		<1%	<5%
Temperature drift		<10%	
Polarity/short protection		Built-in/Pulse	
Overload protection current		220mA	
Switch status display		LED	
Ambient temperature		-25°C ~+70°C	
Enclosure rating		IP69	
Housing material		PTFE	
Sensing surface material		PTFE	
Connection		2m Silicone Cable	
Impact resistance		30gn,11ms	
Vibration resistance		55Hz,1mm ampl.,3×30min.	
EMC		IEC 60947-5-2	

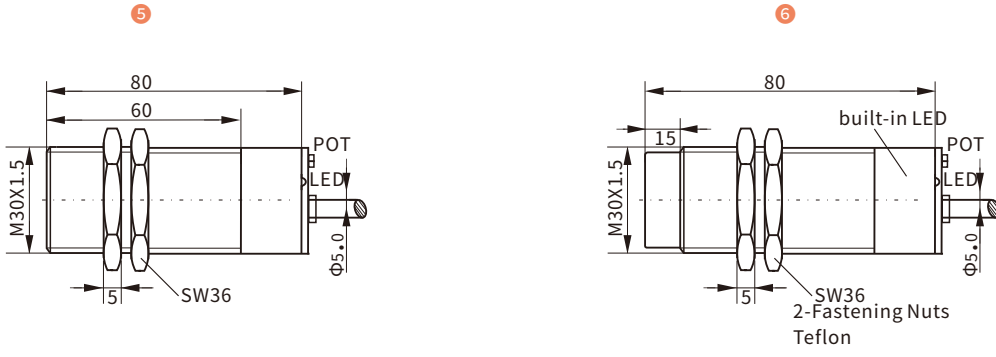
Dimension



Corrosion-Resistant Inductive Proximity Sensor

Product Specification			
Appearance			
Size		M30	M30
Installation method		Flush	Non-flush
Appearance length		L=80	L=80
Sensing distance		10.0mm	15.0mm
Model	NPN N.O	PHM3015BNO-CR	PHM3015NO-CR
	NPN N.C	PHM3015BNC-CR	PHM3015NC-CR
	PNP N.O	PHM3015BPO-CR	PHM3015PO-CR
	PNP N.C	PHM3015BPC-CR	PHM3015PC-CR
Objects detected		iron 30*30*1mm	iron 45*45*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4	
Stable detectin distance		8.0 mm	12 mm
Switching frequency		300Hz	150Hz
Response time		0.5ms/0.5ms	1.0ms/1.0ms
Operating voltage		10-30VDC	
Voltage drop		<2.0VDC	
Max. load current		200mA	
No-load current		≤10mA(24V)	
Hysteresis		<15%	
Repeat accuracy		<1%	<5%
Temperature drift		<10%	
Polarity/short protection		Built-in/Pulse	
Overload protection current		220mA	
Switch status display		LED	
Ambient temperature		-25°C ~ +70°C	
Enclosure rating		IP69	
Housing material		PTFE	
Sensing surface material		PTFE	
Connection		2m Silicone Cable	
Impact resistance		30gn,11ms	
Vibration resistance		55Hz,1mm ampl.,3×30min.	
EMC		IEC 60947-5-2	

Dimension



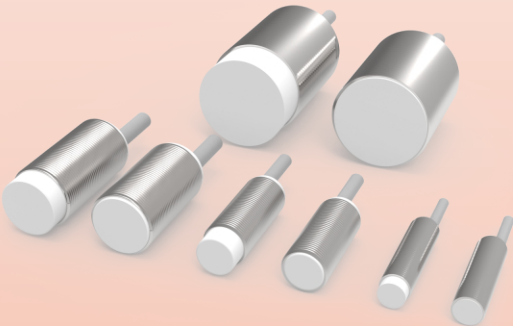
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Inductive Proximity
- Standard Type
- Ultra-Compact Type
- Flat Type
- Analog Proximity
- Corrosion-Resistant
- High-Temp Resistant
- Wide-Temp Range Type
- High-Pressure Resistant
- Welding Splash-Resistant
- Inductive for Fe/Al/Cu
- Capacitive Proximity
- Cylindrical
- Corrosion-Resistant
- Flat Capacitive

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
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I/O Circuit Diagram

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity**
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories

High-temperature
Resistant Inductive
Proximity Sensor



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Features

- Ambient temperature range
-25 to +110°C
- Fully potted process, protection
level IP67

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solutions designed to your specifications.

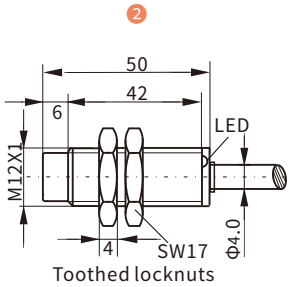
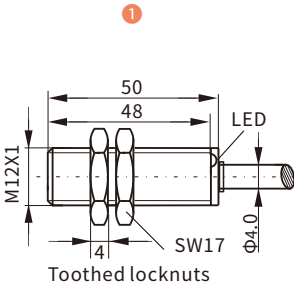
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Product Specification

Appearance			
Size		M12	M12
Installation method		Flush	Non-flush
Appearance length		L=50	L=50
Sensing distance		2.0mm	4.0mm
Ambient temperature		-25°C~+110°C (High temperature resistance +110°C)	
Model	NPN N.O	PHM1202BNO-GW110	PHM1204NO-GW110
	NPN N.C	PHM1202BNC-GW110	PHM1204NC-GW110
	PNP N.O	PHM1202BPO-GW110	PHM1204PO-GW110
	PNP N.C	PHM1202BPO-GW110	PHM1204PC-GW110
Objects detected		iron 12*12*1mm	iron 12*12*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4	
Stable sensing distance		1.6 mm	3.2mm
Switching frequenct		1000Hz	1000Hz
Response time		0.1ms/0.1ms	
Operating voltage		10-30VDC	
Voltage drop		<2.0VDC	
Max. load current		200mA	
No-load current		≤10mA(24V)	
Hysteresis		<15%	
Repeat accuracy		<1%	
Temperature drift		<10%	
Polarity/short protection		Built-in/Pulse	
Overload protection current		220mA	
Switch status display		LED	
Enclosure rating		IP67	
Housing material		Copper Nickel Plating	
Sensing surface material		Teflon PTFE	
Connection		2m cable	
Impact resistance		30gn,11ms	
Vibration resistance		55Hz,1mm ampl.,3×30min.	
EMC		IEC 60947-5-2	

I/O Circuit and Dimensional Diagram

(Unit: mm)



Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

FO Accessories

Inductive Proximity

Standard Type

Ultra-Compact Type

Flat Type

Analog Proximity

Corrosion-Resistant

High-Temp Resistant

Wide-Temp Range Type

High-Pressure Resistant

Welding Splash-Resistant

Inductive for Fe/Al/Cu

Capacitive Proximity

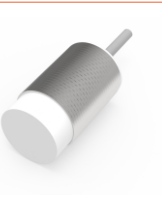
Cylindrical

Corrosion-Resistant

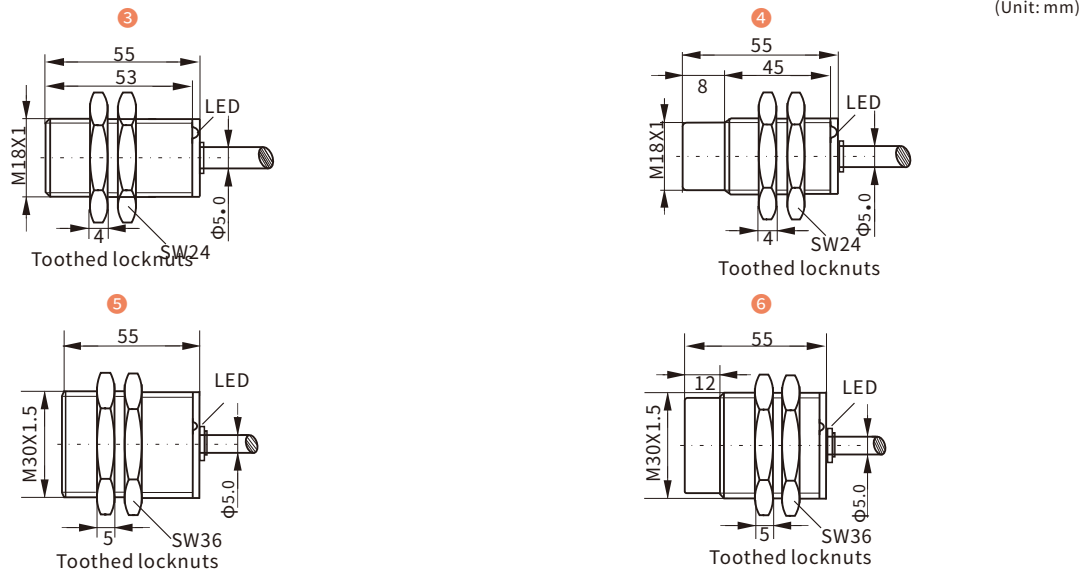
Flat Capacitive

High-Temperature Resistant Inductive Proximity Sensor

Product Specification

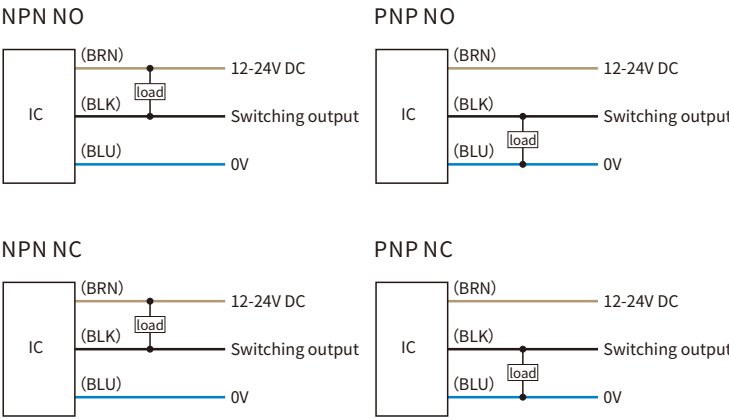
Appearance					
Size		M18	M18	M30	M30
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length		L=55	L=55	L=55	L=55
Sensing distance		5.0mm	8.0mm	10.0mm	15.0mm
Ambient temperature		-25°C~ +110°C ((High temperature resistance +110°C)			
Model	NPN N.O	PHM1805BNO-GW110	PHM1808NO-GW110	PHM3010BNO-GW110	PHM3015NO-GW110
	NPN N.C	PHM1805BNC-GW110	PHM1808NC-GW110	PHM3010BNC-GW110	PHM3015NC-GW110
	PNP N.O	PHM1805BPO-GW110	PHM1808PO-GW110	PHM3010BPO-GW110	PHM3015PO-GW110
	PNP N.C	PHM1805BPC-GW110	PHM1808PC-GW110	PHM3010BPC-GW110	PHM3015PC-GW110
Objects detected		iron 18*18*1mm	iron 24*24*1mm	iron 30*30*1mm	iron 45*45*1mm
Correction factor		Fe37=1/ Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4			
Stable sensing distance		4.0mm	6.4mm	8.0mm	12mm
Switching frequency		1000Hz	500Hz	300Hz	150Hz
Response time		0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	1.0ms/1.0ms
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<1%			
Temperature drify		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Enclosure rating		IP67			
Housing material		Copper Nickel Plating			
Sensing surface material		Teflon PTFE			
Connection		2m cable			
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

Dimension



High-Temperature Resistant Inductive Proximity Sensor

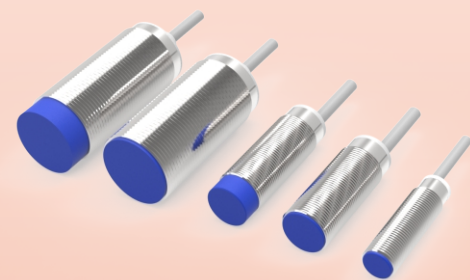
Input/Output Circuit Diagram



- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Inductive Proximity
- Standard Type
- Ultra-Compact Type
- Flat Type
- Analog Proximity
- Corrosion-Resistant
- High-Temp Resistant
- Wide-Temp Range Type
- High-Pressure Resistant
- Welding Splash-Resistant
- Inductive for Fe/Al/Cu

- Photoelectric
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- Welding Splash-Resistant
- Inductive for Fe/Al/Cu

Wide Temperature and High Protection Inductive Proximity Sensor



REC!

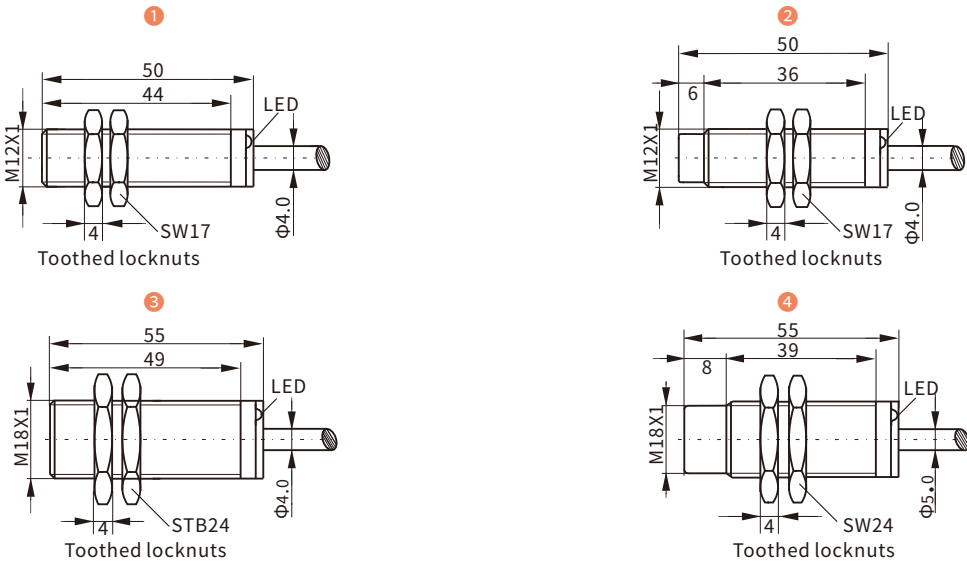
Features

- Ambient temperature range -40 - +85°C
- Fully potted process, Enclosure rating IP68

Product Specification

Appearance									
Size		Flush		Non-flush		Flush		Non-flush	
Installation method		M12		M12		M18		M18	
Appearance length		L=50		L=50		L=55		L=55	
Sensing distance		2.0mm	4.0mm	4.0mm	8.0mm	5.0mm	8.0mm	8.0mm	12.0mm
Ambient temperature		-40°C ~ +85°C (Wide temperature range: -40°C - 85°C)							
Model	NPN N.O	PHM1202BNO-KW85	PHM1204BNO-KW85	PHM1204NO-KW85	PHM1208NO-KW85	PHM1805BNO-KW85	PHM1808BNO-KW85	PHM1808NO-KW85	PHM1812NO-KW85
	NPN N.C	PHM1202BNC-KW85	PHM1204BNC-KW85	PHM1204NC-KW85	PHM1208NC-KW85	PHM1805BNC-KW85	PHM1808BNC-KW85	PHM1808NC-KW85	PHM1812NC-KW85
	PNP N.O	PHM1202BPO-KW85	PHM1204BPO-KW85	PHM1204PO-KW85	PHM1208PO-KW85	PHM1805BPO-KW85	PHM1808BPO-KW85	PHM1808PO-KW85	PHM1812PO-KW85
	PNP N.C	PHM1202BPC-KW85	PHM1204BPC-KW85	PHM1204PC-KW85	PHM1208PC-KW85	PHM1805BPC-KW85	PHM1808BPC-KW85	PHM1808PC-KW85	PHM1812PC-KW85
Objects detected		iron 12*12*1mm	iron 12*12*1mm	iron 12*12*1mm	iron 24*24*1mm	iron 18*18*1mm	iron 24*24*1mm	iron 24*24*1mm	iron 36*36*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4							
Stable sensing distance		1.6 mm	3.2 mm	3.2 mm	6.4 mm	4.0 mm	6.4 mm	6.4 mm	9.6 mm
Switching frequency		800Hz	800Hz	600Hz	600Hz	600Hz	600Hz	500Hz	500Hz
Response time		0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms
Operating voltage		10-30VDC							
Voltage drop		<2.0VDC							
Max. load current		200mA							
No-load current		≤10mA							
Hysteresis		<15%							
Repeat accuracy		<1%							
Temperature drift		<10%							
Polarity/short protection		Built-in/Pulse							
Overload protection current		220mA							
Switch status display		LED							
Enclosure rating		IP68							
Housing material		Copper nickel-plated (custom stainless steel housings with -ST suffix)							
Sensing surface material		PC							
Connection		2m cable							
Impact resistance		30gn,11ms							
Vibration resistance		55Hz,1mm ampl.,3×30min.							
EMC		IEC 60947-5-2							

Dimension



(Unit: mm)

Inquiry AUZ

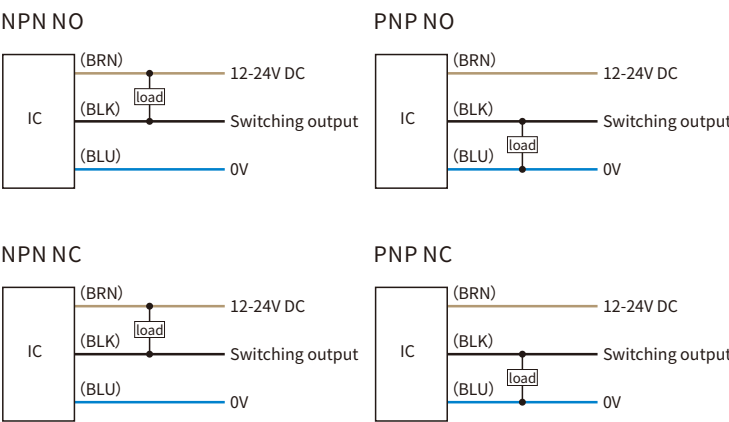
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- Photoelectric
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 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

I/O Circuit Diagram

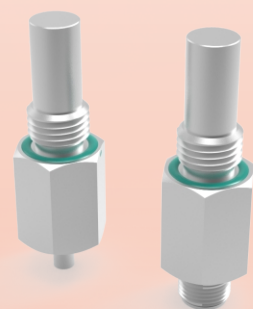


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| Photoelectric |
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| Color/Liquid/Correction |
| Proximity |
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Memo

- | |
|-------------------------------------|
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| Corrosion-Resistant |
| Flat Capacitive |

High Pressure
Resistant Inductive
Proximity Sensor



REC!

Features

- Stabilized working pressure up to 500 bar
- Peak pressure resistance up to 1000 bar
- Withstand temperatures up to 100°C
- Stainless steel housing and ceramic sensing surface
- Enclosure rating IP69

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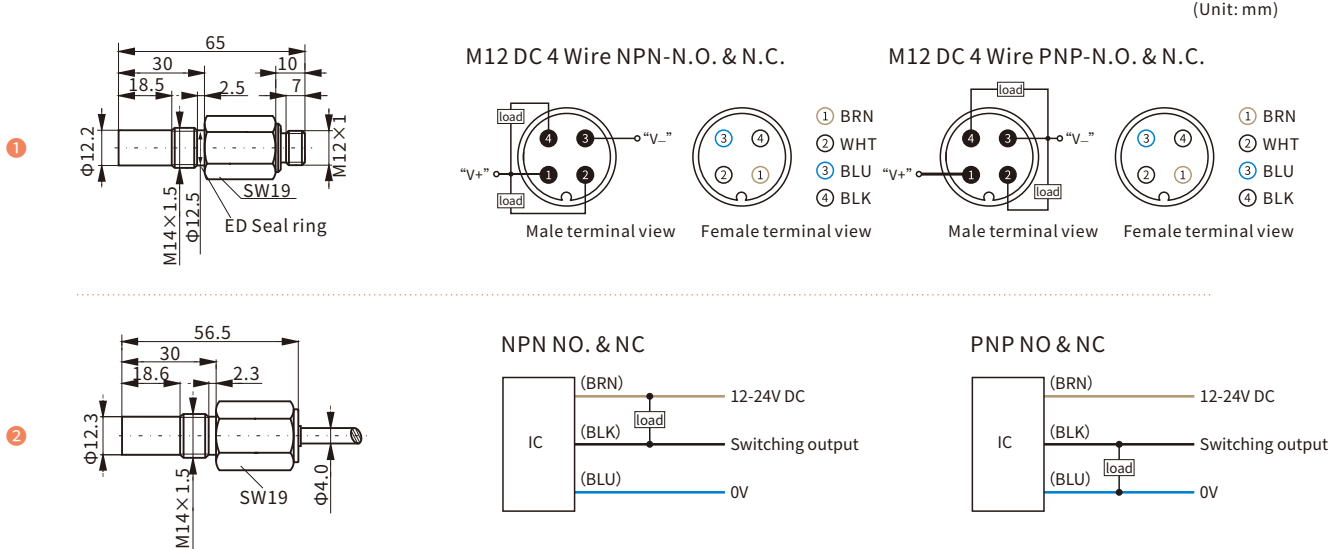


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Product Specification

Appearance		
Size	M14	M14
Installation method	Flush	Flush
Appearance length	L=65	L=56.5
Sensing distance	3.0mm	3.0mm
Max. operating pressure	500bar(Peak pressure 1000bar)	500bar(Peak pressure 1000bar)
Model	NPN N.O	PHM1403BNO-HP500Q12
	NPN N.C	PHM1403BNC-HP500Q12
	PNP N.O	PHM1403BPO-HP500Q12
	PNP N.C	PHM1403BPC-HP500Q12
Objects detected	iron 12*12*1mm	iron 12*12*1mm
Correction factor	Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4	
Stable sensing distance	2.4mm	
Switching frequency	500Hz	
Response time	0.5ms/0.5ms	
Operating pressure	10-30VDC	
Pressure drop	<2.0VDC	
Max. load current	200mA	
No-load current	≤10mA(24V)	
Hysteresis	<15%	
Repeat accuracy	<1%	
Temperature drift	<10%	
Polarity/short protection	Built-in/Pulse	
Overload protection current	220mA	
Switch status display	LED	
Ambient temperature	0°C ~ +100°C	
Enclosure rating	IP69	
Housing material	stainless steels	
Sensing surface material	Ceramic ZrO	
Connection	M12 connector	2m cable
Impact resistance	30gn,11ms	
Vibration resistance	55Hz,1mm ampl.,3×30min.	
EMC	IEC 60947-5-2	

I/O Circuit and Dimensional Diagram



- Photoelectric
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 - Inductive for Fe/Al/Cu
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 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

Anti-slag Inductive Proximity Sensor



REC!

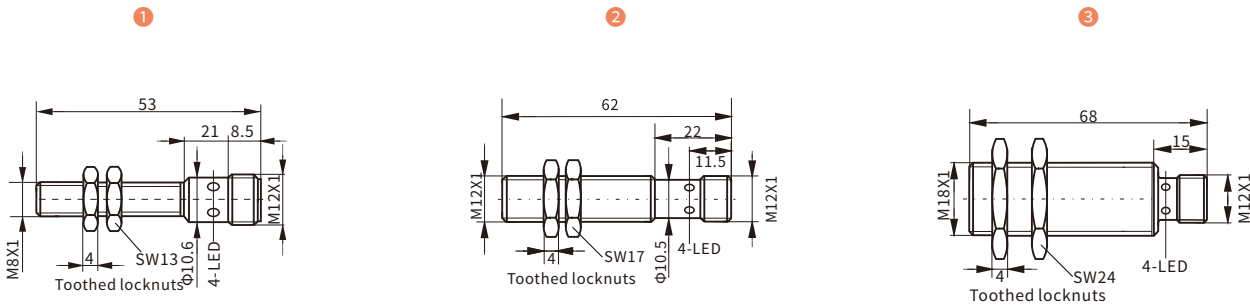
Features

- Teflon coating to prevent welding slag erosion
- Enclosure rating IP67

Product Specification

Appearance							
Size		M8		M12		M18	
Installation method		Flush		Flush		Flush	
Appearance length		L=53		L=62		L=68	
Sensing distance		1.0mm	2.0mm	2.0mm	4.0mm	5.0mm	8.0mm
Model	NPN N.O	PHM0801BNO-WSQ12-ST	PHM0802BNO-WSQ12-ST	PHM1202BNO-WSQ12	PHM1204BNO-WSQ12	PHM1805BNO-WSQ12	PHM1808BNO-WSQ12
	NPN N.C	PHM0801BNC-WSQ12-ST	PHM0802BNC-WSQ12-ST	PHM1202BNC-WSQ12	PHM1204BNC-WSQ12	PHM1805BNC-WSQ12	PHM1808BNC-WSQ12
	PNP N.O	PHM0801BPO-WSQ12-ST	PHM0802BPO-WSQ12-ST	PHM1202BPO-WSQ12	PHM1204BPO-WSQ12	PHM1805BPO-WSQ12	PHM1808BPO-WSQ12
	PNP N.C	PHM0801BPC-WSQ12-ST	PHM0802BPC-WSQ12-ST	PHM1202BPC-WSQ12	PHM1204BPC-WSQ12	PHM1805BPC-WSQ12	PHM1808BPC-WSQ12
Objects detected		iron 8*8*1mm	iron 8*8*1mm	iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 24*24*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4					
Stable sensing distance		0.8mm	1.6mm	1.6mm	3.2mm	4.0mm	6.4mm
Switching frequency		2000Hz	2000Hz	2000Hz	1000Hz	1000Hz	500Hz
Response time		0.1ms/0.1ms	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms	0.5ms/0.5ms
Opearting voltage		10-30VDC					
Voltage drop		<2.0VDC					
Max. load current		200mA					
No-load current		≤10mA					
Hysteresis		<15%					
Repeat accuracy		<1%					
Temperature drift		<10%					
Polarity/short protection		Built-in/Pulse					
Overload protection current		220mA					
Switch status display		LED					
Ambient temperature		-25℃ ~ +70℃					
Enclosure rating		IP67					
Housing material		Stainless steel PTFE coating		Brass PTFE coating			
Sensing surface material		tainless steel PTFE coating		Brass PTFE coating			
Connection		M12 connector					
Impact resistance		30gn,11ms					
Vibration resistance		55Hz,1mm ampl.,3×30min.					
EMC		IEC 60947-5-2					

Dimension



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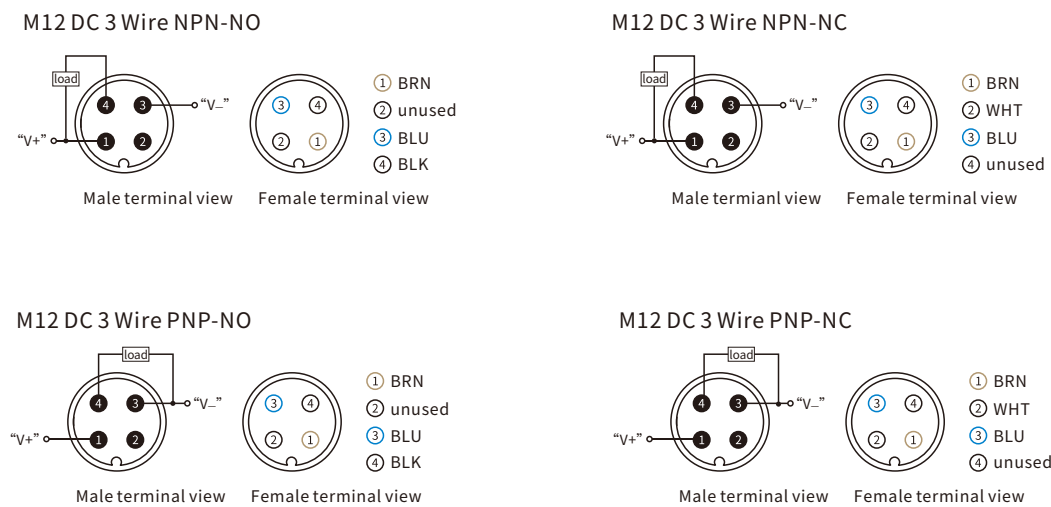


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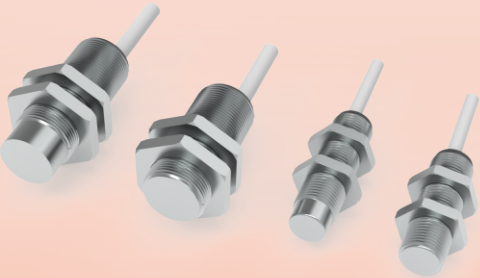
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement
- Barcode Reader
- Communication Module
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- Process Control
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 - High-Temp Resistant
 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

I/O Circuit Diagram



Memo

Inductive Proximity Sensor (Fe/Al/Cu Only)



REC!

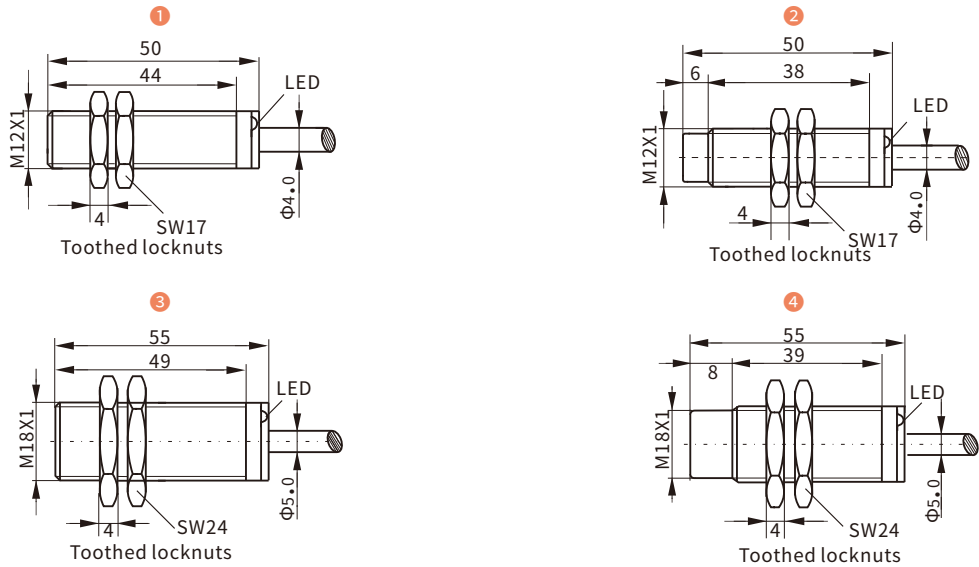
Features

- Inductive iron only
- Only non-ferrous metals such as aluminum and copper are sensed

Product Specification

Appearance									
Size		M12		M12		M18		M18	
Installation method		Flush		Non-flush		Flush		Non-flush	
Appearance length		L=50		L=50		L=55		L=55	
Sensing distance		2 mm		4 mm		5 mm		8 mm	
Features		Iron Only	Al/Cu Only	Iron Only	Al/Cu Only	Iron Only	Al/Cu Only	Iron Only	Al/Cu Only
Model	NPN N.O	PHM1202BNO-FE	PHM1202BNO-AL	PHM1204NO-FE	PHM1204NO-AL	PHM1805BNO-FE	PHM1805BNO-AL	PHM1808NO-FE	PHM1808NO-AL
	NPN N.C	PHM1202BNC-FE	PHM1202BNC-AL	PHM1204NC-FE	PHM1204NC-AL	PHM1805BNC-FE	PHM1805BNC-AL	PHM1808NC-FE	PHM1808NC-AL
	PNP N.O	PHM1202BPO-FE	PHM1202BPO-AL	PHM1204PO-FE	PHM1204PO-AL	PHM1805BPO-FE	PHM1805BPO-AL	PHM1808PO-FE	PHM1808PO-AL
	PNP N.C	PHM1202BPC-FE	PHM1202BPC-AL	PHM1204PC-FE	PHM1204PC-AL	PHM1805BPO-FE	PHM1805BPO-AL	PHM1808PC-FE	PHM1808PC-AL
Objects detected		iron 12*12*1mm	iron 12*12*1mm	iron 18*18*1mm	iron 18*18*1mm	iron 18*18*1mm	iron 18*18*1mm	iron 24*24*1mm	iron 24*24*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4							
Stable sensing distance		1.6 mm		3.2 mm		4.0 mm		6.4 mm	
Switching frequency		1000Hz		500Hz		500Hz		500Hz	
Response time		0.2ms/0.2ms		0.5ms/0.5ms		0.5ms/0.5ms		0.5ms/0.5ms	
Operating voltage		10-30VDC							
Voltage drop		<2.0VDC							
Max. load current		200mA							
No-load current		≤10mA							
Hysteresis		<15%							
Repeat accuracy		<1%							
Temperature drift		<10%							
Polarity/short protection		Built-in/Pulse							
Overload protection current		220mA							
Switch status display		LED							
Ambient temperature		-25℃ ~ +70℃							
Enclosure rating		IP67							
Housing material		stainless steels							
Sensing surface material		stainless steels							
Connection		2m cable							
Impact resistance		30gn,11ms							
Vibration resistance		55Hz,1mm ampl.,3×30min.							
EMC		IEC 60947-5-2							

I/O Circuit and Dimensional Diagram



(Unit: mm)

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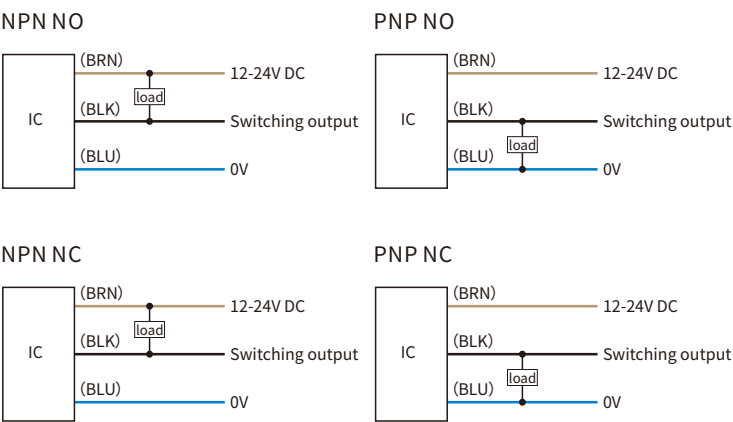


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 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu

- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

I/O Circuit Diagram



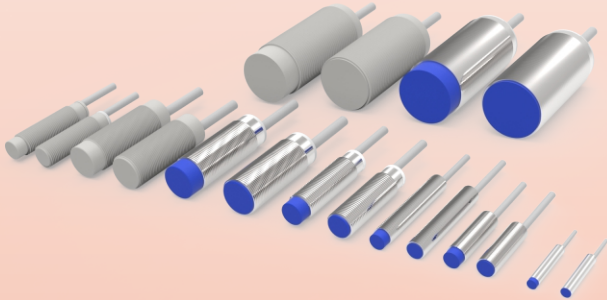
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| Photoelectric |
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| Color/Liquid/Correction |
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| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Memo

Memo

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|-------------------------------------|
| Photoelectric |
| Fiber Optic |
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| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Cylindrical Capacitive Sensor



REC!

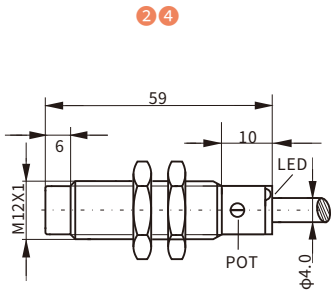
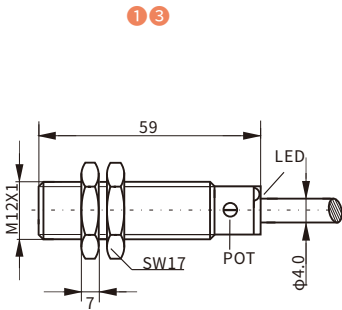
Features

- Fully potted process, protection level IP67
- Built-in knob, adjustable distance
- Available in metal and plastic housings

Product Specification

Appearance					
Size		M12			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length		L=59	L=59	L=59	L=59
Sensing distance[Sn]		1-3mm	1-6mm	1-3mm	1-6mm
Model	NPN N.O	PHC-M1203BNO	PHC-M1206NO	PHC-MP1203BNO	PHC-MP1206NO
	NPN N.C	PHC-M1203BNC	PHC-M1206NC	PHC-MP1203BNC	PHC-MP1206NC
	PNP N.O	PHC-M1203BPO	PHC-M1206PO	PHC-MP1203BPO	PHC-MP1206PO
	PNP N.C	PHC-M1203BPC	PHC-M1206PC	PHC-MP1203BPC	PHC-MP1206PC
Objects detected		iron 12*12*1mm	iron 18*18*1mm	iron 12*12*1mm	iron 18*18*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4			
Stable sensing distance		1-2.4mm	1-4.8mm	1-2.4mm	1-4.8mm
Switching frequency		100Hz			
Response time		1.5ms/1.5ms			
EOD		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70℃			
Enclosure rating		IP67			
Housing material		Copper Nickel Plating		PBT	
Sensing surface material		PC		PBT	
Connection		2m PVC cable			
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

Dimension



(Unit: mm)

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- FO Accessories
- Inductive Proximity
 - Standard Type
 - Ultra-Compact Type
 - Flat Type
 - Analog Proximity
 - Corrosion-Resistant
 - High-Temp Resistant
 - Wide-Temp Range Type
 - High-Pressure Resistant
 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

Cylindrical Capacitive Sensor

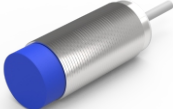
Product Specification					
Appearance					
Size		M18			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length		L=80	L=80	L=80	L=80
Sensing distance[Sn]		2-8mm	2-15mm	2-8mm	2-15mm
Model	NPN N.O	PHC-M1808BNO	PHC-M1815NO	PHC-MP1808BNO	PHC-MP1815NO
	NPN N.C	PHC-M1808BNC	PHC-M1815NC	PHC-MP1808BNC	PHC-MP1815NC
	PNP N.O	PHC-M1808BPO	PHC-M1815PO	PHC-MP1808BPO	PHC-MP1815PO
	PNP N.C	PHC-M1808BPC	PHC-M1815PC	PHC-MP1808BPC	PHC-MP1815PC
Objects detected		iron 24*24*1mm	iron 45*45*1mm	iron 24*24*1mm	iron 45*45*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminum approx. 0.45/copper approx. 0.4			
Stable sensing distance		2-6.4mm	2-12mm	2-6.4mm	2-12mm
Switching frequency		100Hz			
Response time		1.5ms/1.5ms			
Effective distance		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70°C			
Enclosure rating		IP67			
Housing material		Copper Nickel Plating		PBT	
Sensing surface material		PC		PBT	
Connection		2m PVC cable			
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

Dimension

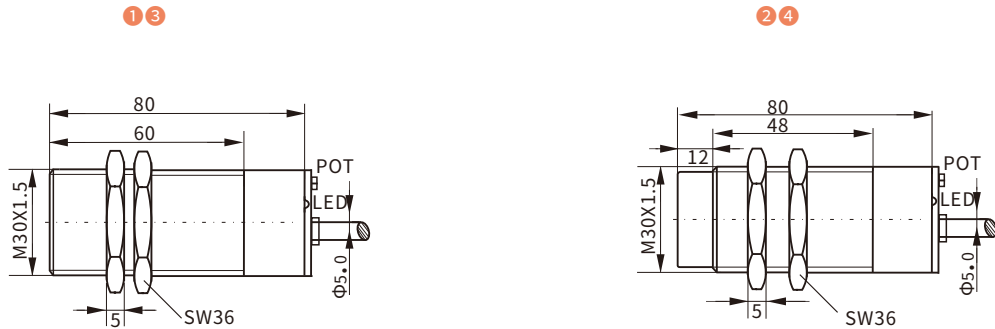


(Unit: mm)

Cylindrical Capacitive Sensor

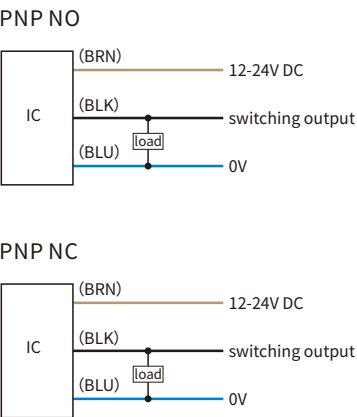
Product Specification					
Appearance					
Size		M30			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length		L=80	L=80	L=80	L=80
Sensing distance[Sn]		2-20mm	2-30mm	2-20mm	2-30mm
Model	NPN N.O	PHC-M3020BNO	PHC-M3030NO	PHC-MP3020BNO	PHC-MP3030NO
	NPN N.C	PHC-M3020BNC	PHC-M3030NC	PHC-MP3020BNC	PHC-MP3030NC
	PNP N.O	PHC-M3020BPO	PHC-M3030PO	PHC-MP3020BPO	PHC-MP3030PO
	PNP N.C	PHC-M3020BPC	PHC-M3030PC	PHC-MP3020BPC	PHC-MP3030PC
Objects detected		iron 60*60*1mm	iron 90*90*1mm	iron 60*60*1mm	iron 90*90*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminum approx. 0.45/copper approx. 0.4			
Stable sensing distance		2-16mm	2-24mm	2-16mm	2-24mm
Switching frequency		100Hz			
Response time		1.5ms/1.5ms			
Effective distance		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70°C			
Enclosure rating		IP67			
Housing material		Copper Nickel Plating		PBT	
Sensing surface material		PC		PBT	
Connection		2m PVC cable			
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

Dimension

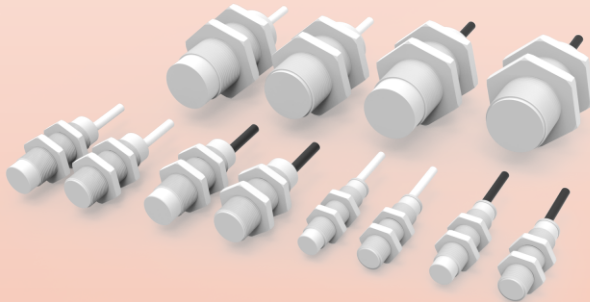


(Unit: mm)

I/O Circuit Diagram



Corrosion-Resistant Cylindrical Capacitive Sensor



REC!

Features

- One-piece Teflon housing
- Enclosure rating IP67
- Built-in knob, adjustable distance

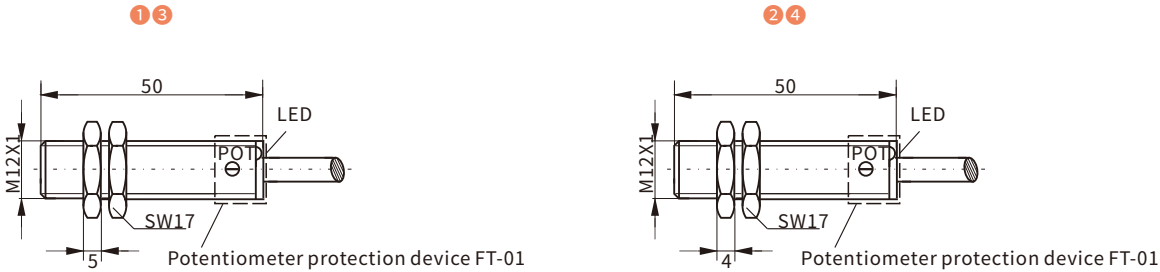
Product Specification

Appearance					
Size		M12			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length		L=50	L=50	L=50	L=50
Sensing distance[Sn]		1-3mm adjustable	1-6mm adjustable	1-3mm adjustable	1-6mm adjustable
Model	NPN N.O	PHC-M1203BNOCR-U	PHC-M1206NOCR-U	PHC-M1203BNOCR-F	PHC-M1206NOCR-F
	NPN N.C	PHC-M1203BNCCR-U	PHC-M1206NCCR-U	PHC-M1203BNCCR-F	PHC-M1206NCCR-F
	PNP N.O	PHC-M1203BPOCR-U	PHC-M1206POCR-U	PHC-M1203BPOCR-F	PHC-M1206POCR-F
	PNP N.C	PHC-M1203BPCCR-U	PHC-M1206PCCR-U	PHC-M1203BPCCR-F	PHC-M1206PCCR-F
Objects detected		iron 12*12*1mm	iron 18*18*1mm	iron 12*12*1mm	iron 18*18*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminum approx. 0.45/copper approx. 0.4			
Stable sensing distance		1-2.4mm	1-4.8mm	1-2.4mm	1-4.8mm
Switching distance		100Hz			
Response time		1.5ms/1.5ms			
Effective distance		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70℃			
Enclosure rating		IP67			
Housing material		PTFE			
Sensing surface material		PTFE			
Connection		2m TPU cable		2m PTFE cable	
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

*Potentiometer protection device FT-01 included

Dimension

(Unit: mm)



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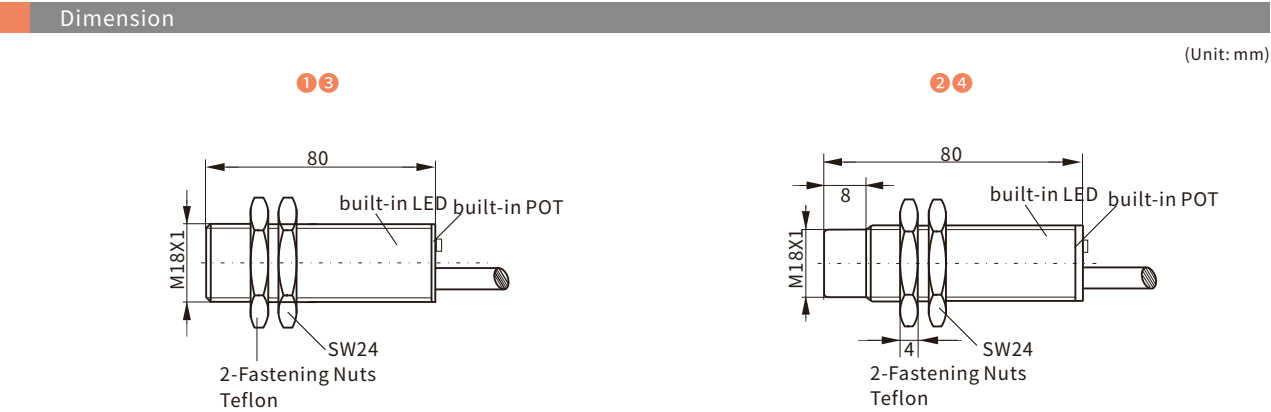
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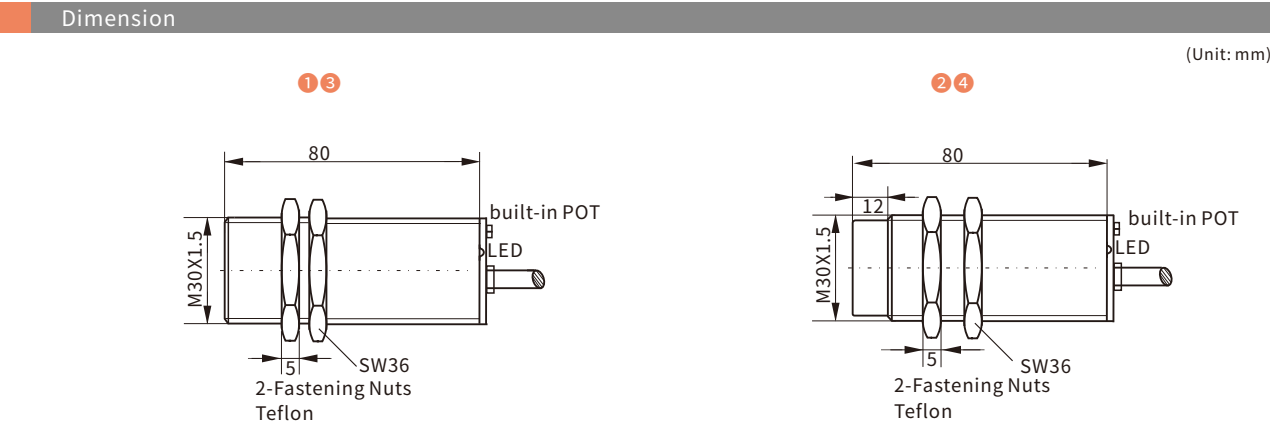
Corrosion-Resistant Cylindrical Capacitive Sensor

Product Specification					
Appearance					
Size		M18			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length[Sn]		L=80	L=80	L=80	L=80
Sensing distance[Sn]		2-8mm adjustable	2-10mm adjustable	2-8mm adjustable	2-10mm adjustable
Model	NPN N.O	PHC-M1808BNOCR-U	PHC-M1810NOCR-U	PHC-M1808BNOCR-F	PHC-M1810NOCR-F
	NPN N.C	PHC-M1808BNCCR-U	PHC-M1810NCCR-U	PHC-M1808BNCCR-F	PHC-M1810NCCR-F
	PNP N.O	PHC-M1808BPOCR-U	PHC-M1810POCR-U	PHC-M1808BPOCR-F	PHC-M1810POCR-F
	PNP N.C	PHC-M1808BPCCR-U	PHC-M1810PCCR-U	PHC-M1808BPCCR-F	PHC-M1810PCCR-F
Objects detected		iron 24*24*1mm	iron 30*30*1mm	iron 24*24*1mm	iron 30*30*1mm
Correction factor		Fe37=1/Stainless steel approx. 0.85 / Brass approx. 0.5 / Aluminum approx. 0.45 / Copper approx. 0.4			
Stable sensing distance		2-6.4mm	2-8mm	2-6.4mm	2-8mm
Switching frequency		100Hz			
Response time		1.5ms/1.5ms			
Effective distance		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70℃			
Enclosure rating		IP67			
Housing material		PTFE			
Sensing surface material		PTFE			
Connection		2m TPU cable		2m PTFE cable	
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			

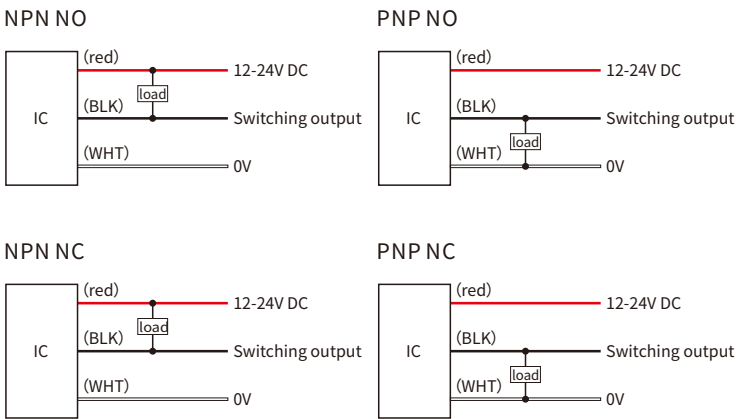


Corrosion-Resistant Cylindrical Capacitive Sensor

Product Specification					
Appearance					
Size		M30			
Installation method		Flush	Non-flush	Flush	Non-flush
Appearance length[Sn]		L=80	L=80	L=80	L=80
Sensing distance[Sn]		2-20mm adjustable	2-25mm adjustable	2-20mm adjustable	2-25mm adjustable
Model	NPN N.O	PHC-M3020BNOCR-U	PHC-M3025NOCR-U	PHC-M3020BNOCR-F	PHC-M3025NOCR-F
	NPN N.C	PHC-M3020BNCCR-U	PHC-M3025NCCR-U	PHC-M3020BNCCR-F	PHC-M3025NCCR-F
	PNP N.O	PHC-M3020BPOCR-U	PHC-M3025POCR-U	PHC-M3020BPOCR-F	PHC-M3025POCR-F
	PNP N.C	PHC-M3020BPCCR-U	PHC-M3025PCCR-U	PHC-M3020BPCCR-F	PHC-M3025PCCR-F
Objects detected		iron 60*60*1mm	iron 75*75*1mm	iron 60*60*1mm	iron 75*75*1mm
Correction factor		Fe37=1/stainless steel approx. 0.85/brass approx. 0.5/aluminum approx. 0.45/copper approx. 0.4			
Stable sensing distance		2-16mm	2-20mm	2-16mm	2-20mm
Switching frequency		100Hz			
Response time		1.5ms/1.5ms			
Effective distance		90-110%Sn			
Operating voltage		10-30VDC			
Voltage drop		<2.0VDC			
Max. load current		200mA			
No-load current		≤10mA(24V)			
Hysteresis		<15%			
Repeat accuracy		<5%			
Temperature drift		<10%			
Polarity/short protection		Built-in/Pulse			
Overload protection current		220mA			
Switch status display		LED			
Ambient temperature		-25 ~ +70°C			
Enclosure rating		IP67			
Housing material		PTFE			
Sensing surface material		PTFE			
Connection		2m TPU cable		2m PTFE cable	
Impact resistance		30gn,11ms			
Vibration resistance		55Hz,1mm ampl.,3×30min.			
EMC		IEC 60947-5-2			



I/O Circuit Diagram

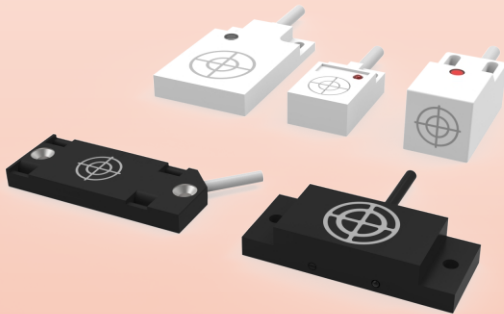


- | |
|-------------------------------------|
| Photoelectric |
| Fiber Optic |
| Color/Liquid/Correction |
| Proximity |
| Measurement |
| Barcode Reader |
| Communication Module |
| Dust-Free Drag Chain |
| Process Control |
| Detect/Eliminate Static Electricity |
| FO Accessories |
| Inductive Proximity |
| Standard Type |
| Ultra-Compact Type |
| Flat Type |
| Analog Proximity |
| Corrosion-Resistant |
| High-Temp Resistant |
| Wide-Temp Range Type |
| High-Pressure Resistant |
| Welding Splash-Resistant |
| Inductive for Fe/Al/Cu |
| Capacitive Proximity |
| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Memo

- | |
|-------------------------------------|
| Photoelectric |
| Fiber Optic |
| Color/Liquid/Correction |
| Proximity |
| Measurement |
| Barcode Reader |
| Communication Module |
| Dust-Free Drag Chain |
| Process Control |
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| Wide-Temp Range Type |
| High-Pressure Resistant |
| Welding Splash-Resistant |
| Inductive for Fe/Al/Cu |
| Capacitive Proximity |
| Cylindrical |
| Corrosion-Resistant |
| Flat Capacitive |

Flat Capacitive Proximity Sensor



REC!

Features

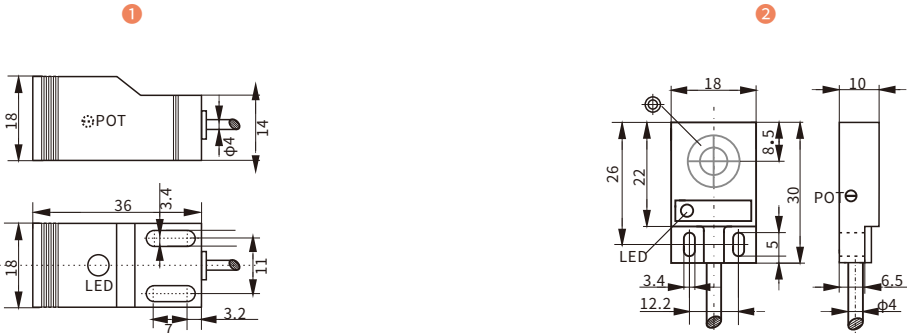
- Ultra-thin flat capacitors, only 5.5mm thick
- Built-in knob, adjustable distance

Product Specification

Appearance											
Installation method		Flush	Non-flush	Flush	Non-flush	Flush	Non-flush	Non-flush	Non-flush	Half-flush	
Size(width)		W=18	W=18	W=18	W=18	W=30	W=30	W=20	W=20	W=20	
Sensing position		Bottom	Bottom	Top	Top	Top	Top	Top	Top	Top	
Sensing distance		1-4mm	1-8mm	1-4mm	1-6mm	1-6mm	2-10mm	2-10mm	2-20mm	2-10mm	
Model	NPN N.O	PHC-Q1804FBNO	PHC-Q1808FNO	PHC-Q1804BNO	PHC-Q1806NO	PHC-Q3006BNO	PHC-Q3010NO	PHC-Q2010NO	PHC-Q2020NO	PHC-Q20T10BNO	
	NPN N.C	PHC-Q1804FBNC	PHC-Q1808FNC	PHC-Q1804BNC	PHC-Q1806NC	PHC-Q3006BNC	PHC-Q3010NC	PHC-Q2010NC	PHC-Q2020NC	PHC-Q20T10BNC	
	PNP N.O	PHC-Q1804FBPO	PHC-Q1808FPO	PHC-Q1804BPO	PHC-Q1806PO	PHC-Q3006BPO	PHC-Q3010PO	PHC-Q2010PO	PHC-Q2020PO	PHC-Q20T10BPO	
	PNP N.C	PHC-Q1804FBPC	PHC-Q1808FPC	PHC-Q1804BPC	PHC-Q1806PO	PHC-Q3006BPC	PHC-Q3010PC	PHC-Q2010PC	PHC-Q2020PC	PHC-Q20T10BPC	
Stable sensing distance		1-3.2mm	1-6.4mm	1-3.2mm	1-4.8mm	1-4.8mm	2-8mm	2-8.0mm	2-16mm	2-8.0mm	
Objects detected		iron 18*18*1mm	iron 18*18*1mm	iron 18*18*1mm	iron 18*18*1mm	iron 30*30*1mm	iron 30*30*1mm	iron 30*30*1mm	iron 30*30*1mm	iron 20*20*1mm	
Operating voltage		10-30VDC									
Effective distance		90-110%Sn									
Max. load current		200mA									
No-load current		≤10mA(24V)									
Voltage drop		<2.0VDC									
Switching frequency		100Hz									
Response time(ms)		1.5ms/1.5ms									
Hysteresis		<15%								2-20%	
Repeat accuracy		<5%								<2% full scale	
Ambient temperature		-25 - +70℃									
Temperature drift		<10%									
Polarity/short protection		Built-in/Pulse									
Overload protection current		220mA									
Housing material		PBT								ABS	
Sensing surface material		PBT								ABS	
Switch status display		LED									
Connection		2mPVC cable									
Enclosure rating		IP67								IP65	
Impact resistance		30gn,11ms									
Vibration resistance		55Hz,1mm ampl.,3×30min.									
EMC		IEC 60947-5-2									

Dimension

(Unit: mm)



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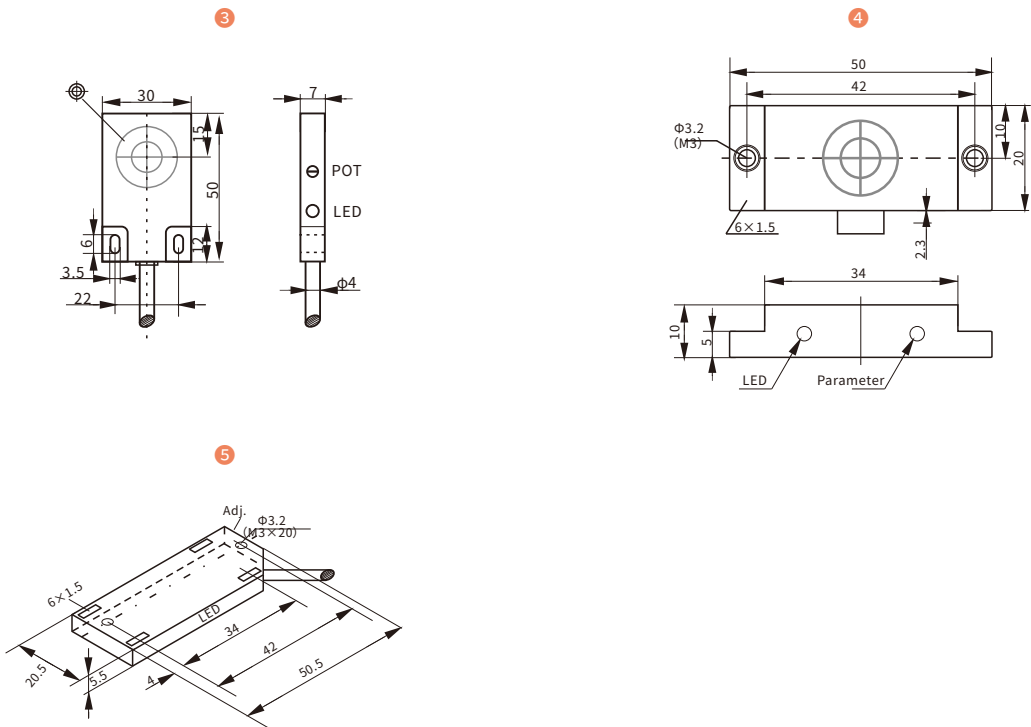
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 - Welding Splash-Resistant
 - Inductive for Fe/Al/Cu
- Capacitive Proximity
 - Cylindrical
 - Corrosion-Resistant
 - Flat Capacitive

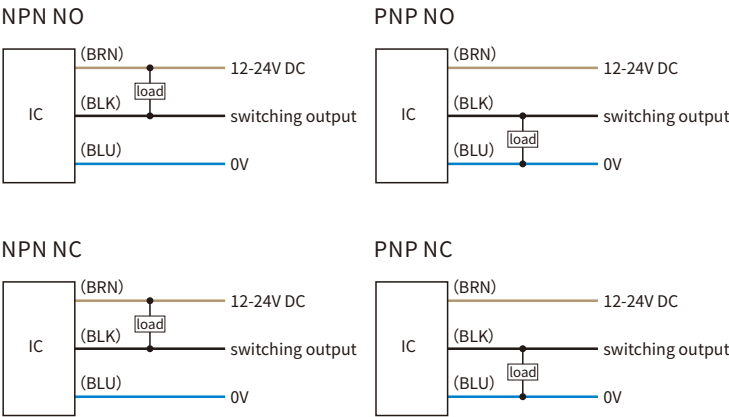
Flat Capacitive Proximity Sensor

Dimension



(Unit: mm)

I/O Circuit Diagram



Flat Capacitive Proximity Sensor

Memo

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement

Barcode Reader

Communication Module

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

FO Accessories

Inductive Proximity

Standard Type

Ultra-Compact Type

Flat Type

Analog Proximity

Corrosion-Resistant

High-Temp Resistant

Wide-Temp Range Type

High-Pressure Resistant

Welding Splash-Resistant

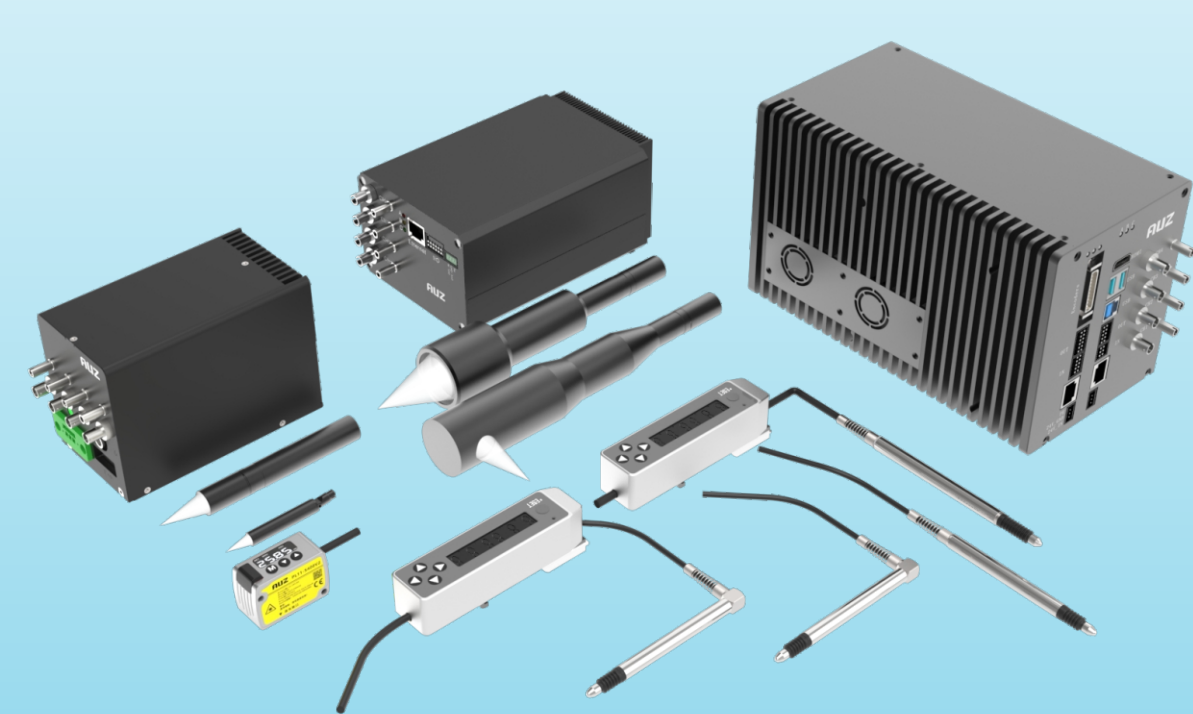
Inductive for Fe/Al/Cu

Capacitive Proximity

Cylindrical

Corrosion-Resistant

Flat Capacitive



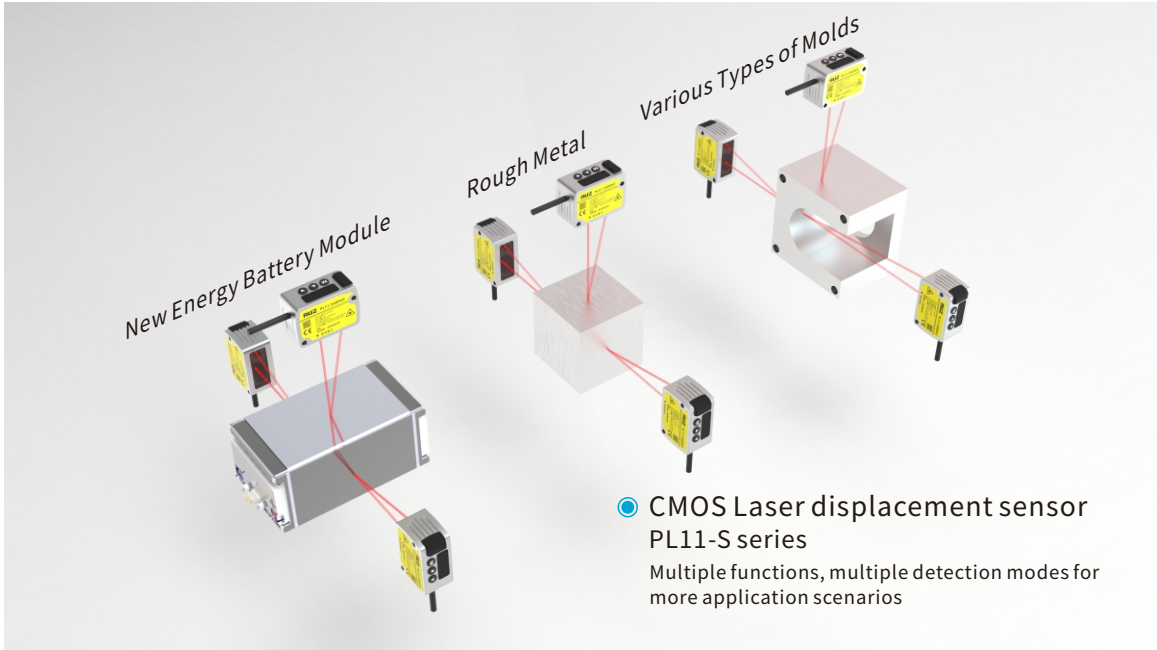
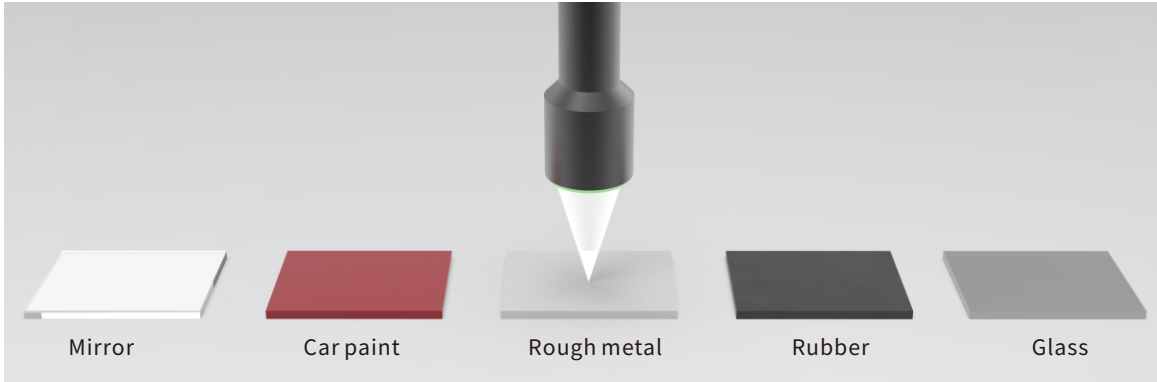
Series Catalogue

- Spot Spectrum Confocal Displacement Sensor E-03 ▶
- Laser Displacement Sensor E-15 ▶
- Contact-Type Displacement Sensor E-19 ▶
- Ultrasonic Measurment Sensor E-23 ▶

For more product information, please visit en.auz-fa.com

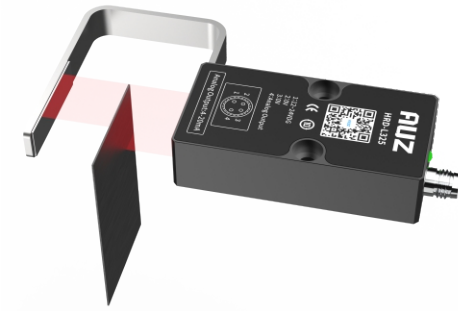
Features

Spot spectrum ●
Measurement are stable on most materials
such as metal, rubber, glass, transparent and non-transparent objects, mirrors, etc.



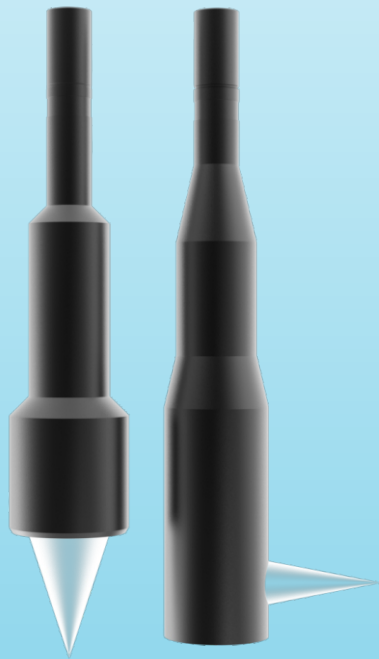
● CMOS Laser displacement sensor
PL11-S series
Multiple functions, multiple detection modes for
more application scenarios

Laser correction sensor ●
HRD-L325
Accurate recognition of object offsets at any
position within the laser field



● Economical spectral confocal
displacement controller
Based on the spectral confocal technology, the embedded
low-power architecture of self-developed new products.
Combined with the design of an ultra-compact spectrometer
adapted to various cost-effective probes, which achieves the
multi-channel, ultra-high integration of hardware, low-noise
compact-featurd product.

Spot Spectrum Confocal Displacement Sensor
HCC series



Features

- Lens:
Covering 0.1~25mm range
Max. $\pm 60^\circ$ measuring angle
Max. 0.2nm resolution
Lens is fully adhesive-dispensing process, with good vibration resistance
- Controller:
Up to 33KHz sampling frequency Up to 8 channels of lenses Modular structure design RS485, RS422 and analogue modules are optional.
Provide three kinds of light intensity, such as normal, light state, dark state, etc.
Meet a variety of applications

re

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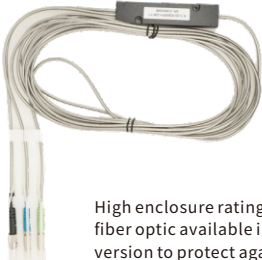
Product Introduction

- High resolution

Theoretically, the wavelength can be infinitely subdivided, allowing for high resolution measurements
- Stable temperature

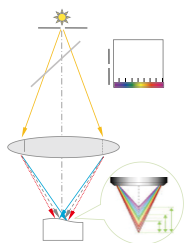
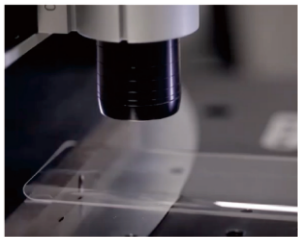
No heat source inside the lens, small temperature drift, good stability of precision measurement
- FM(frequency modulation) anti-interference

The wavelength is an FM signal and is not sensitive to AM interference such as changes in light intensity. Fibre optical is not sensitive to electromagnetic interference, lightning surges
- High safety

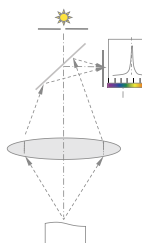
The emitted light is tiny power white light, no harm to human eyes.
- High protection

High enclosure rating of the controller, fiber optic available in stainless steel jacket version to protect against insect and rodent bites
- Modular miniaturization


 Flatness, segment difference, ink paste measurement	 Thickness measurement of glass on one side and transparent materials	 Displacement, height measurement, thickness measurement; optical comparator; deformation measurement	 Cylindricity, runout, pendulum, vibration measurements	 Thickness and shape measurement of wine bottles, medicine bottles, beverage bottles and glassware	 Double-sided side thickness; double-sided glass thickness measurement; lens flesh thickness, sheet/plate thickness measurement
 Measurement of spherical/aspherical surfaces, ceramic parts or vessels, 3D glass-ceramic covers	 2D cross-section scanning; contour section, 3D surface topography, dimensional measurement	 Multi-point dimensional inspection, flatness measurement, synchronized measurement	 Thickness monitoring on both sides of films and foils	 Hole depth measurement; step height, liquid level, charge height, slit bottom glue/edge glue measurement	 Measurement of hole or tube sidewall roundness, dimensionally etched grooves, internal steps, threads, tube wall thicknesses

Sensor Schematic



A beam of white light (or a mixture of multiple wavelengths) passes through a small aperture, through a lens that focuses different wavelengths onto the optical axis, dispersing to form a rainbow-shaped distribution band that illuminates the sample and partially reflects light back.



The light illuminated at the intersection of the optical axis and the surface of the object passes through the beam-splitting component and shines through the small aperture to the spectrum analyzer. According to the wavelength calculation can be obtained from the lens to the measured object distance

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Model
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Point Spectrum
- Laser Displacement
- Contact Displacement
- Ultrasonic Measurement

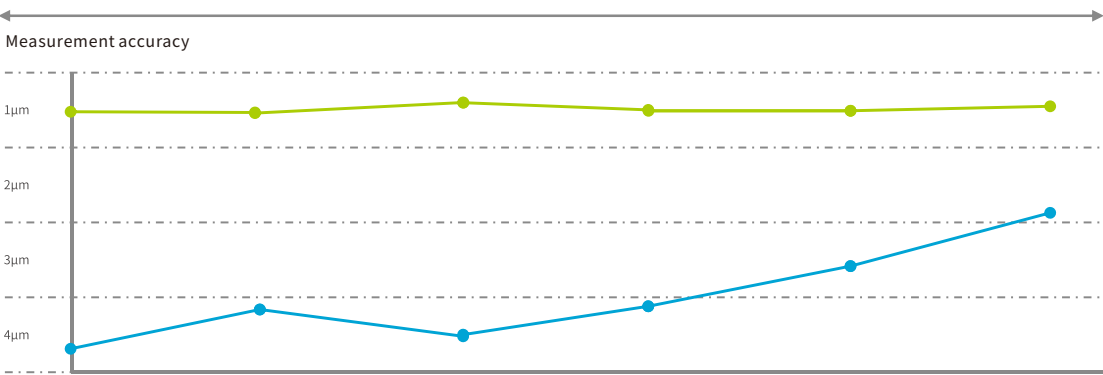
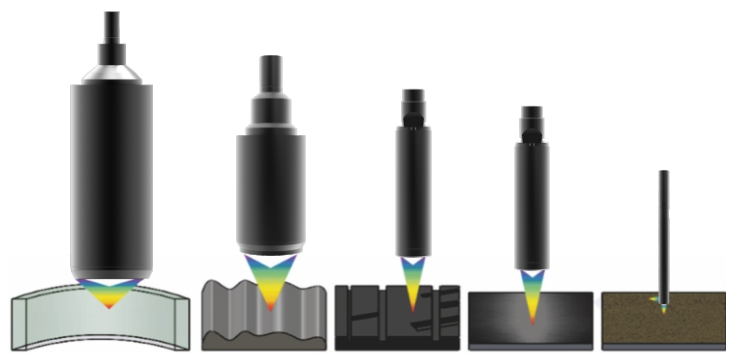
Spot Spectrum Confocal Displacement Sensor

Application

Ultra-stable measurement of various substances



High-precision measurement of unlimited materials



Spot Spectrum Confocal Displacement Sensor
Stable measurement within 1 μm accuracy on any surface

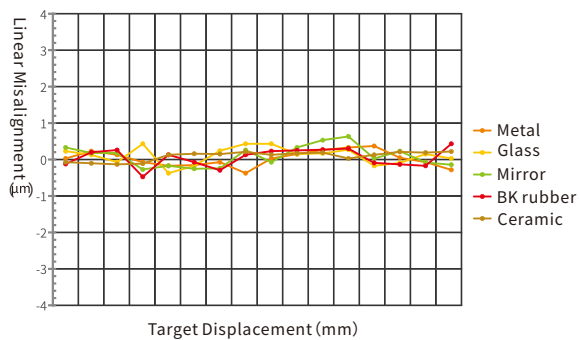
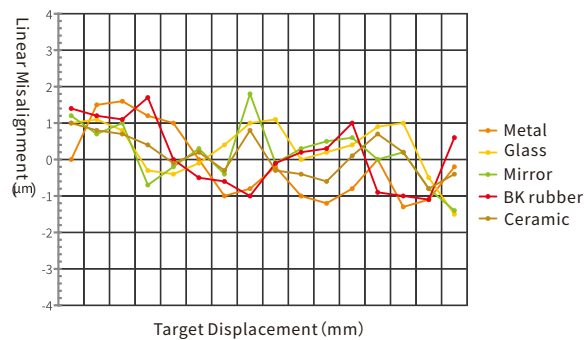
Traditional Triangulation Laser Displacement Sensor
Poor measurement accuracy for materials such as mirrored and glass



High-precision straightness of various materials

Traditional Triangulation Laser Displacement Sensor

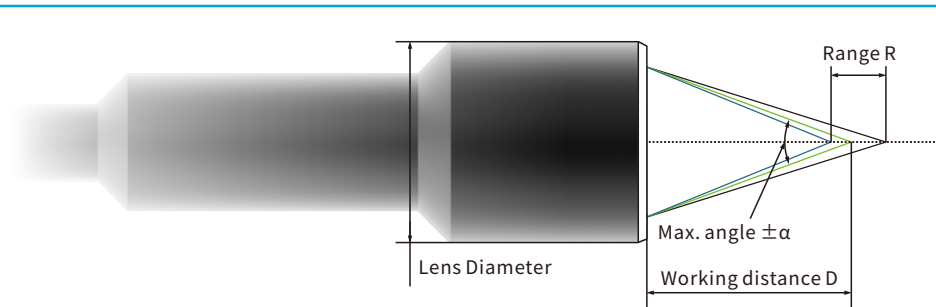
Spot Spectrum Confocal Displacement Sensor



Spot Spectrum Confocal Displacement Sensor

Spot Spectrum Series Selection Chart

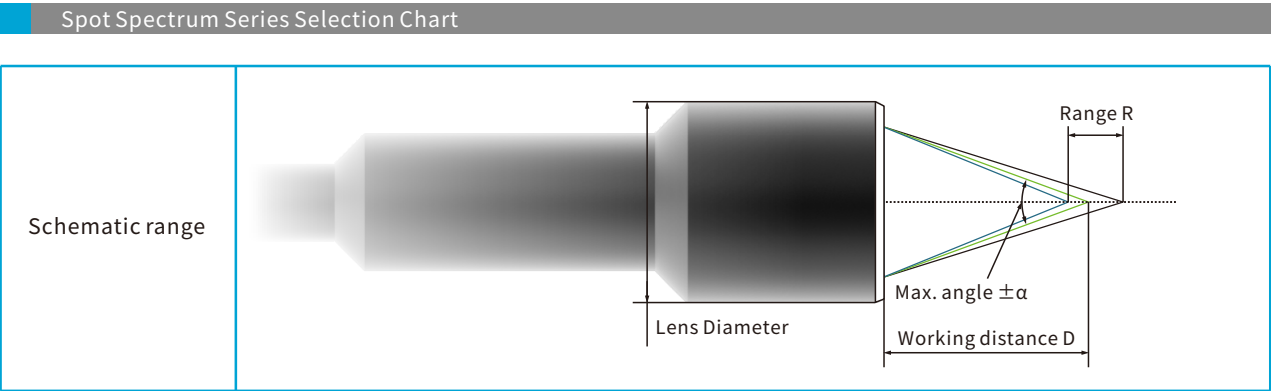
Schematic range



Lens Diameter 3.8mm/8mm/15mm Series Overview

Model	Lens diameter	Sensing distance D	Range R	Linear accuracy	Resolution	Spot diameter	Min thickness	Max angle	Size
HCC-3.8D4.6R2X	3.8mm	4.6mm	2mm	±0.5μm	4nm	50μm	33μm	±8° mirror	3.8mm*36.7mm
HCC-3.8D5.1R1X	3.8mm	5.1mm	1mm	±0.25μm	2nm		17μm		
HCC-3.8D5.1R0.5X	3.8mm	5.1mm	0.5mm	±0.13μm	1nm		7μm		
HCC-3.8D1.5R2XL	3.8mm	1.5mm	2mm	±0.5μm	4nm	50μm	33μm	±12° mirror	3.8mm*40.5mm
HCC-3.8D2P1XL	3.8mm	2mm	1mm	±0.25μm	2nm		17μm		
HCC-3.8D2P0.5XL	3.8mm	2mm	0.5mm	±0.13μm	1nm		7μm		
HCC-8D11.1R4.2	8mm	11.1mm	4.24mm	±1μm	10nm	30μm	138μm	±15° mirror	8mm*41.9mm
HCC-8D12.1R2.1	8mm	12.1mm	2.14mm	±0.5μm	5nm		69μm		
HCC-8D12.1R1	8mm	12.1mm	1.06mm	±0.26μm	5nm		34μm		
HCC-8D3.5R4.2L	8mm	3.5mm	4.24mm	±1μm	10nm	30μm	138μm	±15° mirror	8mm*47.5mm
HCC-8D4.5R2.1L	8mm	4.5mm	2.14mm	±0.5μm	5nm		69μm		
HCC-8D4.5R1L	8mm	4.5mm	1.06mm	±0.26μm	5nm		34μm		
HCC-8D4R0.8	8mm	4mm	0.8mm	±0.2μm	10nm	11μm	27μm	±17° mirror	8mm*59.6mm
HCC-8D4.2R0.4	8mm	4.2mm	0.4mm	±0.1μm	5nm		13μm		
HCC-8D4.2R0.2	8mm	4.2mm	0.2mm	±0.05μm	2nm		7μm		
HCC-8D8R1.2	8mm	8mm	1.25mm	±0.32μm	4nm	17μm	43μm	±18° mirror	3.8mm*55.8mm
HCC-8D8.3R0.6	8mm	8.3mm	0.65mm	±0.16μm	2nm		21μm		
HCC-8D8.3R0.3	8mm	8.3mm	0.33mm	±0.08μm	1nm		11μm		
HCC-8D1R1.2L	8mm	1mm	1.25mm	±0.32μm	4nm	17μm	43μm	±18° mirror	3.8mm*60.7mm
HCC-8D1.3R0.6L	8mm	1.3mm	0.65mm	±0.16μm	2nm		21μm		
HCC-8D1.3R0.3L	8mm	1.3mm	0.33mm	±0.08μm	1nm		11μm		
HCC-8D4R0.8	8mm	4mm	0.8mm	±0.2μm	10nm	11μm	27μm	±29° mirror	8mm*59.6mm
HCC-8D4.2R0.4	8mm	4.2mm	0.4mm	±0.1μm	5nm		13μm		
HCC-8D4.2R0.2	8mm	4.2mm	0.2mm	±0.05μm	2nm		74μm		
HCC-15D20.5R3	15mm	20.5mm	3mm	±0.75μm	6nm	40μm	100μm	±12° mirror	15mm*64.3mm
HCC-15D21.3R1.5	15mm	21.3mm	1.5mm	±0.38μm	3nm		50μm		
HCC-15D21.3R0.7	15mm	21.3mm	0.75mm	±0.18μm	2nm		25μm		
HCC-15D7.5R3L	15mm	7.5mm	3mm	±0.75μm	6nm	40μm	100μm	±12° mirror	15mm*78.6mm
HCC-15D8.3R1.5L	15mm	8.3mm	1.5mm	±0.38μm	3nm		50μm		
HCC-15D8.3R0.7L	15mm	8.3mm	0.75mm	±0.18μm	2nm		25μm		
HCC-15D13.8R1.4	15mm	13.8mm	1.4mm	±0.35μm	4nm	13μm	47μm	±20° mirror	15mm*101.3mm
HCC-15D14.2R0.7	15mm	14.2mm	0.7mm	±0.18μm	2nm		23μm		
HCC-15D14.2R0.3	15mm	14.2mm	0.3mm	±0.08μm	1nm		10μm		
HCC-15D0.6R1.4L	15mm	0.6mm	1.4mm	±0.35μm	4nm	13μm	47μm	±20° mirror	15mm*115.7mm
HCC-15D1R0.7L	15mm	1mm	0.7mm	±0.18μm	2nm		23μm		
HCC-15D1R0.3L	15mm	1mm	0.3mm	±0.08μm	1nm		10μm		
HCC-15D13.6R1.4L	15mm	13.6mm	1.4mm	±0.35μm	4nm	43μm	47μm	±20° mirror	25.4mm*22mm*95.8mm
HCC-15D14R0.7L	15mm	14mm	0.7mm	±0.18μm	2nm		23μm		
HCC-15D14R0.3L	15mm	14mm	0.3mm	±0.08μm	1nm		10μm		
HCC-15D6R0.64	15mm	6.0mm	0.64mm	±0.16μm	2nm	3.5μm	22μm	±32° mirror	15mm*140.5mm
HCC-15D6.2R0.32	15mm	6.2mm	0.32mm	±0.08μm	1nm		11μm		
HCC-15D6.2R0.16	15mm	6.2mm	0.16mm	±0.04μm	1nm		6μm		

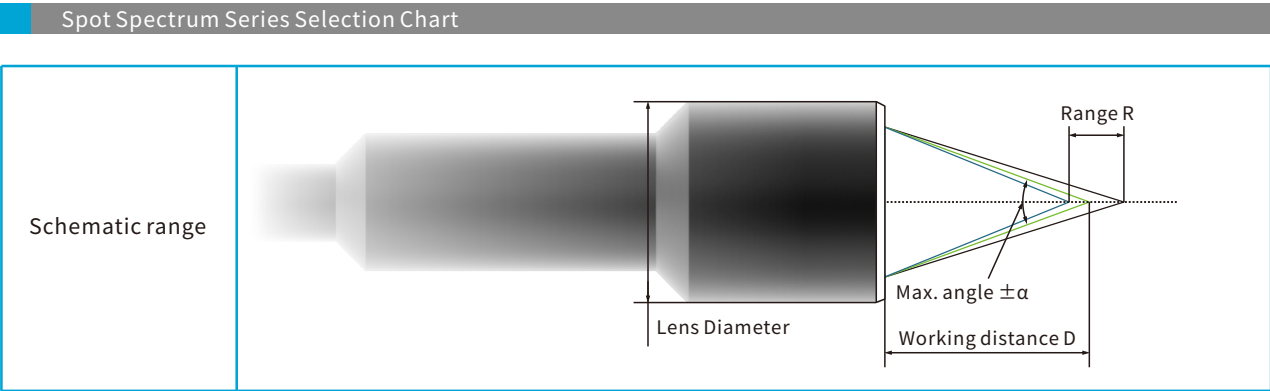
Spot Spectrum Confocal Displacement Sensor



Lens Diameter 27mm/35mm Series Overview

Model	Lens Diameter	Sensing distance D	Range R	Linear accuracy	Resolution	Spot diameter	Min Thickness	Max angle	Size
HCC-27D62R6	27mm	62.0mm	6mm	±1.5μm	32nm	60μm	200μm	±9° mirror	27mm*93.3mm
HCC-27D63.5R3	27mm	63.5mm	3mm	±0.75μm	16nm		100μm		
HCC-27D63.5R1.5	27mm	63.5mm	1.5mm	±0.38μm	8nm		50μm		
HCC-27D35.4R4.2	27mm	35.4mm	4.2mm	±1.1μm	12nm	60μm	140μm	±17° mirror	27mm*76.7mm
HCC-27D36.4R2.1	27mm	36.4mm	2.1mm	±0.5μm	6nm		70μm		
HCC-27D36.4R1	27mm	36.4mm	1mm	±0.25μm	3nm		36μm		
HCC-27D24.2R2.5	27mm	24.2mm	2.5mm	±0.62μm	6nm	13μm	83μm	±20° mirror	27mm*161.1mm
HCC-27D24.8R1.2	27mm	24.8mm	1.2mm	±0.3μm	3nm		42μm		
HCC-27D24.8R0.6	27mm	24.8mm	0.6mm	±0.15μm	2nm		20μm		
HCC-27D1R2.5L	27mm	1.0mm	2.5mm	±0.62μm	6nm	13μm	83μm	±20° mirror	27mm*184mm
HCC-27D1.6R1.2L	27mm	1.6mm	1.2mm	±0.3μm	3nm		42μm		
HCC-27D1.6R0.6L	27mm	1.6mm	0.6mm	±0.15μm	2nm		20μm		
HCC-27D22.3R4.4	27mm	22.3mm	4.4mm	±1.1μm	10nm	23μm	14μm	±24° mirror	27mm*110.7mm
HCC-27D23.4R2.2	27mm	23.4mm	2.2mm	±0.55μm	5nm		8μm		
HCC-27D23.4R1.1	27mm	23.4mm	1.1mm	±0.23μm	3nm		3.5μm		
HCC-27D5R0.12	27mm	5.0mm	0.12mm	±0.03μm	2nm	7μm	10μm	±29° mirror	27mm*151mm
HCC-27D5.03R0.06	27mm	5.03mm	0.06mm	±0.02μm	1nm		5μm		
HCC-27D5.03R0.03	27mm	5.03mm	0.03mm	±0.01μm	1nm		3μm		
HCC-27D7R0.6X	27mm	7.7mm	0.6mm	±0.15μm	1.6nm	35μm	20μm	±45° mirror	27mm*102.3mm
HCC-27D7.9R0.3X	27mm	7.9mm	0.3mm	±0.07μm	0.8nm		10μm		
HCC-27D7.9R0.1X	27mm	7.9mm	0.15mm	±0.03μm	0.4nm		5μm		
HCC-35D105.8R16.8	35mm	105.8mm	16.8mm	±4.2μm	200nm	35μm	560μm	±7° mirror	35mm*142.4mm
HCC-35D110R8.4	35mm	110mm	8.4mm	±2.1μm	100nm		280μm		
HCC-35D110R4.2	35mm	110mm	4.2mm	±1.05μm	50nm		140μm		
HCC-35D1.3R9.7L	35mm	1.3mm	9.7mm	±2.2μm	200nm	35μm	560μm	±7° mirror	35mm*247.8mm
HCC-35D5.5R8.4L	35mm	5.5mm	8.4mm	±1.1μm	100nm		280μm		
HCC-35D5.5R4.2L	35mm	5.5mm	4.2mm	±0.5μm	50nm		140μm		
HCC-35D75.5R8.4L-T200	35mm	75.5mm	8.4mm	±2.1μm	200nm	35μm	560μm	±7° mirror	35mm*175.32mm
HCC-35D77.6R4.2L-T200	35mm	77.6mm	4.2mm	±1.05μm	100nm		280μm		
HCC-35D33R8	35mm	33.0mm	8mm	±0.2μm	40nm	25μm	47μm	±18° mirror	35mm*181.2mm
HCC-35D35R4	35mm	35.0mm	4mm	±1μm	20nm		23μm		
HCC-35D35R2	35mm	35.0mm	2mm	±0.5μm	10nm		10μm		
HCC-35D4.1R8L	35mm	4.1mm	8mm	±2μm	40nm	25μm	47μm	±18° mirror	35mm*210.3mm
HCC-35D6.1R4L	35mm	6.1mm	4mm	±1μm	20nm		23μm		
HCC-35D6.1R2L	35mm	6.1mm	2mm	±0.5μm	10nm		10μm		

Spot Spectrum Confocal Displacement Sensor

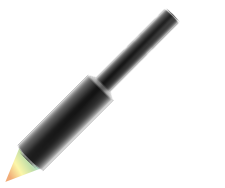
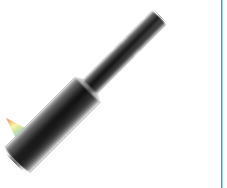
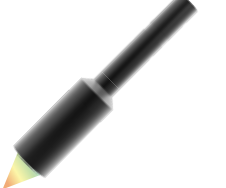
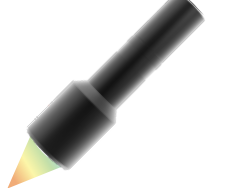
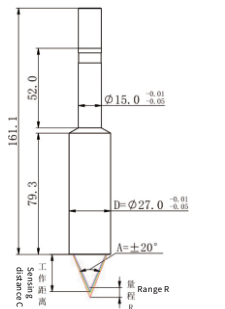
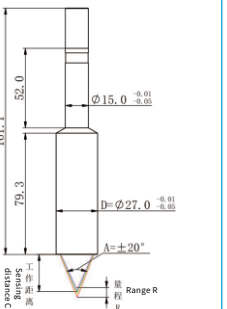
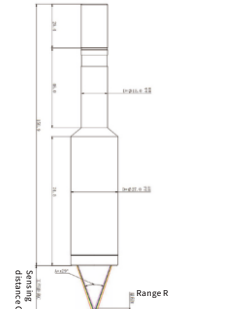
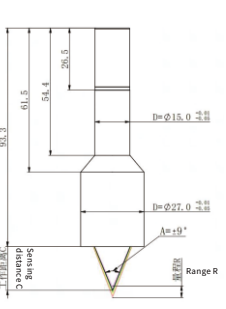


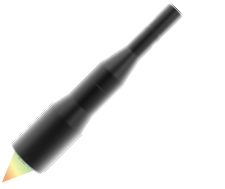
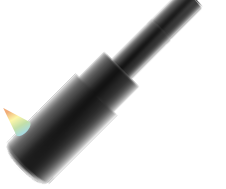
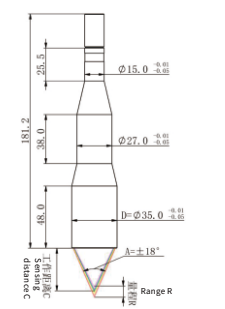
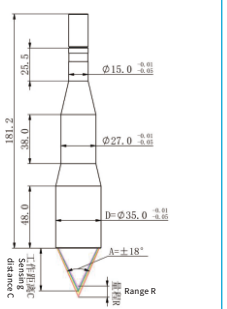
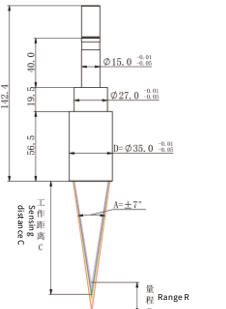
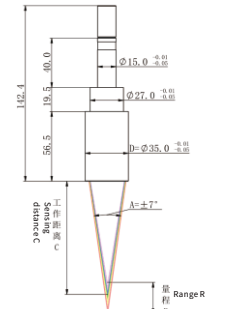
Lens Diameter 40mm/65mm Series Overview

Model	Lens diameter	Sensing distance D	Range R	Linear accuracy	Resolution	Spot diameter	Min thickness	Max angle	Size
HCC-40D45R6	40mm	45.0mm	6mm	±1.5μm	4nm	50μm	200μm	±17° mirror	40mm*116mm
HCC-40D46.5R3	40mm	46.5mm	3mm	±0.75μm	2nm		100μm		
HCC-40D46.5R1.5	40mm	46.5mm	1.5mm	±0.37μm	1nm		50μm		
HCC-40D8.5R6L	40mm	8.5mm	6mm	±1.5μm	4nm	50μm	200μm	±17° mirror	40mm*158mm
HCC-40D10R3L	40mm	10mm	3mm	±0.75μm	2nm		100μm		
HCC-40D10R1.5L	40mm	10mm	1.5mm	±0.37μm	1nm		50μm		
HCC-40D42R8	40mm	42.0mm	8mm	±2μm	16nm	16μm	266μm	±19° mirror	40mm*174.8mm
HCC-40D44R4	40mm	44.0mm	4mm	±1μm	8nm		133μm		
HCC-40D44R2	40mm	44.0mm	2mm	±0.5μm	4nm		66μm		
HCC-40D5.5R8L	40mm	5.5mm	8mm	±2μm	16nm	16μm	266μm	±19° mirror	40mm*216.8mm
HCC-40D7.5R4L	40mm	7.5mm	4mm	±1μm	8nm		133μm		
HCC-40D7.5R2L	40mm	7.5mm	2mm	±0.5μm	4nm		66μm		
HCC-40D37.5R8.8X	40mm	37.5mm	8.8mm	±2.2μm	20nm	45μm	266μm	±23° mirror	40mm*102.5mm
HCC-40D39.7R4.4X	40mm	39.7mm	4.4mm	±1.1μm	10nm		133μm		
HCC-40D39.7R2.2X	40mm	39.7mm	2.2mm	±0.55μm	5nm		66μm		
HCC-40D30R4X	40mm	30mm	4mm	±1.2μm	10nm	40μm	133μm	±26° mirror	40mm*127.7mm
HCC-40D31.1R2X	40mm	31.1mm	2mm	±0.6μm	5nm		66μm		
HCC-40D31.1R1X	40mm	31.1mm	1mm	±0.3μm	3nm		33μm		
HCC-40D22.3R4.4	40mm	22.3mm	4.4mm	±1μm	9nm	11μm	85μm	±30° mirror	40mm*189.8mm
HCC-40D23.4R2.2	40mm	23.4mm	2.2mm	±0.5μm	5nm		42μm		
HCC-40D23.4R1.1	40mm	23.4mm	1.1mm	±0.2μm	3nm		21μm		
HCC-40D18.9R2.4X	40mm	18.9mm	2.4mm	±0.6μm	6nm	34μm	80μm	±33° mirror	40mm*130.2mm
HCC-40D19.5R1.2X	40mm	19.5mm	1.2mm	±0.3μm	3nm		40μm		
HCC-40D19.5R0.6X	40mm	19.5mm	0.6mm	±0.15μm	2nm		20μm		
HCC-40D15.8R2.52	40mm	15.8mm	2.52mm	±0.64μm	6nm	10μm	85μm	±36° mirror	40mm*211mm
HCC-40D16.43R1.26	40mm	16.43mm	1.26mm	±0.32μm	3nm		42μm		
HCC-40D16.43R0.63	40mm	16.43mm	0.63mm	±0.16μm	2nm		21μm		
HCC-40D8.8R1.4	40mm	8.8mm	1.4mm	±0.35μm	4nm	8μm	47μm	±48° mirror	40mm*222.8mm
HCC-40D9.2R0.7	40mm	9.2mm	0.7mm	±0.18μm	2nm		24μm		
HCC-40D9.2R0.3	40mm	9.2mm	0.3mm	±0.08μm	1nm		10μm		
HCC-65D70.8R23.4	65mm	70.8mm	23.4mm	±5.8μm	50nm	14μm	780μm	±18° mirror	65mm*239.4mm
HCC-65D76.7R11.7	65mm	76.7mm	11.7mm	±2.9μm	25nm		390μm		
HCC-65D76.7R5.8	65mm	76.7mm	5.8mm	±1.5μm	13nm		193μm		
HCC-65D15.9R3	65mm	15.9mm	3mm	±0.75μm	6nm	13μm	100μm	±52° mirror	65mm*273mm
HCC-65D16.7R1.5	65mm	16.7mm	1.5mm	±0.38μm	3nm		50μm		
HCC-65D16.7R0.7	65mm	16.7mm	0.75mm	±0.19μm	2nm		25μm		

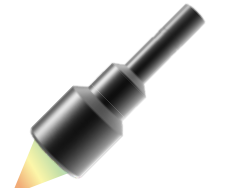
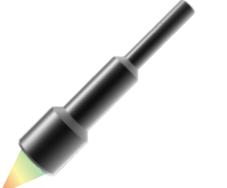
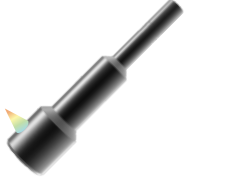
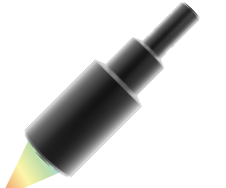
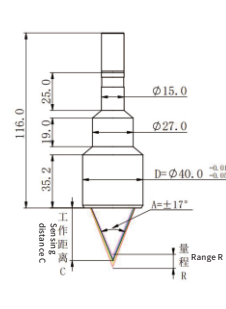
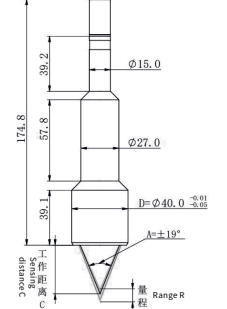
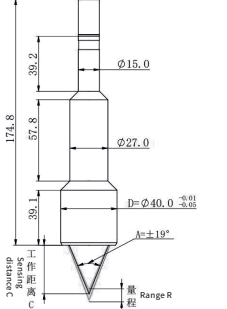
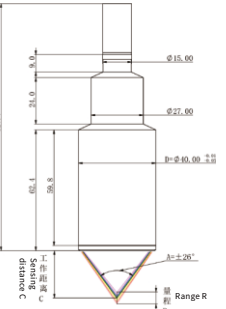
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Model
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Point Spectrum
- Laser Displacement
- Contact Displacement
- Ultrasonic Measurement

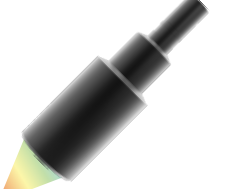
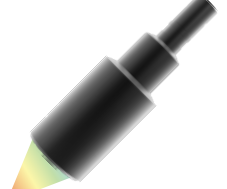
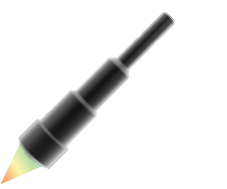
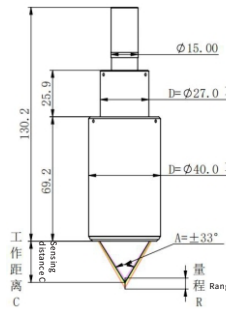
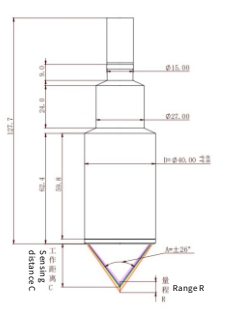
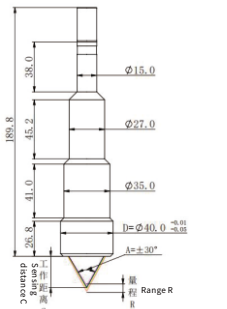
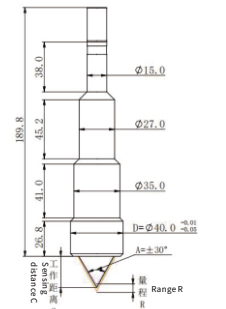
Spot Spectrum Confocal Displacement Sensor

Product Specification				
Appearance				
Model	HCC-27D24.2R2.5	HCC-27D1R2.2L	HCC-27D5R0.12	HCC-27D62R6
Operating principle	Front emission	Side emission	Front emission	Front emission
Sensing distance	24.5mm	1.0mm	5.0mm	62mm
Range	2.5mm	2.25mm(-1~+1.25)	0.12mm	6.0mm
Spot diameter	13μm	13μm	7μm	60μm
Resolution	6nm	6nm	2nm	32nm
Linear accuracy	±0.62μm	±0.62μm	±0.03μm	±1.5μm
Min thickness	83μm	83μm	10μm	200μm
Max. angle	±20° mirror	±20° mirror	±29° mirror	±9° mirror
Size	D:35mm L:161.1mm	D:35mm L:184mm	D:27mm L:151mm	D:27mm L:93.3mm
Weight	132g	132g	141g	104g
Dimension drawing				

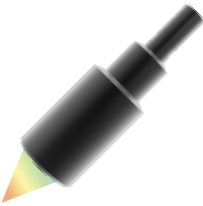
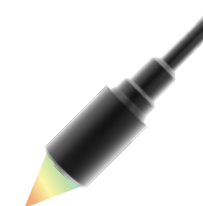
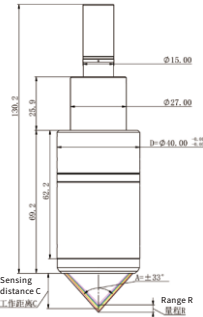
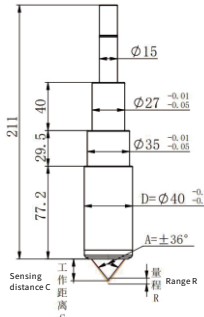
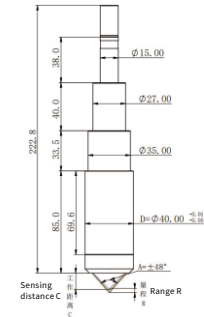
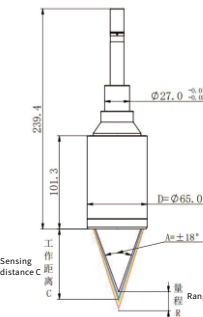
Appearance				
Model	HCC-35D33R8	HCC-35D4.1R8L	HCC-35D105.8R16.8	HCC-35D1.3R9.7L
Operating principle	Front emission	Side emission	Front emission	Side emission
Sensing distance	33.0mm	4.1mm	105.8mm	1.3mm
Range	8.0mm	8.0mm	16.8mm	9.7mm(-1.3~8.4)
Spot diameter	25μm	25μm	35μm	35μm
Resolution	40nm	40nm	200nm	200nm
Linear accuracy	±2μm	±2μm	±4.2μm	±4.2μm
Min thickness	267μm	267μm	560μm	560μm
Max. angle	±18° mirror	±18° mirror	±7° mirror	±7° mirror
Size	D:35mm L:181.2mm	D:35mm L:210.3mm	D:35mm L:142.4mm	D:35mm L:247.8mm
Weight	200g	206g	300g	325g
Dimension drawing				

Spot Spectrum Confocal Displacement Sensor

Product Specification				
Appearance				
Model	HCC-40D45R6	HCC-40D42R8	HCC-40D5.5R8L	HCC-40D30R4
Operating principle	Front emission	Front emission	Side emission	Front emission
Operating distance	45.0mm	42mm	5.5mm	30.0mm
Range	8.0mm	8.0mm	8.0mm	4.0mm
Spot diameter	20μm	16μm	16μm	40μm
Resolution	12nm	16nm	16nm	10nm
Linear accuracy	±3μm	±2μm	±2μm	±1.2μm
Min thickness	200μm	266μm	266μm	133μm
Max. angle	±17° mirror	±19° mirror	±19° mirror	±26° mirror
Size	D:40mm L:116mm	D:40mm L:174.8mm	D:40mm L:216.8mm	D:40mm L:127.7mm
Weight	182g	161g	181g	/
Dimension drawing				

Appearance				
Model	HCC-40D18.9R2.4	H30R4P40D40	HCC-40D30R4	HCC-40D3.65R4.3L
Operating principle	Front emission	Front emission	Front emission	Side emission
Sensing distance	18.9mm	30mm	22.3mm	3.65mm
Range	2.4mm(±1.2)	4mm(±2)	4.3mm	4.3mm
Spot diameter	34μm	40μm	11μm	11μm
Resolution	6nm	10nm	9nm	9nm
Linear accuracy	/	/	±1μm	±1μm
Min thickness	/	/	143μm	143μm
Max. angle	±26° mirror	±26° mirror	±30° mirror	±15° mirror
Size	D:40mm L:130.2mm	D:40mm L:127.7mm	D:40mm L:189.8mm	D:40mm L:209.5mm
Weight	/	/	201g	220g
Dimension drawing				

Spot Spectrum Confocal Displacement Sensor

Product Specification				
Appearance				
Model	HCC-40D18.9R2.4	HCC-40D15.8R2.52	HCC-40D8.8R1.4	HCC-65D70.8R23.4
Operating Principle	Front emission	Front emission	Front emission	Front emission
Sensing distance	18.9mm	15.8mm	8.8mm	70.8mm
Range	2.4mm	2.52mm	1.4mm	23.4mm
Spot diameter	34μm	10μm	8μm	14μm
Resolution	6nm	6nm	4nm	50nm
Linear accuracy	±0.6μm	±0.64μm	±0.35μm	±5.8μm
Min thickness	80μm	85μm	47μm	780μm
Max. angle	±30° mirror	±36° mirror	±48° mirror	±18° mirror
Size	D:40mm L:129.8mm	D:40mm L:211mm	D:40mm L:222.8mm	D:65mm L:239.4mm
Weight	/	300g	320g	620g
Dimension drawing				

Spot Spectrum Confocal Displacement Sensor

Memo

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Model
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
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- FO Accessories
- Point Spectrum
- Laser Displacement
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- Laser Displacement
- Contact Displacement
- Ultrasonic Measurement

Spectral Displacement Confocal Sensing Controller

Model Data

Example: H4EF502-V2

H 4 E F 50 2 - V2
① ② ③ ④ ⑤ ⑥

Controller Series					
①	②	③	④	⑤	⑥
Sampling frequency	Master interface module	Measuring range	Optical fibre aperture	Number of lenses	Optional interface module
33=33KHz 15=15KHz 7=7KHz 4=4KHz 05=450Hz	E:Ethernet U:USB	F: Full range H: Half range	50=50μm 25=25μm 63=63μm	1 2 4 8	EC=EtherCat S8=RS485 S4=RS422 V1= Single analogue Output V2 = Two analogue Outputs

Product Specification

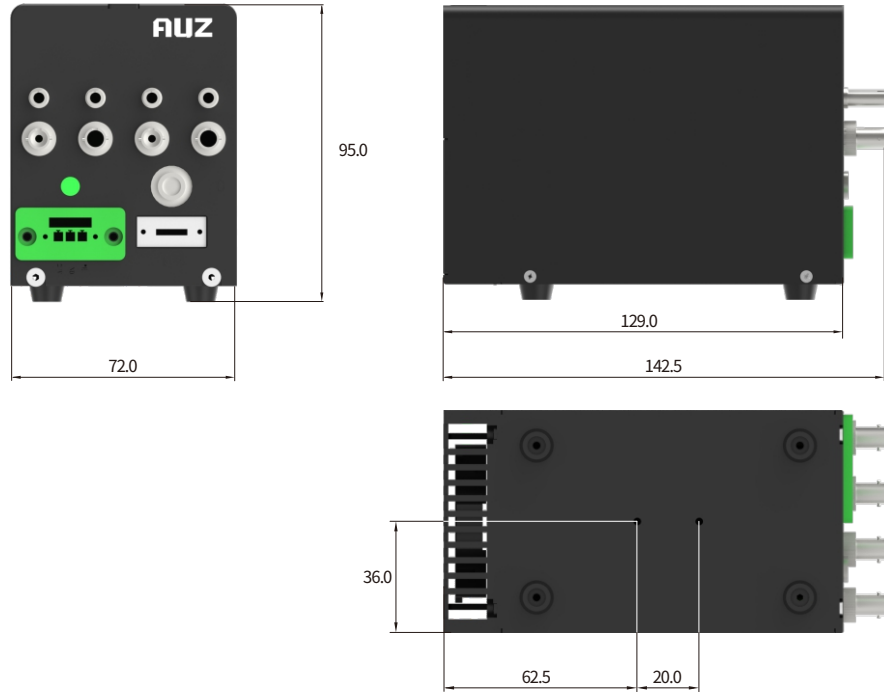
Appearance					
Model		H4U	H4E	H05E	H7E /H15E /H33E
Sampling frequency		4KHz		450Hz	7KHz / 15KHz / 33KHz
Number of connectable lenses		1、2、4、8		1、2、4	1、2
Trigger method				I/O Trig, Fixed freq trigger	I/O Trig, Fixed freq trig, Encoder trig
I/O	I/O port	2 Inputs, 1 Output	1 Input, 1 Output	2 Inputs, 4 Outputs	10 Inputs, 10 Outputs
	Encoder	/		/	5-axis AB phase Input
Communication interface		USB	Ethernet	Ethernet	Ethernet
Optional interface		/		Rs485 RS422 Analogue -10v~+10v	EtherCat RS485 RS422 Analogue Electricity -10v~+10v
Status value display		Host computer interface			
Light source		White LED light			
Supply power		DC24V±10% No compressed air required			
Current		≤ 3.5A			
Ambient resistance	Temperature	10°-45°C			
	Humidity	≤90% RH, no condensation and no icing			
	Enclosure rating	IP40			
	Temperature drift	Approx. 0.012% FS/°C	Approx. 0.03% FS/°C		Approx. 0.012% FS/°C
Size		129*72*95 mm		161*73*104 mm	232*119*143 mm
Weight		1-channel controller weight: approx. 680g 2-channel controller weight: approx. 720g 4-channel controller weight: approx. 760g 8-channel controller weight: approx. 800g		1-channel controller weight: approx. 820g 2-channel controller weight: approx. 830g 4-channel controller weight: approx. 860g	1-channel controller weight: approx. 2380g 2-channel controller weight: approx. 2770g
Installation		Bottom 2*M3 screw fixing		Bottom 2*M3 screw fixing	Bottom 4*M3 screw fixing

Spectral Displacement Confocal Sensing Controller

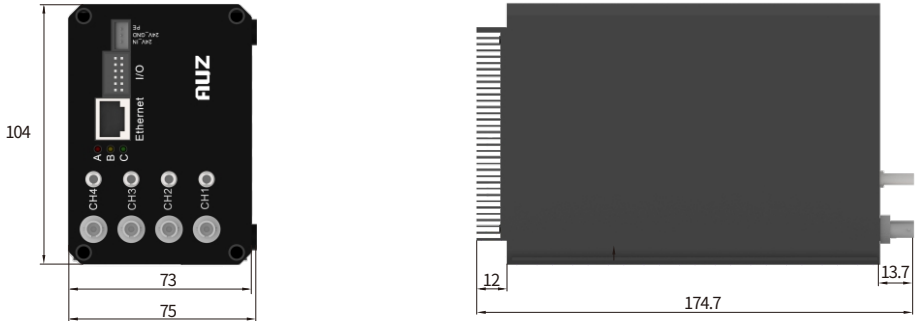
Size Specification

H4U

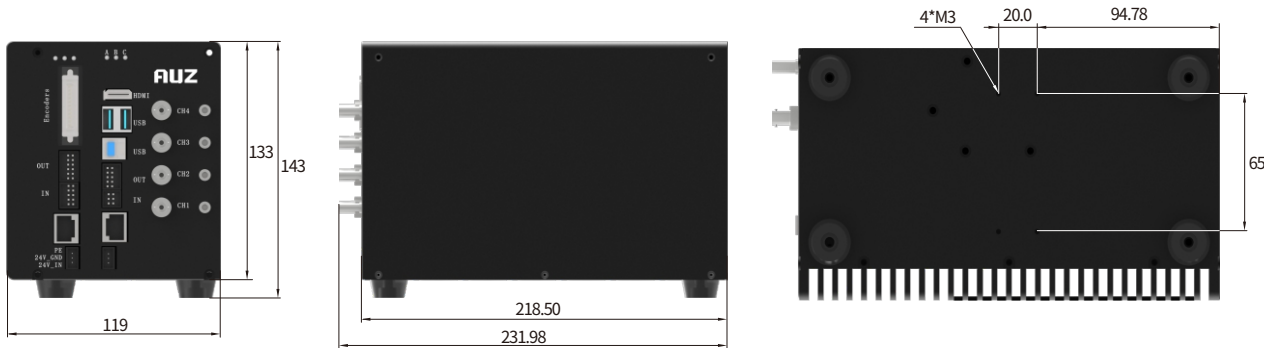
(Unit:mm)



H05E



H7E /H15E /H33E



CMOS Laser Displacement Sensor
PL11-S series



Features

- Aluminum alloy housing, rugged and durable
- Chinese operation debugging, more simple
- Small size, small spot, high precision
- Optional 485 Output, dual analog and switching output, switching output
- Multiple functions, multiple detection modes for more application scenarios
 - Typical Detection Mode
 - 1-point teaching mode
 - 2-point teaching mode
 - 3-point teaching mode

Product Introduction

Dispensing displacement detection
PL11-S series

Thickness Uniformity Measurement for Graphite Thermal Conductive Film on Lithium Battery Copper Foil Electrode Sheets

sensing distance
PL11-S series: short, medium and long detection distances are available.

Membrane keypad for easy and convenient operation
PL11-S series

Chinese operation debugging, more simple

Paper looseness detection

Monitoring of web thickness

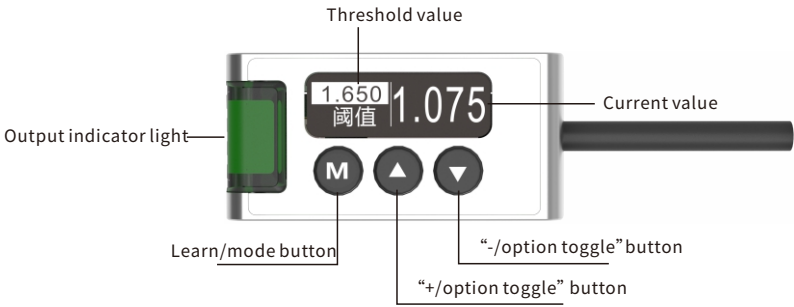
Multiple functions and detection modes
PL11-S series

Suitable for more application scenarios

Product Selection

Specification	Range	Repeat accuracy	Linear accuracy	Measurement range	Spot diameter	Spot shape	Output
PL11-S30	10mm	10μm	±0.01mm (0.1%F.S.)	25-35mm (30±5)	Ø50μm	Spot	Switching + RS485 Switching + Analogue Switching
PL11-S50	30mm	30μm	±0.03mm (0.1%F.S.)	35-65mm (50±15)	Ø70μm		
PL11-S100	70mm	70μm	±0.07mm (0.1%F.S.)	65-135mm (100±35)	Ø120μm		
PL11-S200	160mm	120μm	±0.32mm (0.2%F.S.)	120-280mm (200±80)	Ø300μm		
PL11-S400	400mm	600μm 1500μm	±0.8mm (0.2%F.S.) at 200-400mm ±1.2mm (0.3%F.S.) at 400-600mm	200-600mm (400±200)	Ø500μm		
PL11-S435	400mm	100μm (at 35-135mm) 300μm (at 135-235mm) 800μm (at 235-335mm) 1500μm (at 335-435mm)	±0.4mm (0.1%F.S.) at 35-135mm ±0.8mm (0.2%F.S.) at 200-400mm ±1.2mm (0.3%F.S.) at 400-435mm	35-435mm	Ø1mm (at 135mm) Ø0.5mm (at 235mm) Ø2mm (at 435mm)		

Product Specification



Inquire AUZ

en.auz-fa.com



* Customized services and engineered solutions designed to your specifications.

* For any questions, please contact us via email auz.sensor@fuazon.com

CMOS Laser Displacement Sensor

Product Specification							
Model	NPN+RS485	PL11-S30-485	PL11-S50-485	PL11-S100-485	PL11-S200-485	PL11-S400-485	PL11-S435-485
	NPN+Analog	PL11-S30V2	PL11-S50V2	PL11-S100V2	PL11-S200V2	PL11-S400V2	PL11-S435V2
	NPN	PL11-S30N	PL11-S50N	PL11-S100N	PL11-S200N	PL11-S400N	PL11-S435N
	Provide PNP+RS485, PNP+Analog, PNP Switching Product						
Detection mode		Diffuse reflection					
Sensing range		30±5mm	50±15mm	100±35mm	200±80mm	400±200mm	235±200mm
		25-35mm	35-65mm	65-135mm	120-280mm	200-600mm	35-435mm
Laser light source		Red semiconductor laser, 655nm, 1mW, class2					
Beam diam	Center point	φ0.05mm	φ0.07mm	φ0.12mm	φ0.3mm	φ0.5mm	φ0.5mm
Linear accuracy		±0.1%F.S.	±0.1%F.S.	±0.1%F.S.	±0.2%F.S.	±0.2%F.S. (200-400mm)	±0.1%F.S. (35-200mm) ±0.2%F.S. (200-400mm)
						±0.3%F.S. (400-600mm)	±0.3%F.S. (400-435mm)
Repeat accuracy		±0.01mm	±0.03mm	±0.07mm	±0.32mm	±0.4mm	±0.4mm ±0.8mm
						±0.6mm	±1.2mm
		10μm	30μm	70μm	200μm	600μm (200-400mm)	100μm (35-135mm) 300μm (135-235mm)
						1500μm (400-600mm)	800μm (235-335mm) 1500μm (335-435mm)
Response time		1.5ms/5ms/10ms					
Temperature characteristic		0.03%F.S/°C					
Supply voltage		DC12-24V±10%					
Current consumption		40mA or less (at supply voltage 24V DC), 60mA or less (at supply voltage 12V DC)					
Communication interface		RS485,9.6K-256Kbps					
Switching output		NPN open collector Output, ≤50mA/DC 24V, residual voltage <1.5V					
Analog output (menu selection)		Analog voltage: 0-5V (in alarm: 5.2V)					
		Analog current: 4-20mA (in alarm: 0mA)					
Output action		Light.on / Dark.on available					
External input		NPN contactless input, optional function current value clearing/teaching/stopping laser					
Indicator		Power indicator: green					
		Output indicator: yellow					
Connection		2m cable					
Enclosure rating		IP67(IEC)					
Ambient light		Sunlight≤20000Lux, incandescent lamp≤3000Lux					
Protection circuit		Reverse polarity protection / Surge protection / Short circuit protection					
Enclosure rating		IP67(IEC)					
Ambient temperature		Operate:-10°C~45°C; Storage:-20°C~60°C,no freezing					
Ambient humidity		35%~85%RH,non-condensing					
Vibration resistance		10~55Hz, double amplitude 1.5mm, X/Y/Z three directions each 2 hours					
Impact resistance		500m/s² (approx. 50G), 3 times in each X/Y/Z direction					
Connection		2m cable					
Meterial		Housing: Aluminum casting Front cover: Acrylic					
Weight		approx. 85g					

CMOS Laser Displacement Sensor

Size Specification

(Unit: mm)

The diagrams show the physical dimensions of the sensor. The front view shows a square body with a laser light source at the top, PMMA lenses in the center, and a light-sensitive zone at the bottom. Dimensions include 16.6mm for the top section, 12.3mm for the lens area, 9.1mm for the bottom section, 5mm for the side sections, 33.3mm for the total height, 8mm for the lens diameter, 18.7mm for the lens thickness, 10.5mm for the base, and 2-R4 for the corner radii. The side view shows a rectangular body with an LED display screen at the top, an operate indicator light on the side, and a cable connector at the bottom. Dimensions include 21mm for the top section, 2mm for the side section, 30mm for the total height, 18mm for the display screen height, 3.2mm for the base, 37mm for the body width, 44.5mm for the total width, and 2-Φ3.2 for the mounting holes. The cable connector shows a 2000mm cable length and a 2-Φ3.2 connector.

I/O Circuit Diagram

External input

Select from the menu external Input: Zero, Teach, Stop Laser.

For NPN model: Release the PK wire after touching the negative terminal of the power supply.

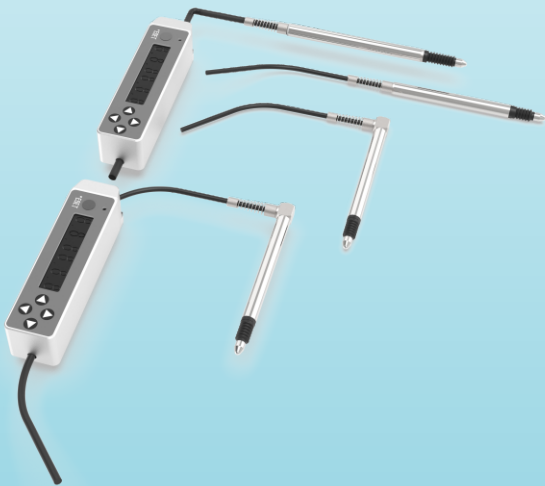
PNP model: Touch the PK wire to the positive terminal of the power supply and release it.

The diagrams show the wiring for different sensor models. The NPN+analog diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin through a load, an analog output connected to the (GY) pin, an analog ground connected to the (shielded) pin, a switching output connected to the (BK) pin, and a 0V ground connected to the (BU) pin. The PNP+analog diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin, an analog output connected to the (GY) pin, an analog ground connected to the (shielded) pin, a switching output connected to the (BK) pin through a load, and a 0V ground connected to the (BU) pin. The NPN+RS485 diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin through a load, RS485(A+) connected to the (GY) pin, RS485(B-) connected to the (shielded) pin, a switching output connected to the (BK) pin, and a 0V ground connected to the (BU) pin. The PNP+RS485 diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin, RS485(A+) connected to the (GY) pin, RS485(B-) connected to the (shielded) pin, a switching output connected to the (BK) pin through a load, and a 0V ground connected to the (BU) pin. The NPN diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin through a load, a switching output connected to the (BK) pin, and a 0V ground connected to the (BU) pin. The PNP diagram shows a 12-24V DC supply connected to the (BR) pin, an external input connected to the (PK) pin, a switching output connected to the (BK) pin through a load, and a 0V ground connected to the (BU) pin.

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Model
Barcode Reader
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Dust-Free Drag Chain
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Laser Displacement
Contact Displacement
Ultrasonic Measurement

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Communication Module
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Process Control
Detect/Eliminate Static Electricity
FO Accessories
Point Spectrum
Laser Displacement
Contact Displacement
Ultrasonic Measurement

Contact-Type Displacement Sensor CDT-L

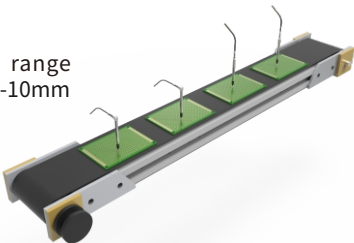


Features

- All-in-one design, no need for external controller.
- Rs485 Output and analog output.
- Imported bearings, high precision, long mechanical life
- Pen-type structure, outer diameter Φ8
- Rebound

Product Introduction

range
CDT-LV: 0-5mm/0-10mm



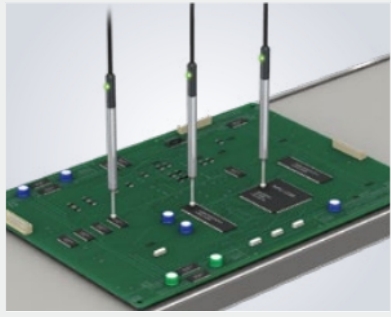
Rebound inductive displacement sensor
CDT-L series

Highly accurate sensors for rapid measurement of small dimensional changes

Wide range of applications
CDT-L series

Can be used for the measurement of displacement, vibration, ID, OD, perpendicularity, roundness, straightness and other form and position tolerances.

Substrate assembly detection



Product Specification

Driving method		Rebound					
Range		5mm			1-8mm		
Type		485 Output	Voltage output	Current output	485 Output	Voltage output	Current output
Model	Straight outlet	CDT-L05P485	CDT-L05V	CDT-L05A	CDT-L10P485	CDT-L10V	CDT-L10A
	Side outlet	CDT-L05P485-90	CDT-L05V-90	CDT-L05A-90	CDT-L10P485-90	CDT-L10V-90	CDT-L10A-90
Repeat accuracy		1μm	0.5μm	0.5μm	1μm	1μm	1μm
Resolution		Min. 0.1μm					
Linear accuracy		±0.1% F.S.	±0.3% F.S.	±0.3% F.S.	±0.1% F.S.	±0.2% F.S.	±0.2% F.S.
Temperature factor		0.01% F.S./°C	0.01% F.S./°C	0.01% F.S./°C	0.01% F.S./°C	0.01% F.S./°C	0.01% F.S./°C
Measuring force		0.6N (centre position)	0.6N (centre position)	0.6N (centre position)	0.8N (centre position)	0.8N (centre position)	0.8N (centre position)
Supply voltage		DC24V	-10~80°C	-10~80°C	DC24V	-10~80°C	-10~80°C
Output method		485 Output, 24V	Analog Out, 0~5V	Analog Out, 4~20mA	485 Output, 24V	Analog Out, 0~10V	Analog Out, 4~20mA
Ambient temperature		-10~60°C	-10~80°C	-10~80°C	-10~60°C	-10~80°C	-10~80°C
Enclosure rating		IP65					
Housing hardness		HR15N80					
Fatigue life		15 million times					
Probe		Standard probe (optional)					
Guidance device		Ball bearing					
Housing material		Stainless steel					
Protective rubber sleeve		Fluoroelastomers					
Wire length		2m+1m (output line)	2m (customization available)		2m+1m (output line)	2m (customization available)	

Inquire AUZ

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* Customized services and engineered solutions designed to your specifications.

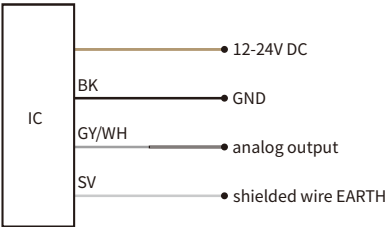
* For any questions, please contact us via email auz.sensor@fuazon.com

- Measurement Model
- Photoelectric
 - Fiber Optic
 - CLA
 - Prox Sensor
 - Measurement
 - Barcode
 - Communication
 - Dust-Free Cable
 - Process Control
 - SDES
 - FO Accessories
 - Point Spectrum
 - Laser Displacement
 - Contact Displacement
 - Ultrasonic Measurement

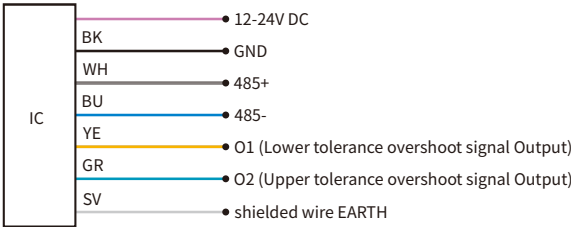
Contact-Type Displacement Sensor

Input/Output Circuit Diagram

Analog output

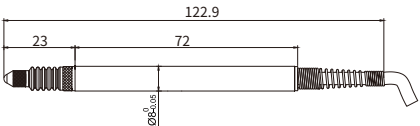


485 Output

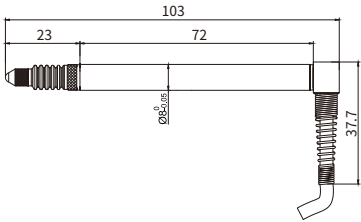


Size Specification

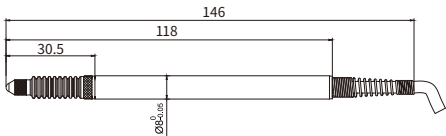
5mm straight out wire



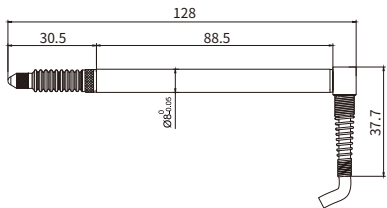
5mm side out wire



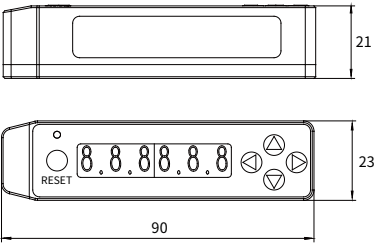
10mm straight out wire



10mm side out wire



Display box size



(Unit:mm)

Contact-Type Displacement Sensor

Accessories Selection

Model	Appearance	Size
General-mounting type CDT-ZJ01		
Side-mounting type CDT-LZJ002		
Compact-mounting type CDT-LZJ003		

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement Model

Barcode Reader

Communication

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

FO Accessories

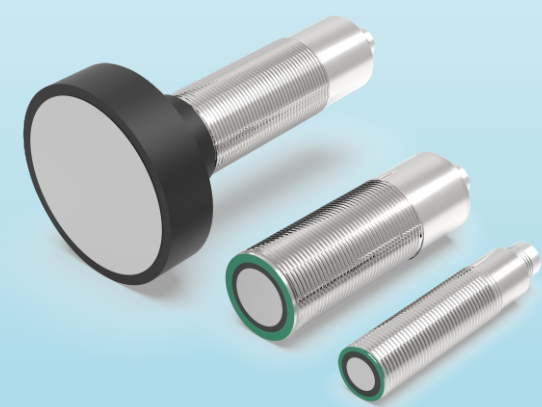
Point Spectrum

Laser Displacement

Contact Displacement

Ultrasonic Measurement

Ultrasonic Distance Measuring Sensor
USM Series



Features

- Built-in temperature compensation
- Adjustable detection range (60mm-6000mm)
- Copper nickel-plated housing can be customized with stainless steel housing
- Enclosure rating IP67
- Anti-reverse connection protection, instantaneous over-voltage protection
- Can be used for transparency, liquid, black object detection
Optimal solution for roll diameter and tension measurement

Inquire AUZ

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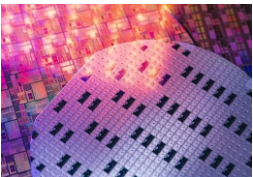


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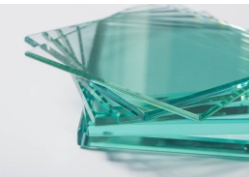
For more product information, please visit en.auz-fa.com

Features

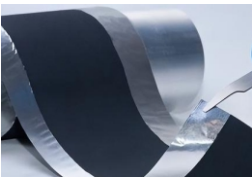
Wide range of application scenarios ●
Unaffected by the object's color, transparency, material (metallic, non-metallic), form (liquid, non-liquid)



silicon chip



glass



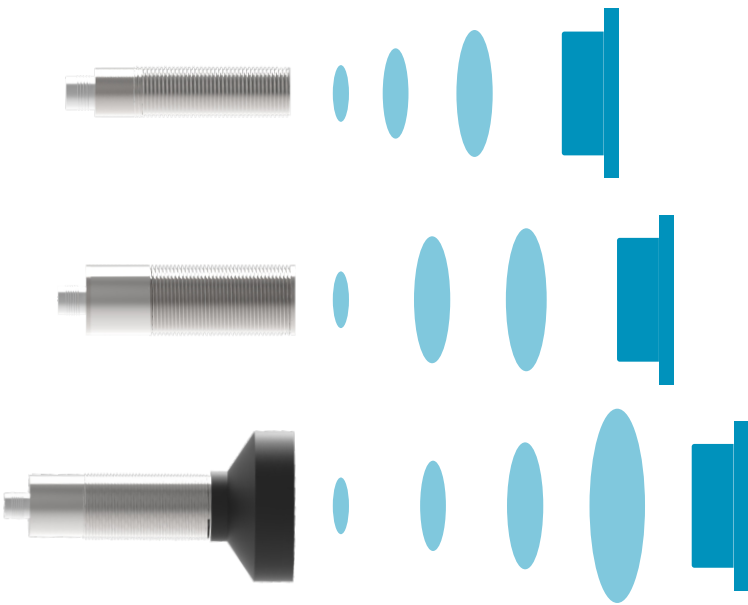
battery poles



liquid

Non-contact detection ●
Parameters such as distance, level, etc. can be measured without direct contact with the object , which reduces damage to the object and the sensor.

USM Distance Measurement Series
Measuring distance up to 6m, millimeter measurement accuracy



Highly adaptable ●
USM series
Can operate in a variety of environments, such as harsh industrial environments, humid environments or dusty environments.



Humid environment



Workshop dust



Hostile environment

Photoelectric
Fiber Optic
CLA
Prox Sensor
Measurement
Barcode
Communication
Dust-Free Cable
Process Control
SDES
FO Accessories
Point Spectrum
Laser Displacement
Contact Displacement
Ultrasonic Measurement

Ultrasonic Distance Measuring Sensor

Product Introduction

sensing range

USM18: 60-1000mm

USM30: 100-2000mm

USGM30: 500-6000mm

Tension monitoring for packaging materials

USM series

Can be used for transparency, liquids, ferrous objects to provide the best solution for roll diameter and tension measurement.

Adjustable detection range

USM series

Adjustable range: 60mm-6000mm

Enclosure rating

USM series

Enclosure rating IP67

Tension monitoring for packaging materials

Assembly line workpiece detection

Product Specification				
Size	M18			
Model	USM18-100N	USM18-100P	USM18-100A	USM18-100V
Stainless steel model	USM18S-100N	USM18S-100P	USM18S-100A	USM18S-100V
Output	NPN	PNP	4-20ma	0-10V
Sensing range	60~1000mm			
Blind zone	0~60mm			
Standard test panel	300*300mm			
Angle	10°			
Repeat accuracy	0.3% of set range			
Operating voltage	10~30VDC OR 15~30VDC			
Temperature drift	0.05%/°C(Built-in temperature compensation)			
Linearity	<1%			
Resolution	0.1% of set range (min. 0.5mm)			
Response time	125ms			
EMC	GB/T17626.2-2006/GB/T17626.4-2008			
Power wastage	20mA			
Protection circuit	Anti-reverse connection protection, instantaneous over-voltage protection			
Ambient temperature	-20°C~+80°C			
Storage temperature	-40°C~+80°C			
Housing material	Copper nickel plated (customized stainless steel housing available)			
Wire length	2m			

*The above data were tested under 25°C environment. The final results will be affected under different test conditions, such as: test circuit/environment/distance/detailed object size and material. Reference values are for reference only.

Ultrasonic Distance Measuring Sensor

Product Specification

USM30

Size	M30			
Model	USM30-200N	USM30-200P	USM30-200A	USM30-200V
Stainless steel model	USM30S-200N	USM30S-200P	USM30S-200A	USM30S-200V
Output	NPN	PNP	4-20ma	0-10V
Sensing range	100~2000mm			
Blind zone	0~100mm			
Standard test panel	300*300mm			
Angle	15°			
Repeat accuracy	0.3% of set range			
Operating voltage	10~30VDC OR 15~30VDC			
Temperature drift	0.05%/°C(Built-in temperature compensation)			
Linearity	<1%			
Resolution	0.1% of set range (min. 0.5mm)			
Response time	125ms			
EMC	GB/T17626.2-2006/GB/T17626.4-2008			
Power wastage	20mA			
Protection circuit	Anti-reverse connection protection, instantaneous over-voltage protection			
Ambient temperature	-20°C~+80°C			
Storage temperature	-40°C~+80°C			
Housing material	Copper nickel plated (customized stainless steel housing available)			
Wire length	2m			

*All of the above data were tested at 25°C.

The final results will be affected under different test conditions, such as: test circuit/environment/distance/detector size and material.

The reference values are for reference only.

USGM30

Size	M30			
Model	USGM30-600N	USGM30-600P	USGM30-600A	USGM30-600V
Stainless steel model	USGM30S-600N	USGM30S-600P	USGM30S-600A	USGM30S-600V
Output	NPN	PNP	4-20ma	0-10V
Sensing Range	500~6000mm			
Blind zone	0~500mm			
Standard test panel	300*300mm			
Angle	25°			
Repeat accuracy	0.1% of set range			
Operating voltage	10~30VDC			
Temperature drift	0.05%/°C(built-in temperature compensation)			
Linearity	<1%			
Resolution	0.1% of set range (min. 0.5mm/min)			
Response time	195ms			
EMC	GB/T17626.2-2006/GB/T17626.4-2008			
Power wastage	<20mA			
Protection circuit	Anti-reverse connection protection, instantaneous overvoltage protection			
Ambient temperature	-20°C~+80°C			
Storage temperature	-40°C~+80°C			
Housing material	Copper nickel plated (customized stainless steel housing available)			
Wire length	2m			

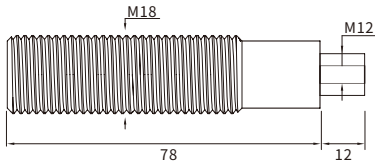
*The above data were tested under 25°C environment. The final results will be affected under different test conditions, such as: test circuit/environment/distance/detailed object size and material. Reference values are for reference only.

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Model
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Point Spectrum
- Laser Displacement
- Contact Displacement
- Ultrasonic Measurement

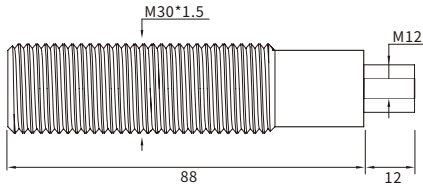
Ultrasonic Distance Measuring Sensor

Size Specification

USM18

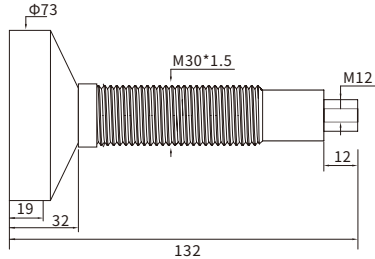


USM30



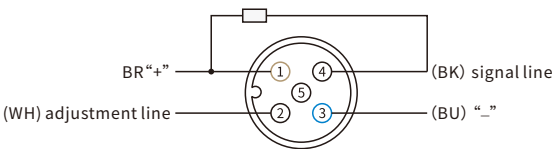
(Unit:mm)
tolerance:±2mm

USGM30

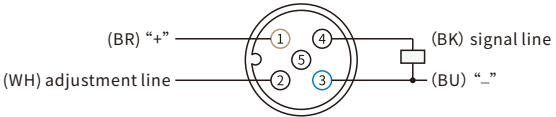


I/O Circuit Diagram

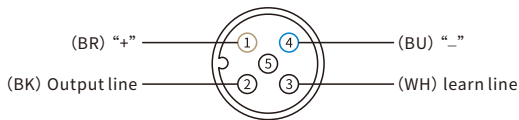
NPN Output



PNP Output



Analog Output

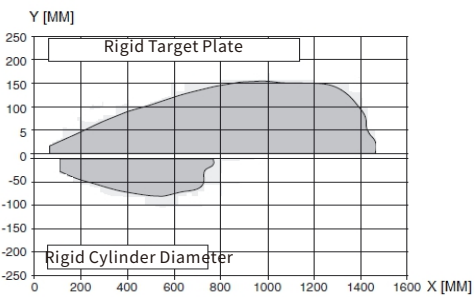


Rigid Cylinder Diameter

Sensor Waveform Diagram

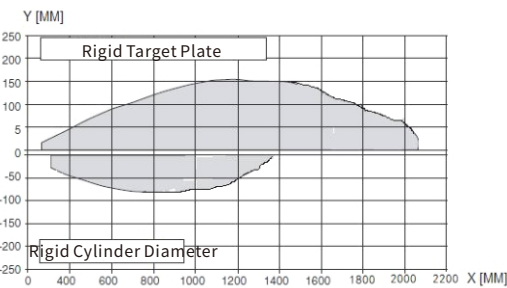
USM18 waveform diagram

(Bias mav exist during the experiment. for reference only)



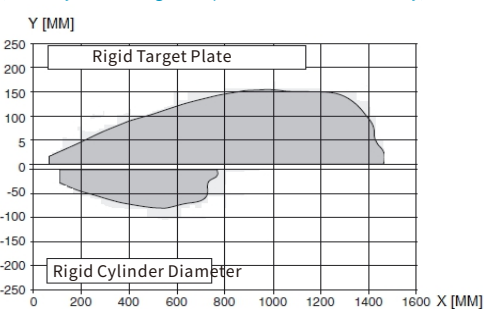
USM30 waveform diagram

(Bias mav exist during the experiment. for reference only)



USGM30 waveform diagram

(Bias may exist during the experiment, for reference only)



Ultrasonic Distance Measuring Sensor

Memo

Photoelectric

Fiber Optic

CLA

Prox Sensor

Measurement

Barcode

Communication

Dust-Free Cable

Process Control

SDES

FO Accessories

Point Spectrum

Laser Displacement

Contact Displacement

Ultrasonic Measurement



Series Catalogue

- Handheld barcode scanner
HBC-AH series
HBC-H series
HBC-XH series
- Fixed barcode scanner
HBC-AF31 series
HBC-F31series
HBC-F11series

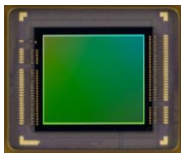
F-03 ▶

F-17 ▶

For more product information, please visit en.auz-fa.com

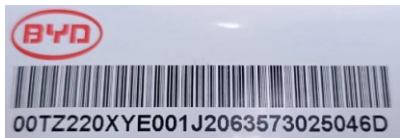
AI Product Advantage

- AI algorithm support, accurate and fast reading

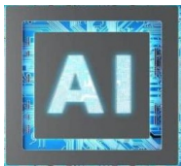


CMOS:

1 million → 130 million

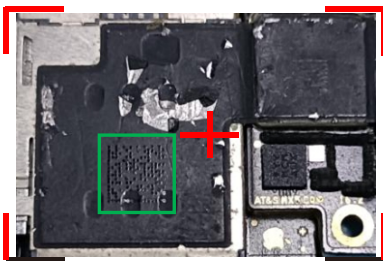


High-precision reading of 1D high-density long barcodes



CPU:

Dual core
AI Support



Fast barcode localization in complex backgrounds

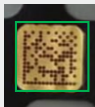
- Superior readability and enhanced performance for reading hard-to-read barcodes with poor print quality



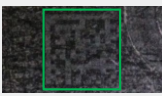
Worn QR codes
in the static area



Laser engraved codes
with uneven contrast



PFC surface perforated
DPM code



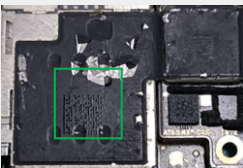
Low-contrast QR code
made of graphite



PCB perforated
DPM code



DPM code engraved on
the surface of copper foil



Laser engraved code with reflective
and uneven surface of BK resin



Very low contrast laser engraved
code for SSD enclosure



High-gloss laser engraving code or curved metal of vehicle accessories



Engraving codes for firing pins on automotive parts

Photoelectric

Fiber Optic

Color/Liquid/Correction

Proximity

Measurement Model

Barcode Reader

Communication

Dust-Free Drag Chain

Process Control

Detect/Eliminate Static Electricity

FO Accessories

Barcode Recognition Sensor Feature

Handheld Barcode Scanner



HBC-AH Series



HBC-H Series



HBC-XH Series

Product Introduction

Min. precision support
HBC-AH Series: $\geq 3\text{mil}$



Three sets of reading status indicators

HBC-AH Series

The top cover provides a three-way reading status indicator and a hidden power meter, so the operating status of the device is obvious

Three-colour lighting, intelligent switching

HBC-AH Series

Intelligent adjustment of lighting modes, automatically adapting to different background colors and materials of the barcode



-Metallic curved, reflective, low contrast barcodes



-Dark background barcode



- Metal plane engraving code

The top cover provides a three-way reading status indicator and a hidden power meter, so the operating status of the device is obvious.



GR:
over 50%
high electric capacity
GR light flashing
successful decoding



red :
below 20%
low electric capacity
red light flashing
failed to decode



YE :
21-50%
medium electric capacity
YE light flashing
communications anomaly

Store parts traceability



Manufacturing line scanning code over station collection



Barcode Recognition Sensor Feature

Product Introduction

Min. precision support
HBC-H Series: $\geq 3\text{mil}$



Accurate recognition of crease barcodes

HBC-H Series

Capable of handling any scene with scanning accuracy up to 3mil



Superior protection

HBC-H Series

Multi-function, multi-detection mode, over-range alarm function

Wireless dock version

HBC-H Series

Compatible with bluetooth 4.2, faster communication speed and lower energy consumption.

Min. precision support
HBC-XH Series: $\geq 3\text{mil}$



Superb code reading capability

HBC-XH series

High-quality CMOS sensors that enable large depth-of-field zones and the ability to read codes quickly, for poor-quality barcode reading ability is greatly enhanced

Superior protection

HBC-XH series

Withstand 50 times 1.2 metres drop test



Wireless dock version

HBC-XH series

Supports USB and RS232 serial ports

Accurate recognition of crease barcodes



Accurate recognition of grease and scratches barcodes



Accurate reading of barcodes on concave and convex surfaces of workpieces.



Accurately read complex workpiece surface barcodes.



AI-Powered Handheld
Barcode Scanner
HBC-AH series



Features

- Dual-core processor
- With AI Algorithm
- DPM barcode millisecond response, accurate reading
- Multi-lens free choice
HD lens, high-precision readout
HP lens, standard distance reading

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Product Specification

● Product Parameter

Model		HBC-AH1024WB						
Lens classification		DPM Model						
Wireless/wired		Wireless						
Image sensor		CMOS sensor with global shutter 1080x1280						
Field of vision		40.2° horizontal, 46.9° vertical (typical)						
Illumination		Intelligent three-colour switching (WH, red and BLU)						
Target		Red laser with crosshair aiming frame						
Indicator		Decode indicator, communication abnormal lamp, battery indicator						
Code support	1D	Code39, Code128, Code93, Codabar, UPC/EAN, 12of5, GS1-128 etc.						
	2D	PDF417, MicroPDF417, Aztec, Data Matrix, QR code, Micro QR etc.						
Min. recognition accuracy	1D	3mil (0.076mm)						
	2D	5mil (0.127mm)						
Reading depth of field (typical)	Code system	Code128			DM/QR			EAN 13
	Resolution	3mil	5mil	10mil	5mil	10mil	20mil	13mil
	HBC-AH1024	3.5cm~6.5cm	1.5cm~18cm	0.5cm~28cm	3.7cm~7.2cm	1.9cm ~ 15.9cm	0~33.5cm	1cm~26.5cm
Communication interface	Bluetooth	Bluetooth 5.0, 100 m transmission range in open space						
	LAN	—						
	USB	USB HID, USB COM						
	RS232	RS232						
	Ethernet	—						
Battery capacity		3150mAh (Removable battery)						
Full power scans		Supports 100,000 consecutive scans at a rate of 2 scans per second						
Charge time		Charging with USB cable: 6~8 hours						
Electricity supply		—						
Operating current		—						
Size		166.2*105.5*68.5mm						
Weight		213g±3g						
Enclosure rating		IP54						
Operating temperature		0°C ~ +50°C						
Storage temperature		-20°C ~ +70°C						
Humidity		5% ~ 95% RH (non-condensing)						
Drop rating		Can withstand 50 falls of 1.8m in the air						
Illumination level		0 ~ 100,000lux						
Housing material		High strength engineering plastics						
Accreditation		CE, FCC, RoHS, UN38.3 Air transport report;						

● Horizontal base

Charge rated power	USB charging power: 2.5W
Data interface	Data transfer: USB
Size	219.3(H)×88.4(W)×62.3(T) mm
Weight	174g±3g
Operating temperature	0°C to 50°C
Storage temperature	-20°C to 70°C
Humidity	5% to 95%RH condensation-free state
Enclosure rating	IP51
Drop rating	Can withstand 20 falls of 1.2m in the air
Housing material	High-strength engineering plastic
Electrostatic discharge (ESD)	±15kV Air discharge, ±8kV contact discharge
Accreditation	CE, FCC, RoHS

● Selection Guide

HBC-AH1014WB	AI Handheld, Megapixel (1028*1080), HD type, Multi-colour light source adaptation, Wireless
HBC-AH1024WB	AI Handheld, Megapixel (1028*1080), DPM type, Multi-colour light source adaptation, Wireless
Rs232 Serial communication	

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

AI-Powered Handheld Barcode Scanner

Product Components



1. Communication charging base 2. Mainframe 3. USB data cable 4. Product package box

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Moudel
Barcode Reader
Communication
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Handheld bar scanner
Fixed bar reader

AI-Powered Handheld Barcode Scanner

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Moudel
Barcode Reader
Communication
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Handheld bar scanner
Fixed bar reader

Durable Handheld Barcode Scanner
HBC-XH series



Features

- DPM code algorithm optimisation
- Industrial-grade protection
Extremely high drop, tumble and sealing specifications for its category
- Dustproof and waterproof
Dust and waterproof up to IP67
- Ergonomic design
Durability 23% more than comparable products
- HBC-H1020 Scanning accuracy up to 3mil
- Accurate identification through plastic film



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Product Specification							
● HBC-XH series							
Model		HBC-XH1024WB	HBC-XH1024	HBC-AH1024WB	HBC-XH1010WB	HBC-XH1000WB	HBC-XH1000
Lens classification		DPM Model		HD Model		HP Model	
Wireless/wired		Wireless	wired	Wireless	wired	Wireless	wired
Image sensor		Global shutter CMOS, 1280 x 1024, up to 60fps					
Field of vision		44° horizontal, 34° vertical (typical)					
Illumination		Intell 3-col sw (WH, red, BU)		Straight shot red (WH/BLU optional)			
Target		Red laser		Red laser			
Indicator		Decode indicator		Decode indicator			
Code support	1D	Code39, Code128, Code93, UPC/EAN etc.					
	2D	QR, data matrix, PDF417, MicroPDF417, Aztec etc.					
Min. recognition accuracy	1D	4mil (0.1mm)					
	2D	5mil (0.127mm)					
Reading depth of field (typical)	Code128 (3mil)	0cm ~ 7.5cm		5cm ~ 27cm		5.5cm ~ 30cm	
	Code128 (5mil)	2cm ~ 16cm		6cm ~ 43cm		5cm ~ 52cm	
	Code128 (10mil)	—		4cm ~ 29cm		4.5cm ~ 26cm	
	DM/QR (5mil)	—		4cm ~ 21cm		9.5cm ~ 21cm	
	DM/QR (10mil)	—		3cm ~ 29cm		3.5cm ~ 39cm	
Communication interface	Bluetooth	BT4.2: Max. 30m away	—	BT4.2: Max. 30m away	—	BT4.2: Max. 30m away	—
	LAN	2.4GHz: Max. 100m	—	2.4GHz: Max. 100m	—	2.4GHz: Max. 100m	—
	USB	—	USB HID, USB COM	—	USB HID, USB COM	—	USB HID, USB COM
	RS232	—	RS232	—	RS232	—	RS232
	Ethernet	—	TCP/IP, ModBus TCP, EtherNet/IP, PROFINET	—	TCP/IP, ModBus TCP, EtherNet/IP, PROFINET	—	TCP/IP, ModBus TCP, EtherNet/IP, PROFINET
Battery capacity		2500 mAh	—	2500 mAh	—	2500 mAh	—
Full power scans		12,000+ (2 Scans/s)	—	12,000+ (2 Scans/s)	—	12,000+ (2 Scans/s)	—
Charge time		6.5 hour	—	6.5 hour	—	6.5 hour	—
Electricity supply		—	5VDC ± 5%	—	5VDC ± 5%	—	5VDC ± 5%
Operating current		—	316mA (typical)	—	316mA (typical)	—	316mA (typical)
Size		246 x 99.5 x 136mm	191.8 x 130.2 x 76.9mm	246 x 99.5 x 136mm	191.8 x 130.2 x 76.9mm	246 x 99.5 x 136mm	191.8 x 130.2 x 76.9mm
Weight		295g(scanner)+ 410g(dock)	356.5g (include cable)	295g(scanner)+ 410g(dock)	356.5g (include dock)	295g(scanner)+ 410g(dock)	356.5g (include cable)
Enclosure rating		IP5X (scanner)	Ip67 (I/F wiring Case)	IP5X (scanner)	Ip67 (I/F wiring Case)	IP5X (scanner)	Ip67 (I/F wiring Case)
Operating temperature		-10°C ~ +50°C					
Storage temperature		-20°C ~ +70°C					
Humidity		5% ~ 85% RH (non-condensing)					
Drop rating		Withstands a 1.2m drop to a concrete floor					
Illumination level		0 ~ 100,000lux					
Housing material		High-performance plastic					
Accreditation		CE, FC, RoHS					

● Selection Guide

HBC-XH1000	Durable Handheld, Megapixel (1028*1024), HP type, red light
HBC-XH1000S232	Durable Handheld, Megapixel (1028*1024), HP type, red light, RS232
HBC-XH1000ETH	Durable Handheld, Megapixel (1028*1024), HP type, red light Ethernet
HBC-XH1000WB	Durable Handheld, Megapixel (1028*1024), HP type, red light, wireless
HBC-XH1010	Durable Handheld, Megapixel (1028*1024), HP type, red light, Ethernet
HBC-XH1010S232	Durable Handheld, Megapixel (1028*1024), HP type, red light, RS232
HBC-XH1010ETH	Durable Handheld, Megapixel (1028*1024), HP type, red light, Ethernet
HBC-XH1010WB	Durable Handheld, Megapixel (1028*1024), HP type, red light, wireless
HBC-XH1024	Durable Handheld, Megapixel (1028*1024), DPM type, self-adaptive
HBC-XH1024S232	Durable Handheld, Megapixel (1028*1024), DPM type, self-adaptive, RS232
HBC-XH1024ETH	Durable Handheld, Megapixel (1028*1024), DPM type, self-adaptive, Ethernet
HBC-XH1024WB	Durable Handheld, Megapixel (1028*1024), DPM type, self-adaptive, wireless
RS232 Serial communication cable	—

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

Durable Handheld Barcode Scanner

Size Specification

HBC-H1020 (Unit:mm)



Wireless Base Type

[Wireless version of HBC-H1020WB with base]
The wireless version of HBC-H1020WB supports USB and RS232 serial ports with baud rates of 9600bps and 115200bps.



[Wireless bluetooth function]
HBC-H1020WB is compatible to bluetooth 4.2.
Faster communication speed and lower energy consumption
The number of scans on a single charge exceeds that of similar products by 56%.



Durable Handheld Barcode Scanner

Memo

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Moudel
Barcode Reader
Communication
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Handheld bar scanner
Fixed bar reader

Handheld Barcode Scanner
HBC-H Series



Features

- HBC-H1000 Scanning accuracy up to 4mil
- Superior protection
Withstand 50 times 1.2 meters drop test
- Superb code reading capability
The use of high-quality CMOS sensors can achieve a large depth of field range and the ability to scan codes, for poor quality barcode reading ability is greatly enhanced
- Multi-lens free to select
HD lens, high precision readout
HP lens, standard distance reading

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Product Specification

● HBC-H series

Model		HBC-1024WB	HBC-H1024	HBC-H1011WB	HBC-1011	HBC-H1001WB	HBC-H1001
Lens classification		DPM Model		HD Model		HP Model	
Wireless/wired		wireless	wired	wireless	wired	wireless	wired
Image sensor		Global shutter CMOS, 1280 x 1024, up to 60fps					
Field of vision		44° horizontal, 34° vertical (typical)					
Illumination		Intelligent 3-colour switch (WH, RED, BLU)		Straight shot WH			
Target		Red laser		Red LED			
Indicator		Decode indicator		Decode indicator			
Code support	1D	Code39, Code128, Code93, UPC/EAN etc.					
	2D	QR, Data Matrix, PDF417, MicroPDF417, Aztec etc.					
Min. recognition accuracy	1D	3mil (0.076mm)					
	2D	5mil (0.127mm)					
Reading depth of field (typical)	Code128 (3mil)	0cm ~ 7.5cm		5cm ~ 27cm		5.5cm ~ 30cm	
	Code128 (5mil)	2cm ~ 16cm		6cm ~ 43cm		5cm ~ 52cm	
	Code128 (10mil)	—		4cm ~ 29cm		4.5cm ~ 26cm	
	DM/QR (5mil)	—		4cm ~ 21cm		9.5cm ~ 21cm	
	DM/QR (10mil)	—		3cm ~ 29cm		3.5cm ~ 39cm	
Communication interface	BLUtooth	BT4.2: Max. 30m away	—	BT4.2: Max. 30m	—	BT4.2: Max. 30m away	—
	LAN	2.4GHz: Max. 100m	—	2.4GHz: Max. 100m	—	2.4GHz: Max. 100m	—
	USB	—	USB HID, USB COM	—	USB HID, USB COM	—	USB HID, USB COM
	RS232	—	RS232	—	RS232	—	RS232
Battery capacity		2500 mAh	—	2500 mAh	—	2500 mAh	—
Full power scans		12,000+ (2 scans/s)	—	12,000+ (2 scans/s)	—	12,000+ (2 scans/s)	—
Charge time		6.5 hour	—	6.5 hour	—	6.5 hour	—
Electricity supply		—	5VDC ± 10%	—	5VDC ± 10%	—	5VDC ± 10%
Operating current		—	380mA (typical)	—	380mA (typical)	—	380mA (typical)
Size		101.8 x 94.2 x 201.1mm	163. x 69.5 x 106.2mm	101.8 x 94.2 x 201.1mm	163. x 69.5 x 106.2mm	101.8 x 94.2 x 201.1mm	163. x 69.5 x 106.2mm
Weight		360g(scanner + base)	147g (includes cable)	360g(scanner + base)	147g (includes cable)	360g(scanner + base)	147g (includes cable)
Enclosure rating		IP5X (scanner)	Ip54 (I/F wiring case)	IP5X (scanner)	Ip54 (I/F wiring case)	IP5X (scanner)	Ip54 (I/F wiring case)
Ambient temperature		-10°C ~ +50°C					
Storage temperature		-20°C ~ +70°C					
Humidity		5% ~ 85% RH (non-condensing)					
Drop rating		Withstands a 1.2m drop to a concrete floor					
Illumination level		0 ~ 100,000lux					
Housing material		High-performance plastics					
Accreditation		CE, FC, RoHS					

● Selection Guide

HBC-H1001	Handheld, Megapixel (1028*1024), HP type, WH light
HBC-H1001S232	Handheld, Megapixel (1028*1024), HP type, WH light, RS232
HBC-H1001WB	Handheld, Megapixel (1028*1024), HP type, WH light, wireless
HBC-H1011	Handheld, Megapixel (1028*1024), HP type, WH light
HBC-H1011S232	Handheld, Megapixel (1028*1024), HP type, WH light, RS232
HBC-H1011WB	Handheld, Megapixel (1028*1024), HP type, WH light, wireless
HBC-H1024	Handheld, Megapixel (1028*1024), DPM type, Self-adaptive
HBC-H1024S232	Handheld, Megapixel (1028*1024), DPM type, Self-adaptive, RS232
HBC-H1024WB	Handheld, Megapixel (1028*1024), DPM type, Self-adaptive, wireless
RS232 Serial communication	/

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

Size Specification

(Unit:mm)



The wireless version of HBC-H1000WB supports USB and RS232 serial ports with baud rates of 9600bps and 115200bps.

Barcode Reader

Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Moudel
Barcode Reader
Communication
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Handheld bar scanner
Fixed bar reader

Fixed Industrial Code Readers Feature

Fixed Industrial Code Reader



HBC-AF31 series



HBC-F31 series

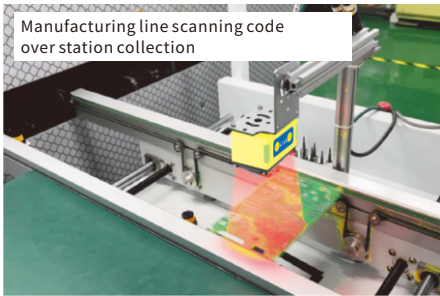


HBC-F11 series

Wide range of application sectors



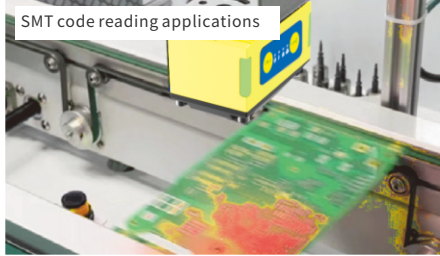
Vehicle parts assembly barcode capture



Manufacturing line scanning code over station collection



Aerospace equipment parts assembly barcode collection



SMT code reading applications



Appliance Manufacturing Warehouse Barcode Capture



Embedded Express Locker



Logistics industry



SMT industry



Pharmaceutical industry

Fixed Industrial Code Readers Feature

Fixed Industrial Code Reader Product Introduction



Image pixel

HBC-AF31 series

1.3 megapixels, 1280 * 1080

Reading distance

HBC-AF31 series: 50mm-350mm

Type of identification

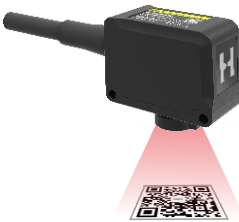
HBC-AF31 series

1D/2D Code

Dual fixed-focus

HBC-AF31 series

Proximity recognition tiny code and medium distance recognition standard code



High-speed decoding

HBC-F3110 series

Reflective, ultra-small and complex DPM codes can be decoded at high speeds

Enclosure rating

HBC-F3110 series

Ip54 Industrial enclosure rating

Cost-effective

HBC-F11 series

Adaptable to include various 1D and 2D barcode readings, powerful performance, and strong portability make it the best companion for light industrial industry applications.

Lightweight and portable

HBC-F11 series

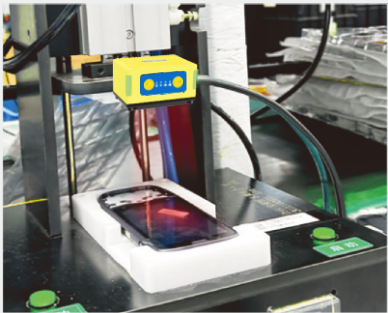
Supports most of the popular interfaces on the market, eliminating the tedious process of scanning programmed barcodes.



Reading distance

HBC-F11 series: 40 mm-200 mm

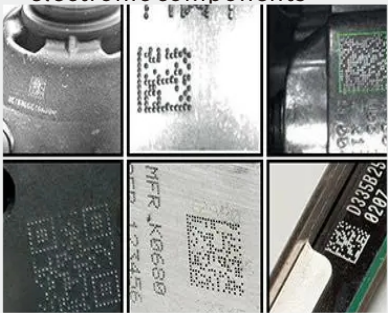
Integrated sensor trigger



Integrated automation equipment



Quickly read DPM codes for electronic components

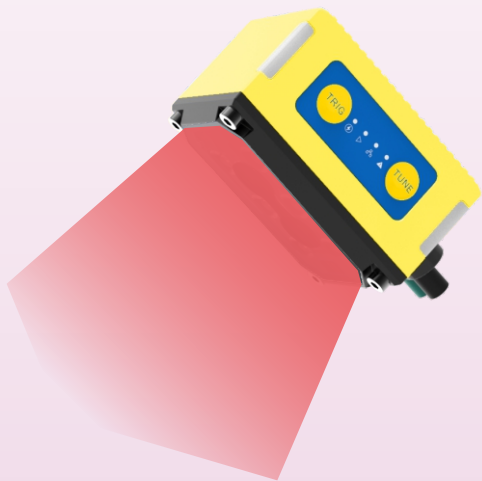


Precise identification of workpiece barcodes



- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

AI Intelligent Industrial Code Reader HBC-AF31



Features

- Compact design, lightweight and small size, easy to embed into a variety of equipment
- Dual-lens design for close-range identification of tiny codes and medium-range identification of Standard codes
- Red and blue dual-colour light source illumination, extended application scenarios
- Integrated distance sensor, no need to configure external trigger sensor
- Intelligent code reading and decoding of various DPM codes
- Ethernet+Serial interfaces to meet the interface requirements of different application scenarios

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Product Specification			
Model			HBC-AF31
Image sensor	Sensor		CMOS global shutter image sensor
	Pixel		1280 × 1080 (1.3 million)
Light source	Illumination light source		Red and BLU colors can be switched automatically + manually adjusted
	Aiming indicator		Laser dot
Focusing method			Dual fixed-focus
TOF automatic ranging			0-450mm automatic distance measurement
Reading specification	Support Code system	2D	QR、DataMatrix (ECC200)、PDF417、Micro PDF417
		1D	Code128、GS1 128、Code39、Code93、Codabar、Cross 25 code、EAN/UPC
	Min. resolution	2D	5.0mil (0.127 mm)
		1D	3.3mil (0.084 mm)
	Reading distance		50-350 mm
	Field of vision		140°120mm (Typical example for 300mm)
Communication Interface	Ethernet	Ethernet	TCP Client、TCP Server、Profinet、MELSEC、Ethernet/IP、ModBusTcp (poll/slave)、Fins
	Serial communication	Communication standard	RS232
		Transmission speed	115200、57600、38400、19200、9600 bps
	USB	Communication standard	Compliant with USB 2.0 full Speed
		Supported protocol	USB keyboard、USB serial port
Control input	Input point		1 NPN + 1 PNP Channels (opto-Isolated)
	Max. rating		30V
	Min. ON voltage		<4V
Control Output	Output point		2 Channels (opto-Isolated)
	Max. rating		30V
	Max. load current		100 mA
	Residual voltage at ON		≤1V
	Housing enclosure rating		IP65
Ambient resistance	Ambient temperature		0°C~50°C
	Storage temperature		-20°C~+70°C
	Humidity level		5% - 95% RH non-condensing
	Illumination		0~10000 lux
	Operating environment		No dust or corrosive gases
	Power supply	Supply voltage	
Current consumption		Approx. 500mA	
Size			55×35×32 mm
Weight			Approx. 133g

Selection Guide

Type	Model	Description
AI industrial code reader	HBC-AF3110-401	AI Intelligence, 1280*1080, Dual Lens Fixed Focus, RED+BLU, No Polarisation, Serial RS232+Network Port
AI industrial code reader	HBC-AF3110-411	AI Intelligence, 1280*1080, Dual Lens Fixed Focus, RED+BLU, Polarisation, Serial RS232+Network Port
Power IO cable	HBC-M12DB9D8-3M	3 meters, power supply, 2 Inputs, 2 Outputs, RS232 (Db9)
Ethernet cable	HBC-M128PE8-3M	3 meters, M12 to RJ45 high flex cable

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

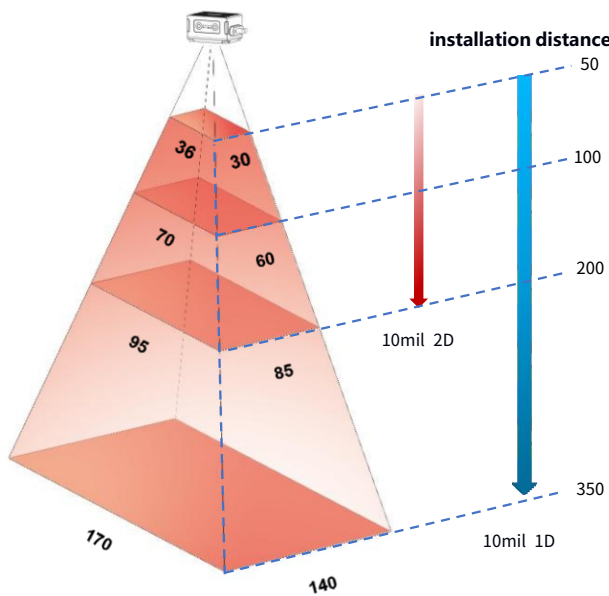
AI Intelligent Industrial Code Reader

Size Specification



Read Depth Of Field And Installation Distance

Support 50mm~350mm reading range, dual fixed-focus:



Reading range (typical example)

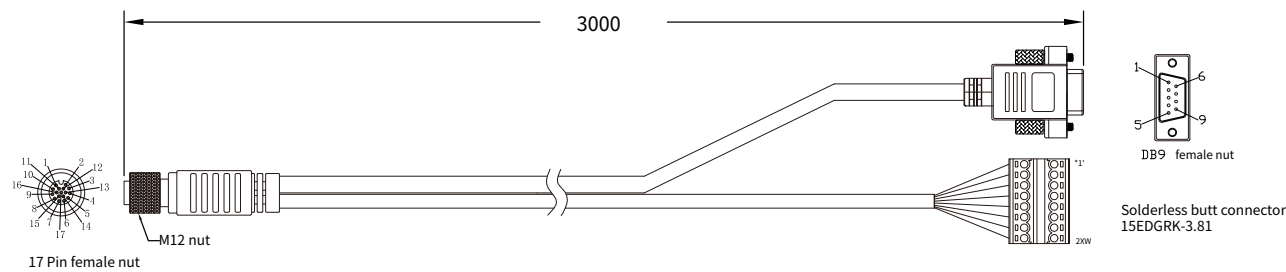
Distance (mm)	QR code	Distance (mm)	1D code
55 ~170	0.127mm	50~200	0.084mm
50~250	0.168mm	40~300	0.127mm
40~275	0.254mm	35~350	0.191mm
40~320	0.33mm	35~400	0.33mm

Distance (mm)	Field of vision(mm)	
50	36	30
100	70	60
200	95	85
300	140	120
350	170	140

AI Intelligent Industrial Code Reader

Cable Definition

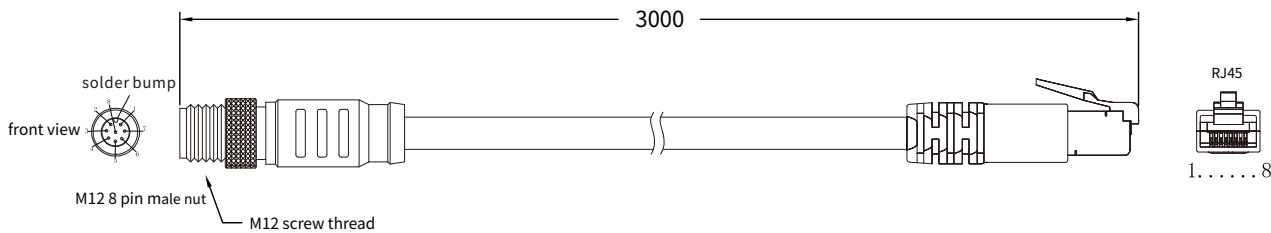
IO Power Cable HBC-M12DB9D8-3M



Wiring Definitions

M12(17P)	Db9 female nut	Terminal strip
1,5	5	BLU GND
2,3		BR VCC
11	3	BK In1
12	2	WH In2
7		RD InCOM
8		YE OutCOM
9		ORG Out2
13		GR Out1
15		
16		

Network cable HBC-M128PE8-3M



wiring definition

M12(8P)		RJ45(8P8C)
3	ORG	2
4	WH-ORG	1
5	WH-GR	3
6	GR	6

block housing

Compact Barcode Reader HBC-F3110 series



Features

- Compact design, lightweight and small size, easy to embed into a variety of equipment
- Interchangeable lenses, configurable with different lenses for optimal readout
- Red and white dual-colour light source illumination, extended application scenarios
- Superb decoding capabilities, various DPM codes including highly reflective metal engraved codes and tiny laser engraved codes
- Ethernet+Serial interfaces to meet the interface requirements of different application scenarios

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Product Specification

Model			HBC-F31	
Image sensor	Sensor		CMOS global shutter image sensor	
	Pixel		1280 × 1080 (1.3 million)	
Light source	Illumination light source		High brightness red and white + manual adjustment	
Focusing method			Manual focus	
Read specification	Support code	2D	QR, PDF417、DataMatrix	
		1D	Code11、Code39、Code93、Code128、EAN13、EAN8、I25、UPC-A、UPC-E、MIS、D25、M25、DataBar、CodeBar	
	Min. resolution	2D	5.0mil (0.127 mm)	
		1D	3mil (0.076 mm)	
	Reading distance		20mm-1200mm (adjustable focus)	
	Field of vision		170°140mm (typical example at 300mm)	
Communication interface	Ethernet	Ethernet	Modbus-TCP、TCP/IP、UDP、FTP、EtherNet/IP	
	Serial Communication	Communication standard	RS232	
		Transmission speed	115200、57600、38400、19200、9600 bps	
	USB	Communication standard	complaint with USB 2.0 Full Speed	
		Supported protocol	USB keyboard, USB serial port	
Control Input	Input point		2 Channels (opto-Isolated)	
	Max. rating		26.4V	
	Min. ON voltage		<5V	
Control Output	Output point		2 Channels (opto-Isolated)	
	Max. rating		40V	
	Max. load current		500 mA	
	Residual voltage at ON		≤0.13V	
Ambient resistance	Housing enclosure rating		IP54	
	Temperature		-5°C~+65°C	
	Storage temperature		-20°C~+70°C	
	Humidity level		35% ~ 85% RH non-condensing	
	Illumination		0~10000 lux	
	Operating environment		No dust or corrosive gases	
Power supply	Supply voltage		12 ~ 24V DC	
	Cuurent consumption		Approx. 500 mA	
Size			54.8×24×39.6mm	
Weight			Approx. 71g	

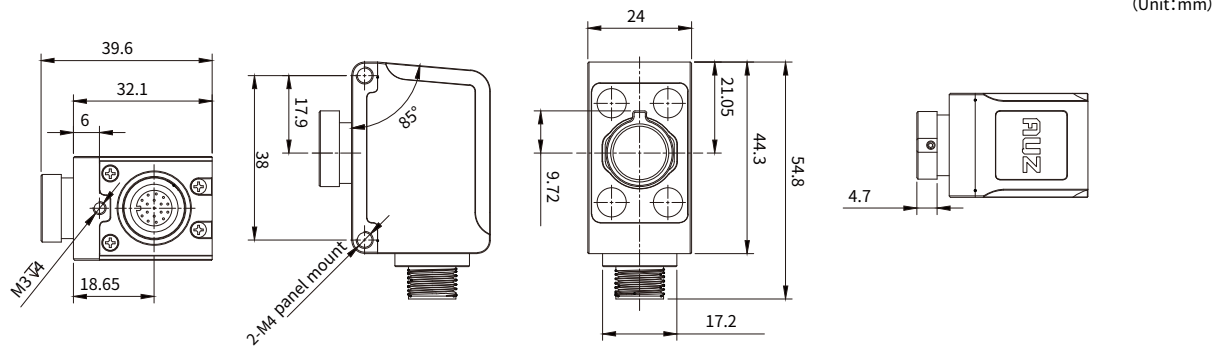
● Selection Guide

Type	Model	Description
Indu code reader	HBC-F3110-501-MR12	Megapixel (1280*1080), red+WH, no polarisation, serial+network, manual focus, 12mm lens (Standard)
Indu code reader	HBC-F3110-501-MR12S	Megapixel (1280*1080), red + WH light, no polarisation, serial + network port, manual focus, 12mm lens
Indu code reader	HBC-F3110-501-MR12W	Megapixel (1280*1080), red + WH light, no polarisation, serial + network port, manual focus, 12mm lens
Power net port cable	HBC-M12E8D8-3M	3 m, Power supply, 2 Inputs, 2 Outputs, RS232,RJ45

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

Fixed Barcode Reader

Size Specification

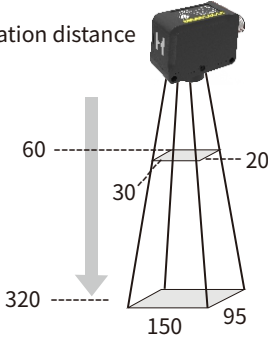


Features Chart

Typical example

HBC-F3110-501-MR12W	1280*1080		
Installation distance(mm)	Field of vision H(mm)		Min. resolution
45	25	23	0.13mm
110	65	65	0.25mm
230	125	120	0.38mm
400	200	200	0.5mm

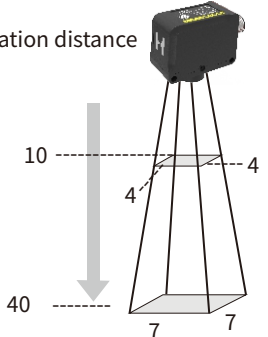
Installation distance



Typical example

HBC-F3110-501-MR12S	1280*1080		
Installation distance(mm)	Field of vision H(mm)		Min. resolution
10	4	4	0.03mm
20	5	5	0.05mm
30	6.5	6.5	0.05mm
40	7	7	0.07mm

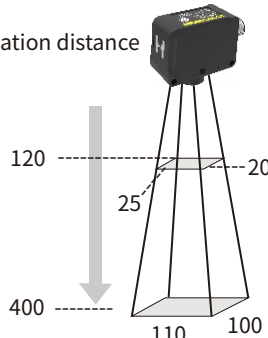
Installation distance



Typical example

HBC-F3110-501-MR12	1280*1080		
Installation distance(mm)	Field of vision H(mm)		Min. resolution
120	25	20	0.13mm
145	35	30	0.25mm
200	60	50	0.25mm
400	110	100	0.38mm

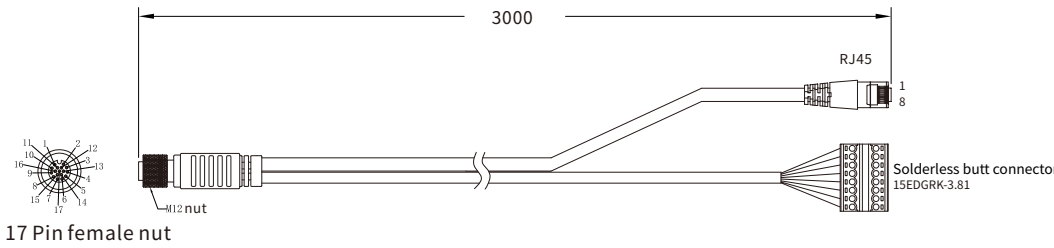
Installation distance



Fixed Barcode Reader

Cable Definition

HBC-M12E8D8-3M

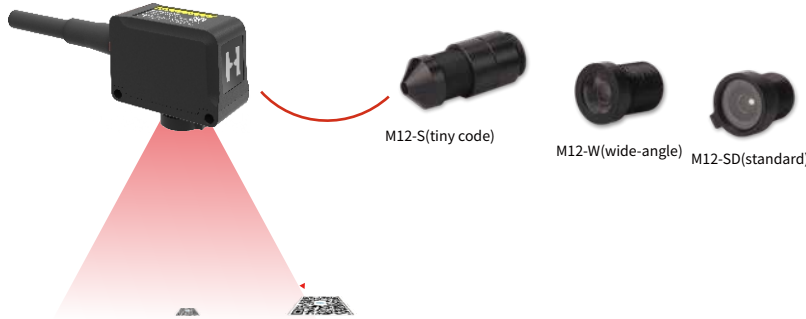


Wiring Definition

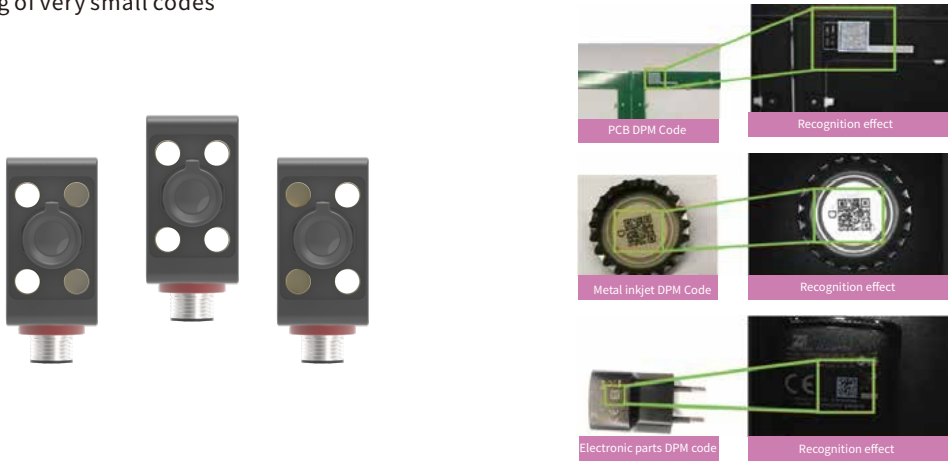
M12(17P)	RJ45	Terminal strip
1		BLU GND
2		BRVCC
3	3	
4	6	
5	1	
14	2	
7		BK IN1
8		GR OUT2
9		YE OUT1
11		ORG TXD
13		WH IN2
17		GRY RXD

Product Installation Application

Compatible with a variety of lenses to meet the needs of installation in small spaces



Fast reading of very small codes



Industrial Barcode Reader
HBC-F Series



Features

- High cost-effective
- Compact size and easy installation
- Support USB/RS232 serial port

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Product Specification

Model			HBC-F1110	HBC-F1103
Image sensor	Sensor		CMOS Image sensor	
	Pixel		1280*800 (1 million)	640*480 (300,000)
Light source	Illumination		High-brightnes white light	
	Aiming indicator		LED GR indicator	
Focusing method			Prime	
Reading specification	Support Code system	2D	QR、PDF417、DataMatrix	
		1D	Code11、Code39、Code93、Code128、EAN13、EAN8、I25、UPC-A、UPC-E、MIS、D25、M25、DataBar、CodeBar	
	Min. resolution	2D	5.0mil (0.127 mm)	7mil (0.178 mm)
		1D	3mil (0.076 mm)	5.0mil (0.127 mm)
	Reading distance		40-300 mm	40-250 mm
	Field of vision		60×40mm(Typical example for 140 mm)	40×30mm(Typical example for 150 mm)
Communication interface	Serial Communication	Communication standard	RS232	
		Transmission speed	115200、57600、38400、19200、9600 bps	
	USB	Communication standard	complaint with USB 2.0 Full Speed	
		Supported protocol	USB keyboard, USB serial port	
Control input	Input point		1 Channel (opto-Isolated)	
	Max. rating		26.4V	
	Min. ON voltage		<5V	
Control output	Output point		1 Channel (opto-Isolated)	
	Max. rating		40V	
	Max. load current		500 mA	
	Residual voltage at ON		≤0.13V	
Ambient resistance	Housing enclosure rating		IP54	
	Temperature		-5℃～+65℃	
	Storage temperature		-20℃～+70℃	
	Humidity level		35% ～ 85% RH no condensation	
	Illumination		0~10000 lux	
	Operating environment		No dust or corrosive gases	
Power supply	Supply voltage		5V ～ 24V DC	
	Current consumption		Approx. 120 mA	
Size			49×25.5×43.5 mm	
Weight			Approx. 92g	

● Selection Guide

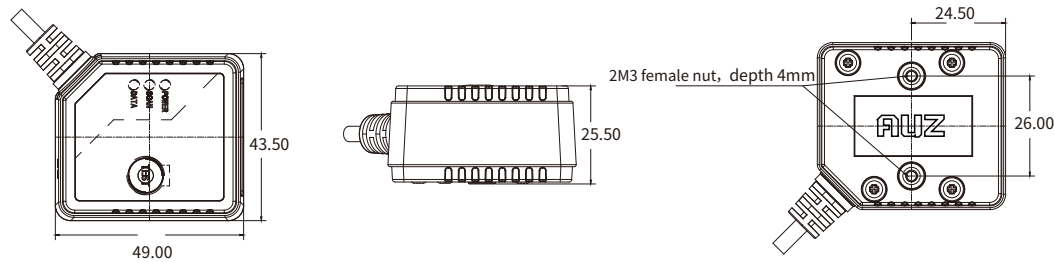
Type	Model	Description
Indu code reader	HBC-F1103-000	0.3 Megapixel (640*480), red, No polarisation, Serial + USB, prime
Indu code reader	HBC-F1110-000	Megapixel (1280*1080), red, No polarisation, Serial + USB, prime
Power serial cable	HBC-CB15USB-3M	3 m, Power supply, USB, RS232 (DB9)

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moude
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FQ Accessories
- Handheld bar scanner
- Fixed bar reader

Fixed Barcode Reader

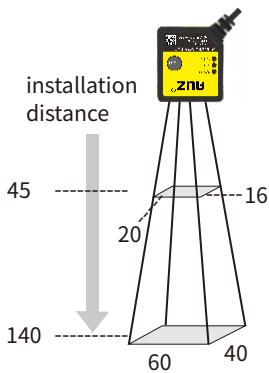
Product Size

(Unit:mm)



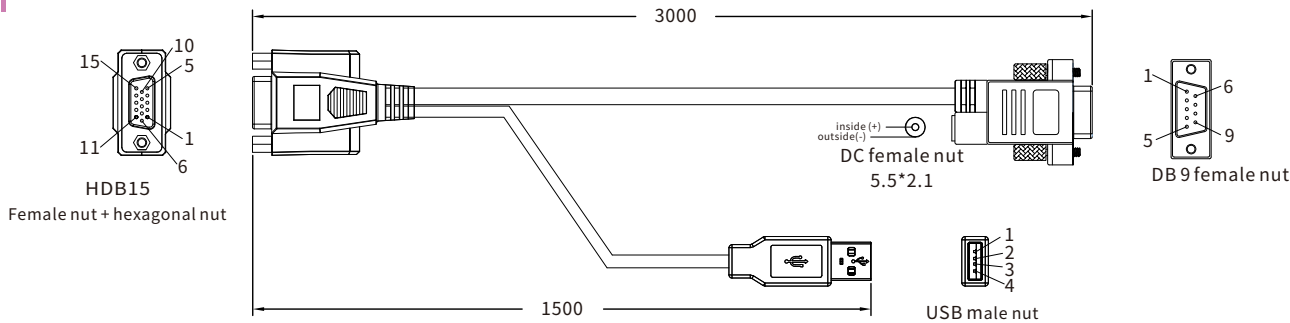
Reading Range Feature Chart

HBC-F1110(typical example)	1280*1080		
installation distance(mm)	Field of vision H(mm)		Min. resolution
45	20	16	0.13mm
75	35	24	0.25mm
110	50	33	0.38mm
140	60	40	0.5mm



Cable Definition

HBC-CB15USB-3M



Wiring Definition

DB15	DB9	USB	DC female nut
BK 2	2		
ORG 3	3		
BLU 4	5		outside
BR 5			inside
GR 6		2	
WH 10		3	
housing	housing	housing	

Fixed Barcode Reader

Memo

- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Handheld bar scanner
- Fixed bar reader

Analog to EtherCAT
Communication Module
CTW-80ATE



Features

- Support 8 channels analog to EtherCat
- Fast response time
Min. communication period 1ms
- Small size and low power consumption
- Indicator lights to simultaneously monitor module status
- Acquisition accuracy up to $\pm 0.1\%$

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Product Introduction



Easy operate

CTW-80ATE

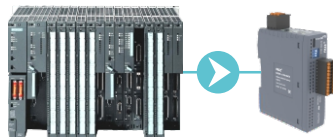
Indicator lights to simultaneously monitor module status

Fast response time

CTW-80ATE

Min. communication period 1ms

PLC+EtherCat combination usage



Product Specification

Appearance	
Model	CTW-80ATE
Name	Current input module
Number of channels	8
Input type	0/4~20mA
Resolution	16bit
Transform time	1ms
Full-scale range	0-32767
Input signal accuracy	$\pm 0.1\%$
Sensor connection	Support 4-wire system, (2-wire system support, need external DC 24V power supply)

Interface parameter	
Max.supported slaves	According to the master
Data transfer medium	Ethernet CAT5 cable
Connection	2*RJ45
Transmission rate	100Mb/s
Transmission distance	100m
Electrical isolation	include

Technical parameter	
DIP switch	Firmware upgrade, default is 0, upgrade module Xi Dial One Bit ON
Rated voltage	24VDC
Type-C interface	Use when upgrading firmware or configuring module parameters
Scanning period	<3ms
Number of EC interface	2
Automatic network recovery	3s
Channel indicator	Green LED light

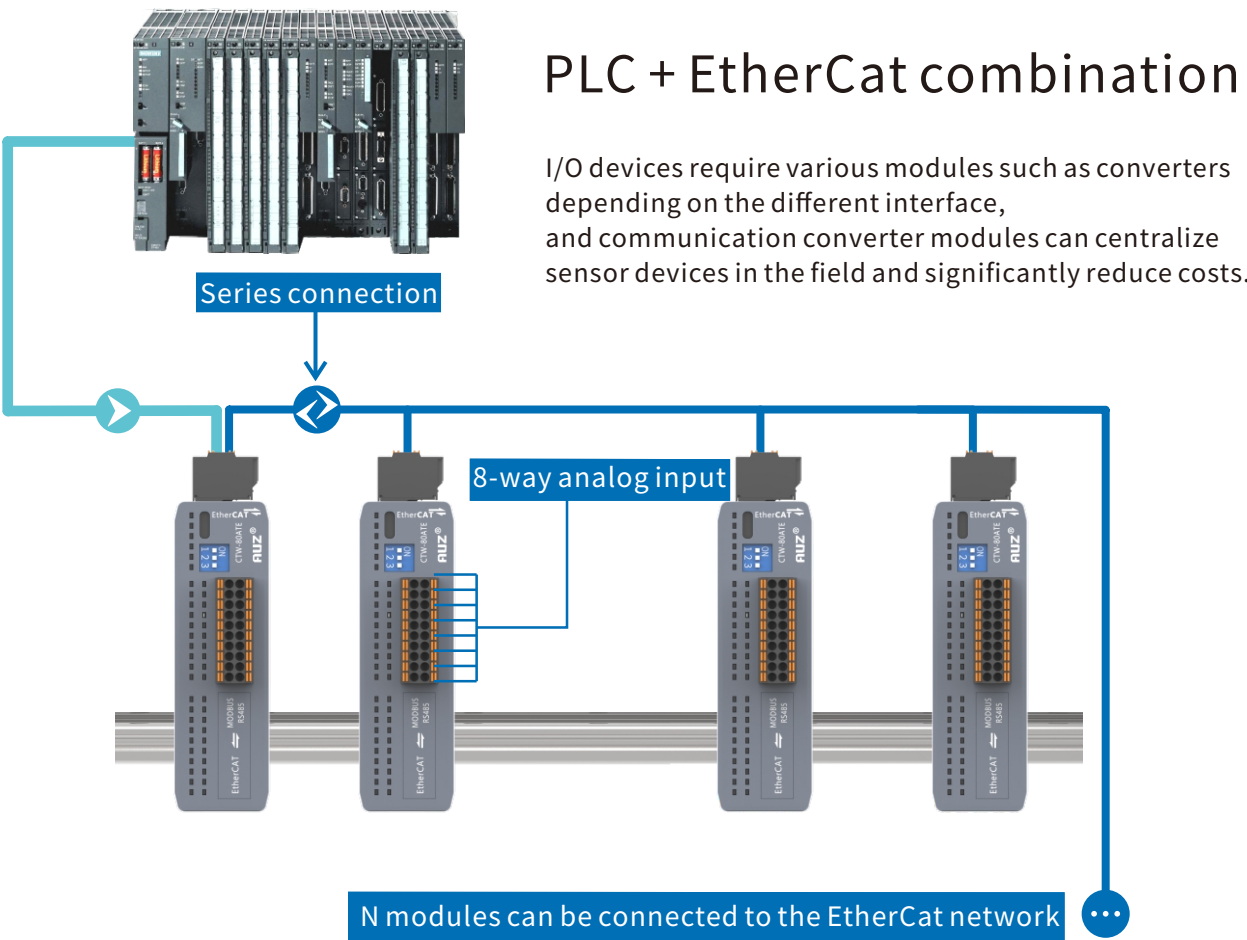
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories

Analog to EtherCAT

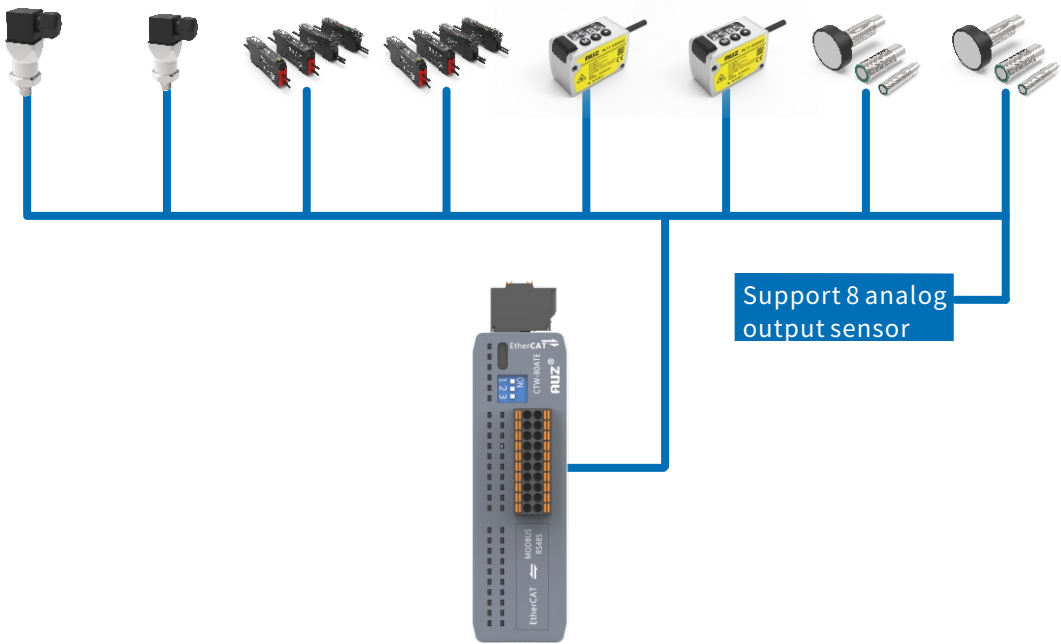
Analog to EtherCAT Communication Module

Configuration Mode

- Combined with EtherCat modules

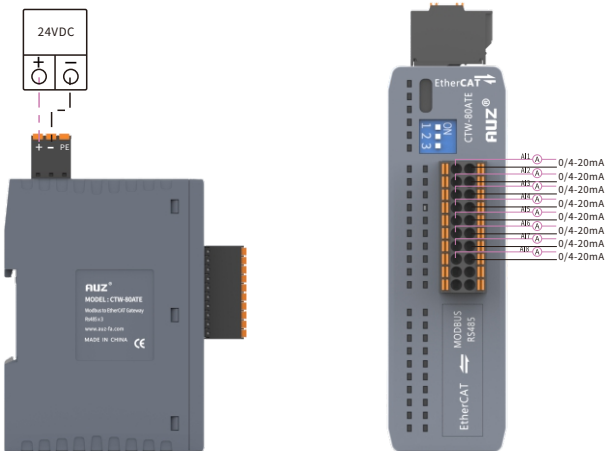


- Separate usage

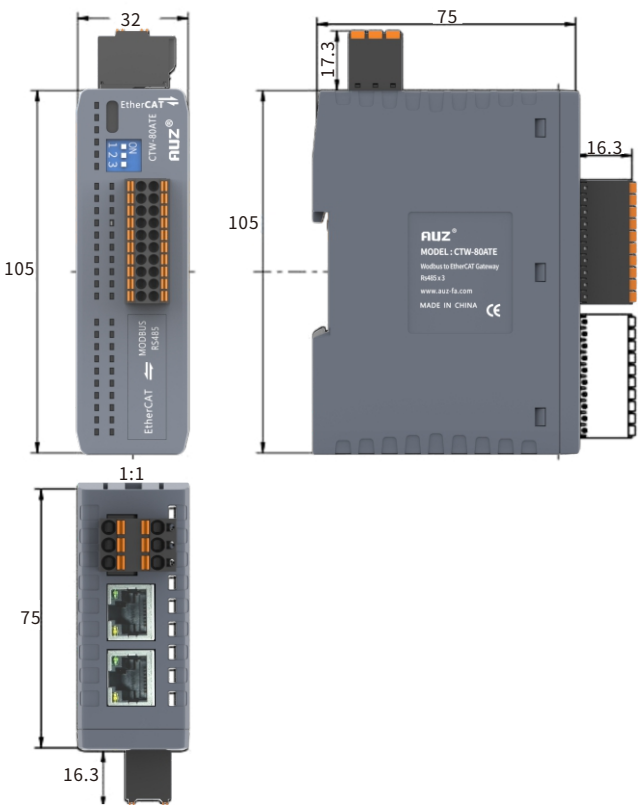


Analog to EtherCAT Communication Module

Wiring Definition



Size Specification



Dust Free Drag Chain
(Customized Series)

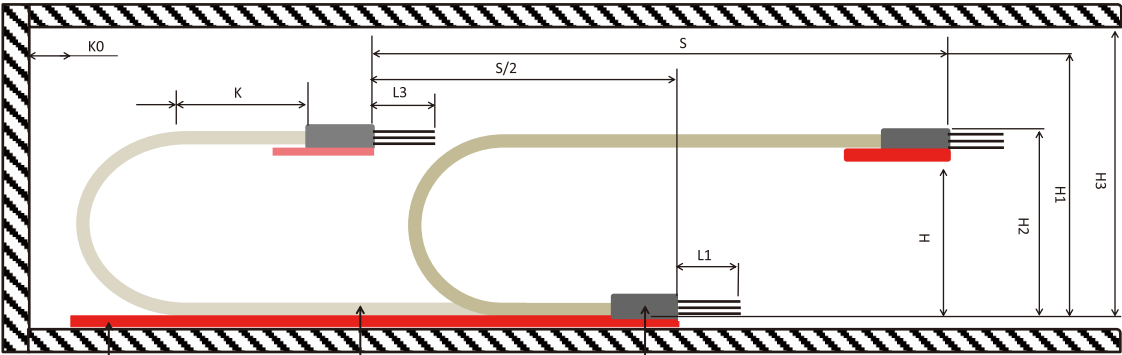


Features

- Dust-free drag chain has the features of low dust, low noise and low vibration, which can effectively solve the dust problem in clean room and maximize cable's service life
- Products are widely used in semiconductor equipment, solar panels, test equipment, camera acceptance equipment, medical equipment and so on.

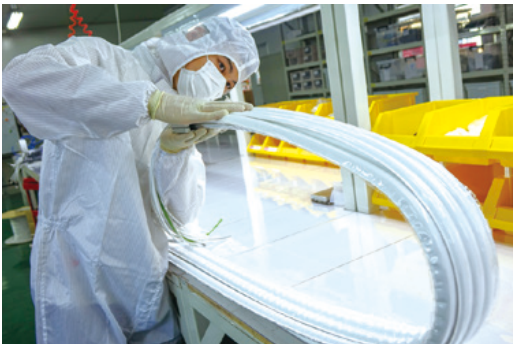
Features

Dust-free drag chain operation status ●
Dust-free drag chains can effectively solve the dust problem in clean rooms and improve cable's service life



Pallets or guides		L2		CLP-W						
S	CLP-W	K	K0	H	H2	H1	H3	L1	L2	L3
stroke	collet width	safety distance	Remaining space at the rear end	collet mounting height	overall height of drag chain	safe height	Max. running space	fixed end outlet length	length of drag chain body	length of mobile end

● Clean workshop

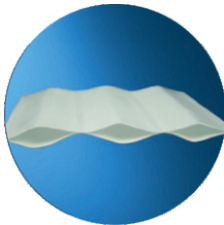


● Product component

According to the actual use environment of the equipment.
Tailor-made flexible product solutions to meet the needs of customers in various aspects.



Clamps



Pods



Supporting chains



Cables and air tubes

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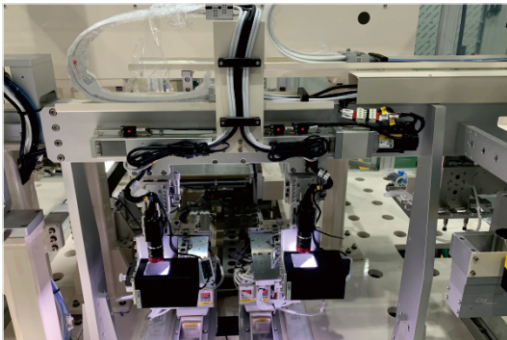
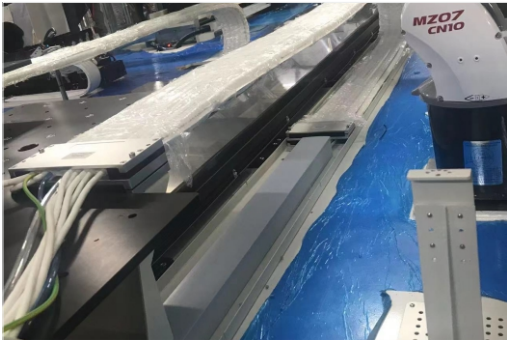
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Dust-free Drag Chain

Product Specification

Examples of dust-free drag chain applications

For the electronics industry, such as the manufacture of OLED panels, and immaculate production environments, dust-free drag chains are made of special materials that not only solve the problem of dust occurring during movement, but also improve the efficiency of the space used to achieve long-distance operation.



Appearance	
Life span	*More than 10 million cycle
Speed	2m/s
Acceleration	3G~4G
Bending radius	40mm,70mm,100mm
Standard component	1Pod,2Pod,3Pod4Pod,5Pod,6Pod
Internal width	15.5mm/20.5mm/28mm
Cable specification	Ultra-finewire, FEP insulation, wrap-around shielding, clean room specific sheathing
Temperature range	-10~+80°C
Accreditation matters	CE,IPA
Clean-room certification	IPA Class1
Supporting force	*3m

Differences can occur depending on the composition of the wire, bend radius, speed of movement, and distance.

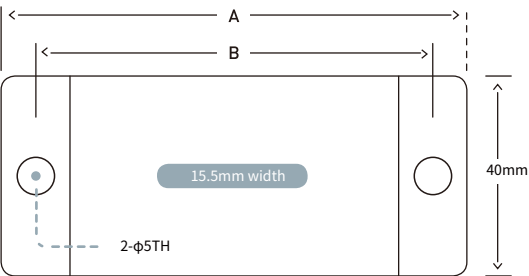
Dust-free Drag Chain

Size Specification

(Unit:mm)

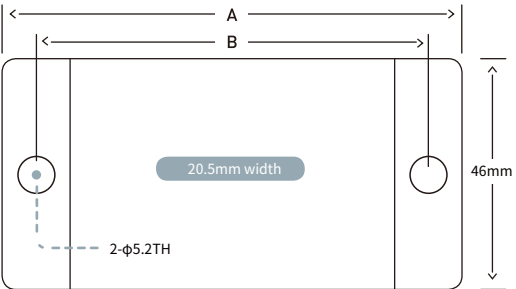
15.5 POD

Collet Model	Number of sheaths	A (mm)	B (mm)
CLP 15502	2	48.00	38.00
CLP 15503	3	62.00	52.00
CLP 15504	4	76.00	66.00
CLP 15505	5	90.00	80.00



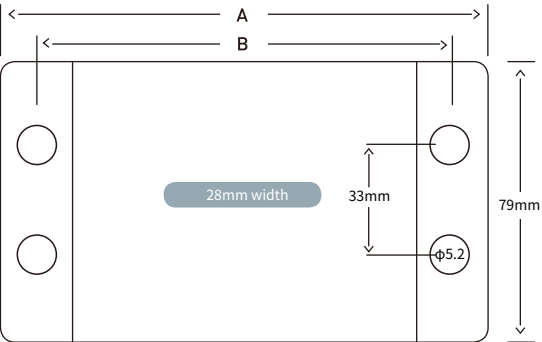
20.5POD

Collet Model	Number of sheaths	A (mm)	B (mm)
CLP 20502	2	57.70	47.70
CLP 20503	3	76.80	66.80
CLP 20504	4	96.00	86.00
CLP 20505	5	115.00	105.00
CLP 20506	6	134.10	124.10

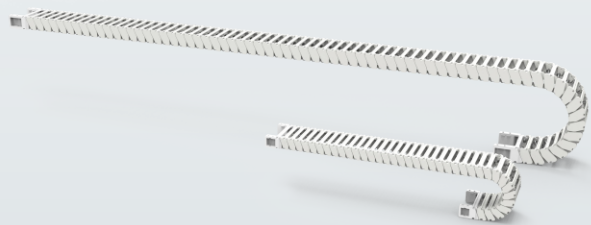


28POD

Collet Model	Number of sheaths	A (mm)	B (mm)
CLP 2803	3	96.00	86.00
CLP 2804	4	62.00	52.00



Dust-free Drag Chain
(Standard Series)



Features

- Special wear-resistant polymer material to reduce friction and effectively solve the dust problem during the movement of the drag chain.
- Highest dust enclosure rating for all dust-controlled environments.
- Highly elastic connecting bar design, ultra-low vibration, low noise features.

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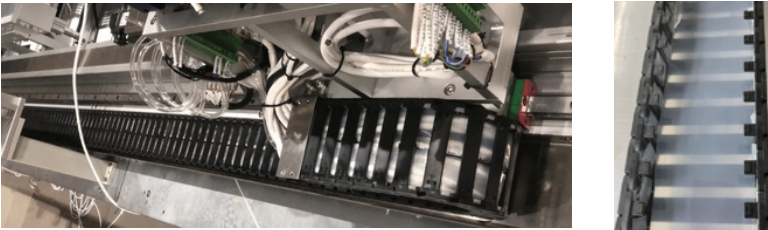


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Features

Dust-free drag chain operation status

Tank chains with anti-friction stickers have been tested to reduce the amount of dust by 10-15% during operation.



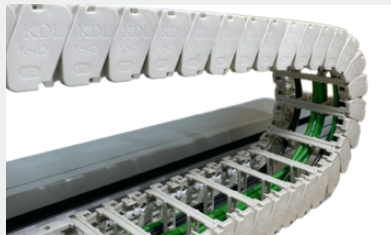
● Anti-friction sticker

AUZ dust-free drag chains are also equipped with internal and external anti-friction stickers, which can further reduce friction between the cable and the drag chain, and between the drag chain and the machine, thus further reducing the generation of dust.

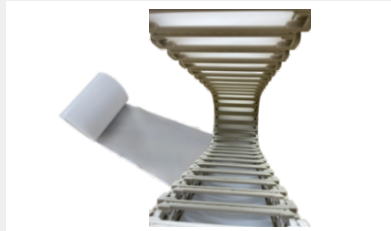
Series	Internal anti-friction sticker	External anti-friction sticker
C-28	ST.28.1	ST.28.2
C-42	ST.42.1	ST.42.2
special	customized	customized



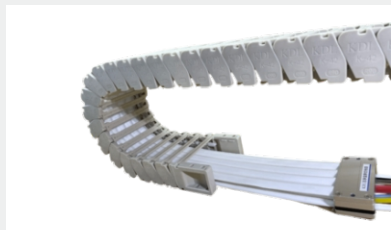
● Combined usage



With dust-free cable



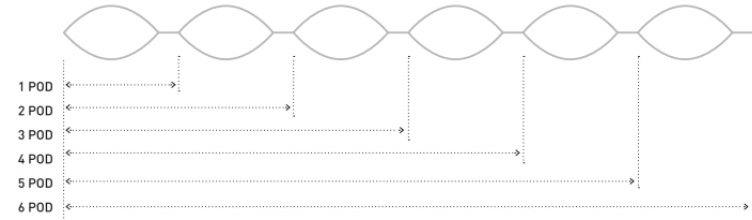
With anti-friction sticker



With dust-free drag chain/flat cable

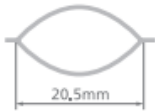
Dust-free sheath

AUZ dust-free sheath, made of E-PTFE, can effectively solve the dust problem during the operation of the drag chain and extend the service life of the cables inside the drag chain. Used with AUZ dust-free drag chain, it can solve the problem of long traveling support of dust-free drag chain.

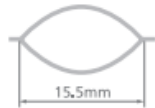


Sheath Size

POD Type	POD QTY	POD Width	Total Width
POD 20501	1	20.50mm	26.00mm
POD 20502	2		49.50mm
POD 20503	3		71.50mm
POD 20504	4		94.00mm
POD 20505	5		117.00mm
POD 20506	6		139.00mm



POD Type	POD QTY	POD Width	Total Width
POD 15501	1	15.50mm	20.00mm
POD 15502	2		36.80mm
POD 15503	3		53.60mm
POD 15504	4		70.80mm
POD 15505	5		88.00mm



Dust-free Drag Chain

Product Specification

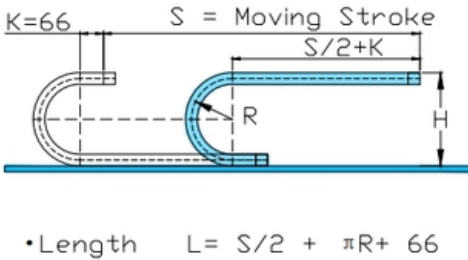
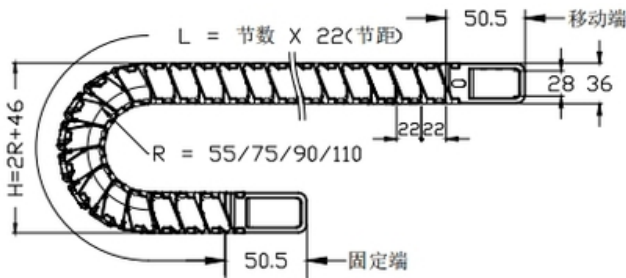
Series	Pitch	Inner height	Outer height	Inner width	Outer width	Bending radius	Pitch-row E	Aperture A φ	Hole spacing F
*C-28	22	28	36	34	50	55/75/90/110	40	4.8	14
				44	60		50	4.8	14
				54	70		60	4.8	14
				64	80		70	4.8	14
				74	90		80	4.8	14
				84	100		90	4.8	14
				94	110		100	4.8	14
				104	120		110	4.8	14
				114	130		120	4.8	14
				124	140		130	4.8	14
				130	146		136	4.8	14
				144	160		150	4.8	14

*Product Model Example: C-28-34(inner width)-55(bending radius)

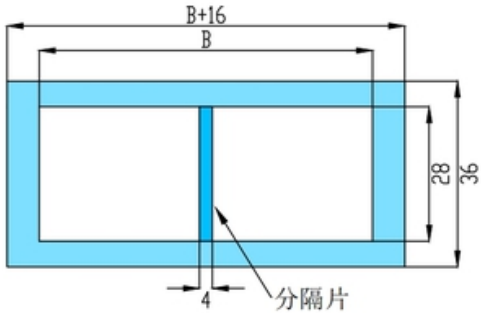
Size Specification

(Unit:mm)

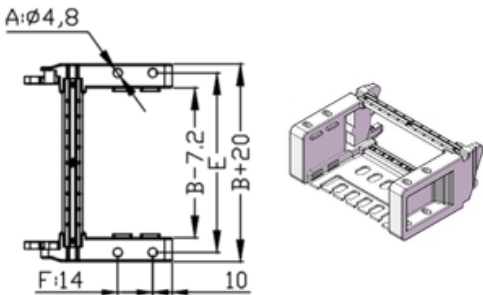
object details



width



terminal



Dust-free Drag Chain

Product Specification

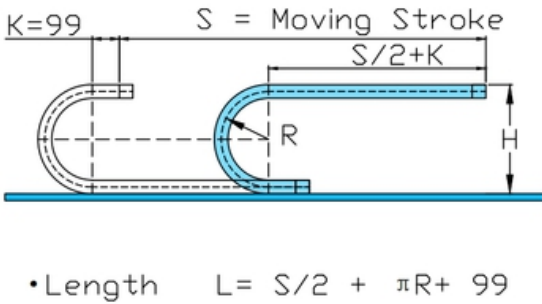
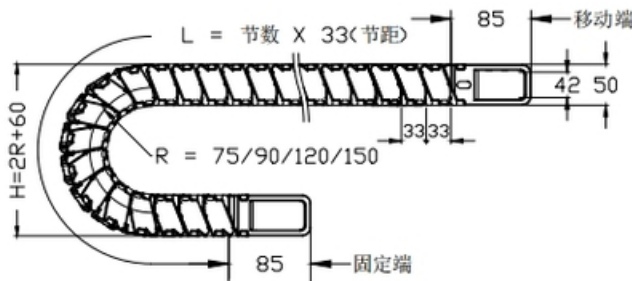
Series	Pitch	Inner height	Outer height	Inner width	Outer width	Bending radius	Pitch-row E	Aperture A φ	Waist hole length I	Hole spacing F
*C-42	33	42	50	44	64	75/90/120/150	49.8-56.0	5.8	3.1	14
				54	74		59.8-66.0	5.8	3.1	14
				64	84		69.8-76.0	5.8	3.1	14
				74	94		79.8-86.0	5.8	3.1	14
				84	104		89.8-96.0	5.8	3.1	14
				94	114		99.8-106.0	5.8	3.1	14
				104	124		109.8-116.0	5.8	3.1	14
				114	134		119.8-126.0	5.8	3.1	14
				124	144		129.8-136.0	5.8	3.1	14
				130	150		136.4-142.6	5.8	3.1	14
				144	164		149.80-156.0	5.8	3.1	14

*Product Model Example: C-42-44(inner width)-75(bending radius)

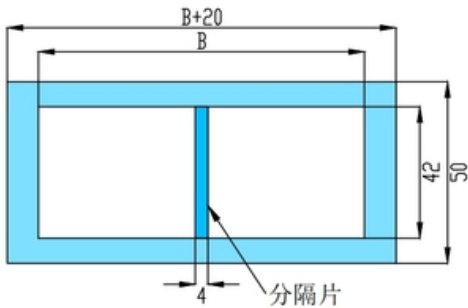
Size Specification

(Unit:mm)

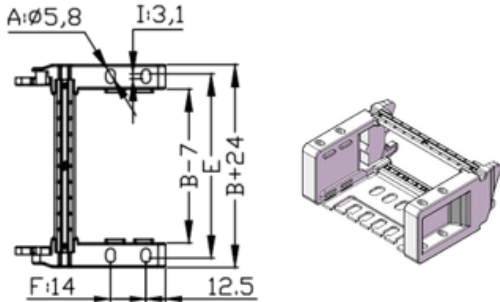
object details



width



terminal



Pressure Sensor
HMP110



Features

- Combined accuracy: level 0.2
- Reliable performance, safe, easy to use
- Short circuit,reverse polarity protection
- Gauge, absolute and seal reference pressures can be measured
- All stainless steel structure, pressure interface with a variety of forms, with threaded, flanged and corrosion-resistant type and etc.
- Enclosure rating IP65
- Various types of Output signals, field adjustable, can be displayed.
- Fully welded metal sensors for continuous pressure measurement in gases or liquids

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Product Introduction

measuring range
HMP110: -0.1Mpa to 60Mpa



Fully welded metal sensor

HMP110

Gauge, absolute and seal reference pressures can be measured



Full stainless steel construction

HMP110

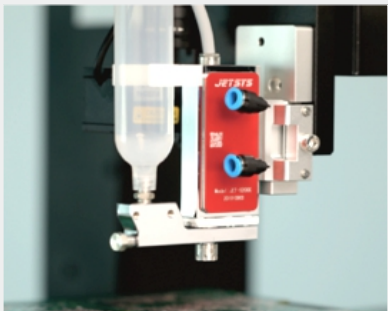
Pressure connections are available in a variety of forms, including threaded, flanged and corrosion-resistant.

Enclosure rating

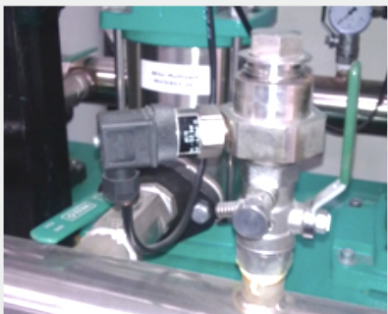
HMP110

Industrial enclosure rating IP65

■ Detecting clogged injection valves



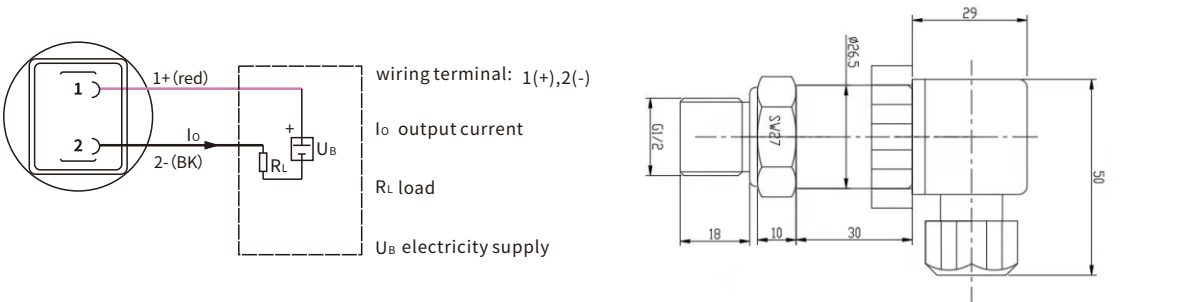
■ Detecting the liquid pressure in the tube



Product Specification

Model	HMP110
Application	Gauge and absolute pressure measurements
Measuring range	from -0.1Mpa to 60Mpa
Comprehensive accuracy	0.2 level
Overload pressure	200%
Relevant time	5ms (up to 90%PS)
Medium temperature	From -20 to 70°C
Ambient temperature	From -40 to 85°C
Supply voltage	DC24V (from 10 to 30 V DC)
Output signal	2-wire 4 to 20mA, 0 to 5V 3-wire
Sealing level	IP65
Housing material	Stainless steel 304, stainless steel 316, anti-corrosion material
Diaphragm material	Stainless steel 316
Stable performance	0.2 per cent FS/year
Process connection	Threaded, flanged, sanitary connections
Electrical interface	4 pole shielded cable, 4 pole aviation connector, wire nuts
Insensitive zone	≤ ± 1.0[%]FS

Circuit Diagrams and Dimensional Specification



High-Speed Infrared Thermometer
IRT-4ML



Features

- Miniature infrared thermometer with ultra-fast 90us exposure time
- Φ14mm x 28mm small size probe, suitable for installation in a variety of occasions, without cooling operate at up to 70 °C environment
- Working wavelength 2.2um~6um, suitable for measuring metals, metal oxides, ceramics and other materials with unknown or varying emissivity.
- Temperature measurement range: 0°C~500°C

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Product Introduction

Ultra-fast detection

IRT-4ML

Miniature infrared thermometer with ultra-fast 90us exposure time



Tiny size for installation

IRT-4ML

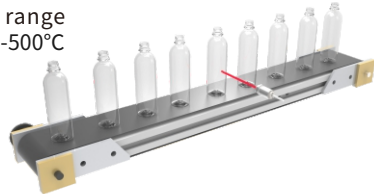
Suitable for installation in a variety of industrial environments

Measuring temperature range

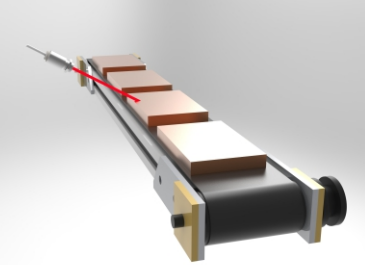
IRT-4ML

0°C~500°C

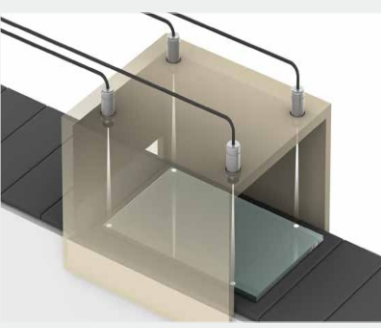
measuring temperature range
IRT-4ML: 0°C-500°C



Temperature detection before molding in assembly line



Heating management of liquid crystal glass



Product Specification

Basic parameter

Enclosure rating	IP65(NEMA-4)
Ambient temperature	0°C~70°C(probe)0°C~70°C(electronics box)
Storage temperature	-40°C~85°C(probe)-40°C~85°C(electronics box)
Relative humidity	10%~95%,non-condensing
Vibration(probe)	IEC60068-2-61-64
Impact(probe)	IEC60068-2-27(25G and 50G)
Weight	40g(probe)420g(electronics box)

Electrical parameter

Analog output(2 channels)	0/4mA~20mA,0V~5/10V,K-TypeThermocouple,Alarm
Alarm output	24V/50mA(open collector)
Input/Output terminals(3 channels)	ConfigurableasI/O:Externalemissionadjust,temp.compensation,3rd-partytrigger(reset-hold),OCalarm(24V/50mA)
Relay(optional)	2channel 60V DC/42VACeff;0.4A;optical isolation
Digital interface	Built-in USB interface Option:RS232,RS485,network interface
Output impedance	Current Output max.500Ω; Voltage Output min.100KΩ; load impedance; thermocouple Output 20Ω
Cable length	3m,8m,15m optional
Power supply	8V-30V DC/5V USB/Max. power1.2W

Measuring parameter

Temperature range	0°C~500°C(adjustable via e-box keypad or software)
Response wavelength	2.2um~6um
Distance coefficient(90% energy)	10:1
System accuracy* ¹	±(0.3%+2 of reading data)°C(ambient temperature 23°C±5°C)
Repeat accuracy	±(0.1 per cent +1 of reading data)°C(ambient temperature 23°C±5°C)
Heat sensitivity* ²	120 mK
Temperature coefficient* ³	±0.05 K/K OR ±0.03%/K
Exposure time	90 us(90%)
Response time	300 us (90 %)
Emissivity /gain	0.100~1.100(adjustable via e-box buttons or software)
Transmissivity /gain	0.100~1.100(adjustable via e-box buttons or software)
Signal processing	Peak hold, valley hold, peak select, average; advanced hold with threshold and hysteresis values(adjustable via e-box button or software)

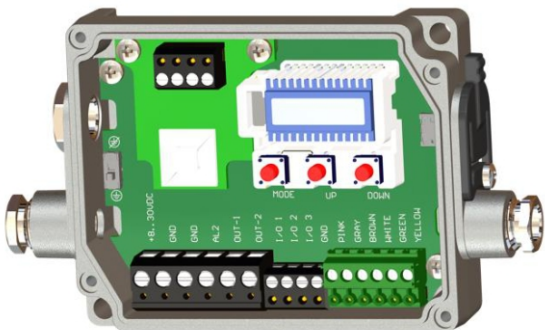
*¹Emissivity=1,response time1s
*²Time constant 1ms,target temperature 50°C
*³Ambient temperature>10°C,take the larger value

High-Speed Infrared Thermometer

Electrical Installation

IRT-4ML

+8...30VDC	Power supply
GND	Power grounding
GND	Internal input and output grounding
AL2	Alarm 2(open relay Output)
OUT-1	Analog output mA,mV,TCK
OUT-2	Analog output mA,mV,TCK
I/O1-I/O3	Input and output
GND	Grounding(0V)
PNK	3VDC, switchable,for laser aiming tools
GRY	PIN PNK bottom
BR	Temperature probe(NTC)
WH	Head grounding
GR	Head power
YE	Detector signal



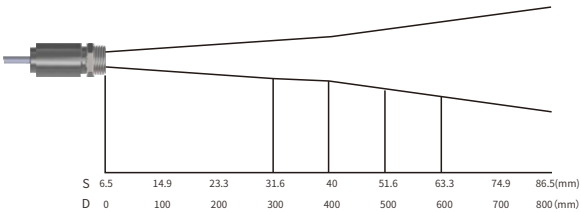
Open 4M electronics box with terminal connection



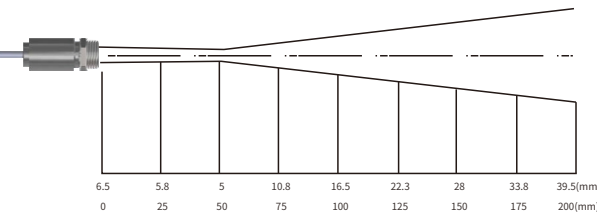
The power supply cable USB port can be connected to the power pack.
It can be operated directly via the CompactPlus Connect software or the IRmobile app.

Optical Parameter

Sf optical
D:S = 10:1



Cf optical
D:S = 10:1 Focus on 50mm

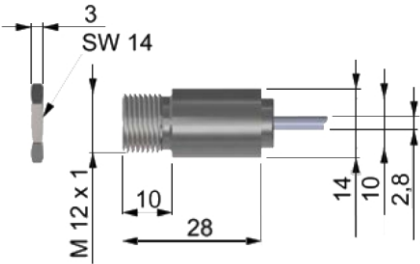


High-Speed Infrared Thermometer

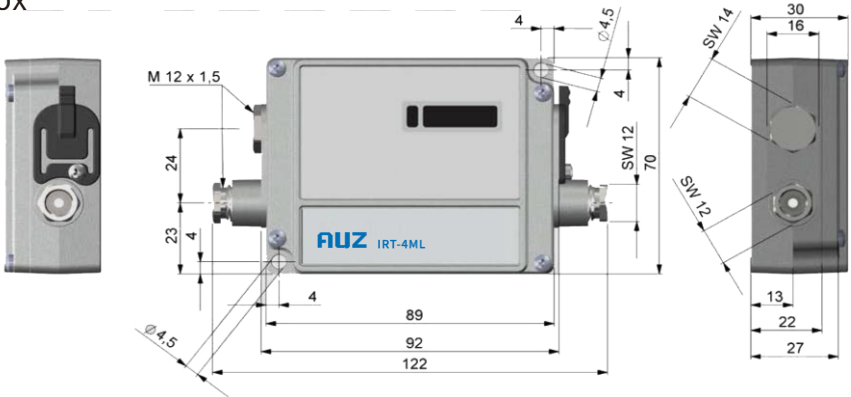
Size Specification

(Unit:mm)

Probe



Electronic box



- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Pressure sensor
- Infrared Temp Tester

Low-voltage
High-frequency
Ionizing Bar
ZSE series

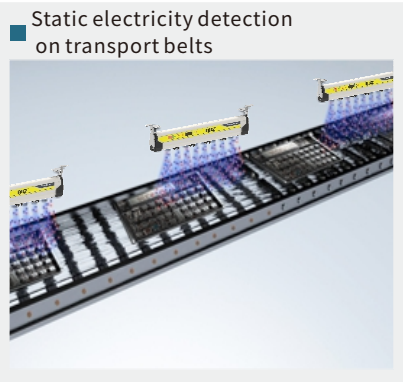


Features

- Adopts high-frequency AC method with a frequency of up to 68,000 Hz.
- According to the actual environment of the workshop to set the maintenance time, to remind the staff to maintain on a regular basis, the time 0-999 hours of free setting
- The power supply is wired on the side to ensure space in front and back.
- Automatic ion balance system, fast static elimination
- Unique air chamber structure ensures uniform air outflow from the air holes
- Equipped with high voltage normal operation indicator and high voltage abnormal indicator light

Product Introduction

frequency
ZSE series: 68000Hz



Adoption of high-frequency AC method

ZSE series

Frequency up to 68000Hz

Quickly removes static electricity

ZSE series

Automatic ion balancing system,
fast de-static time

Product Specification

Model		Full length A (mm)	Mounting distance B (mm)	Mounting distance C (mm)	Mounting distance D (mm)	Static elimination E (mm)	Electrode spacing F (mm)
Regular	With I/O control						
ZSE-36L-1	ZSE-36L-2	413	326	391.2	398.8	360	180
ZSE-60L-1	ZSE-60L-2	653	566	631.2	638.7	600	420
ZSE-84L-1	ZSE-84L-2	893	806	871.2	878.8	840	660
ZSE-108L-1	ZSE-108L-2	1133	1046	1111.2	1118.8	1080	900
ZSE-132L-1	ZSE-132L-2	1373	1286	1351.2	1358.8	1320	1140
ZSE-156L-1	ZSE-156L-2	1613	1526	1591.2	1598.8	1560	1380

Features Chart

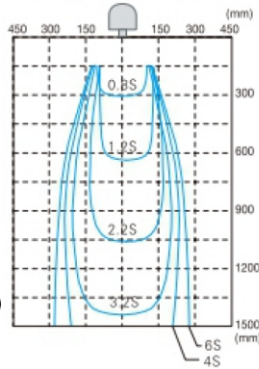
Static elimination range and static elimination time

As shown in the figure on the right, the necessary time for the electrostatic discharge of the object and the spacing from the object to the ion bar are shown.

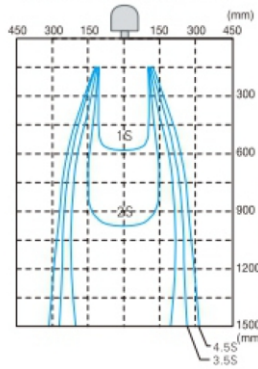
Measurement conditions:

- From $\pm 1000v \pm 100v$ static elimination time;
- Measured by: the use of electrostatic elimination plate tester, according to our company's measurement method;
- Using ZSE-36L air pressure were 0.2Mpa/0.5Mpa no drop airflow

Static electricity elimination range and time (0.2Mpa)

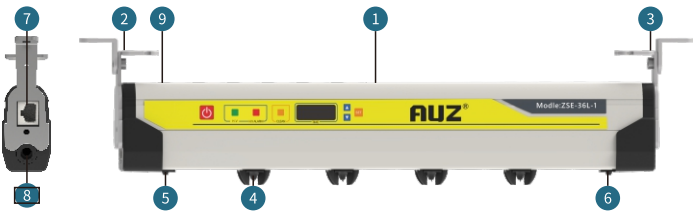


Static electricity elimination range and time (0.5Mpa)



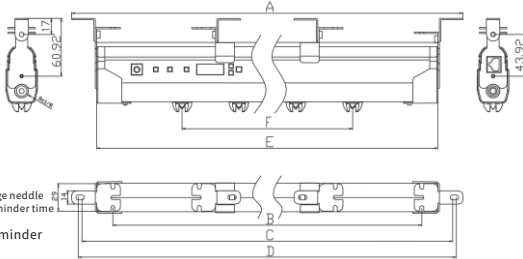
Panel Introduction and Size Specification

(Unit:mm)



- 1 housing body
- 2 housing left side panel
- 3 housing right side panel
- 4 nozzle(discharge needle)
- 5 left side auxiliary air hole
- 6 right side auxiliary air hole
- 7 power supply port (DC24V)
- 8 air inlet
- 9 control panel
- power main switch
- H.V
- H-VALARM high pressure abnormal indicator
- CLEAN cleaning reminder indicator

- LED display tube
- Mainly displays the discharge needle usage time and cleaning reminder time
- Adjust the cleaning reminder time increment
- Adjust cleaning reminder time decreasing
- Set cleaning reminder 0-999H adjustable



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* Customized services and engineered solutions designed to your specifications.

* For any questions, please contact us via email
auz.sensor@fuazon.com

Static Detection
Sensor
ETS-10RS



Features

- Non-contact monitoring, alarming
- Stable measurement results, high precision and resolving power
- Power supply and data transmission are provided through a single Ethernet cable, making installation and wiring easier.
- Real-time transmission of monitoring data to PC
- Remote parameter adjustment can be realized through the upper computer software.
- With local data storage, temperature and humidity monitoring, real-time clock and other rich functions
- Expandable IRDA infrared data interaction capabilities
- Highly sensitive and low power consumption MEMS electric field sensitive chip technology, alarms
- Hermetically sealed package, no exposed moving parts, high reliability, can operate under vacuum conditions

Inquire AUZ

en.auz-fa.com

* Customized services and engineered solutions designed to your specifications.

* For any questions, please contact us via email auz.sensor@fuazon.com

Product introduction

measuring range
ETS-10RS: covering 1~10cm

ETS-10RS

Non-contact monitoring, alarming

ETS-10RS

Power supply and data transmission through a single network cable. Easy to install and wire

Can be used for sensitive component detection

ETS-10RS

Stable measurement results, high precision and resolving power

Plastic products static electricity detection

Product Specification

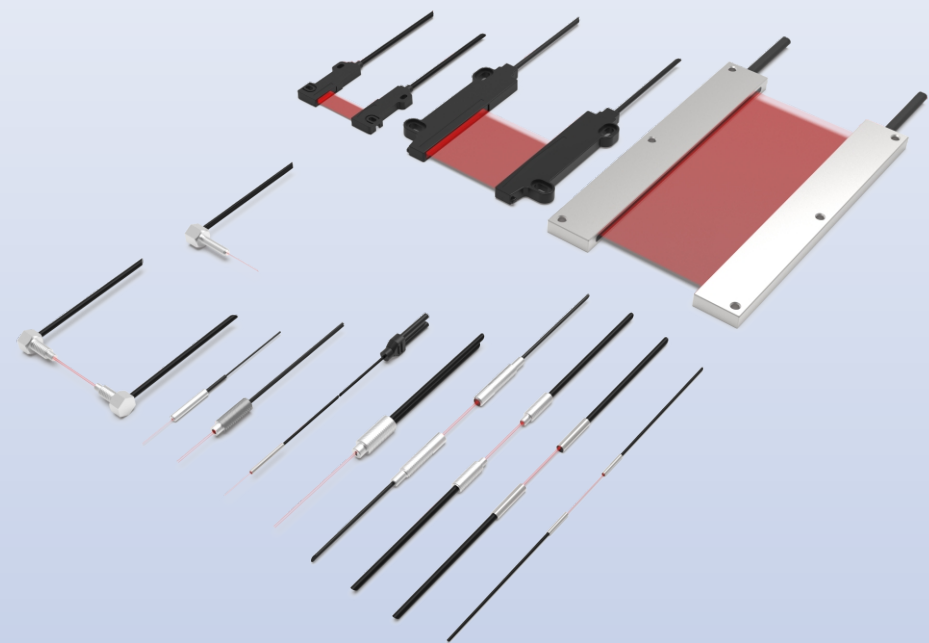
Type	Parameter
Sensing range	Electric field: ±100kV/m; Voltage: ±20kV (Plate spacing 0.2m)
Resolution power	Electric field: 5V/m; Voltage: 1V
Accuracy	Better than 5% (min. 1V)
Sensing distance	Coverage of 1~10cm, can be expanded according to application requirements
Effective test area	Coverage of 15~80cm, can be extended according to the application requirements
Rated voltage	DC: 24V
Power consumption	0.6W
Ambient temperature	-10°C~55°C
Ambient humidity	0~95%RH
Signal output	RS485
Communication distance	<500m
Data update cycle	1s (internal sampling time <30ms)
Warning indicator	LED: Primary: YE Secondary: ORG Tertiary: Red Buzzer
Infrared communication distance	<1m
Power-on standby time	5S
Anti-interference	Static voltage disturbances < 10V during operation of the ionization equipment (direct wind blowing should be avoided)

Wiring Diagrams and Dimensional Specifications

Interface information

1	ORG-WH	RS485_A
2	ORG	RS485_B
3	GR-WH	none
4, 5	BLU, BLU-WH	power positive
6	GR	none
7, 8	BR, BR-WH	power negative
Housing		power negative

(Unit: mm)



Series Catalogue

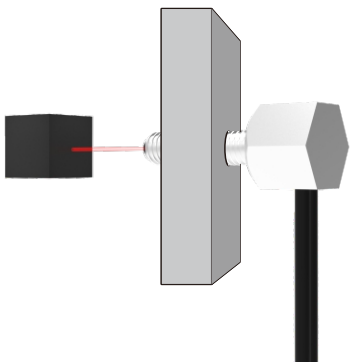
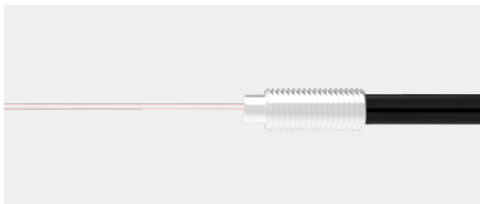
- Diffuse reflection type L-03 ▶
- Customization type L-17 ▶
- Through-beam type L-18 ▶
- Fiber optic parameter table L-27 ▶

For more product information, please visit en.auz-fa.com

● Diffuse reflection fiber optic

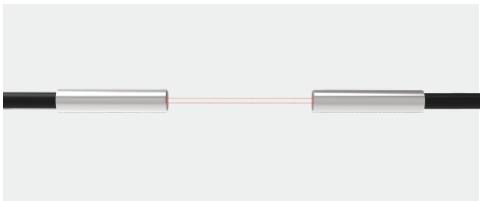
Standard thread shape, ultra-compact sensing head, space-saving installation

*PF-SD076

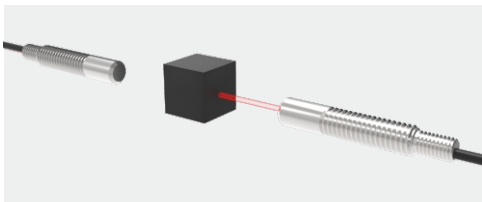


Right-angled cables can be wired along the wall and are not easily hooked up
*PF-SD123

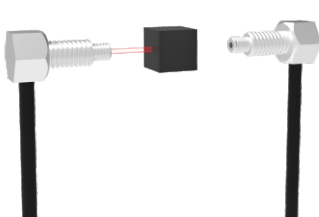
*PF-SI094



*PF-SD096



*PF-SI068R



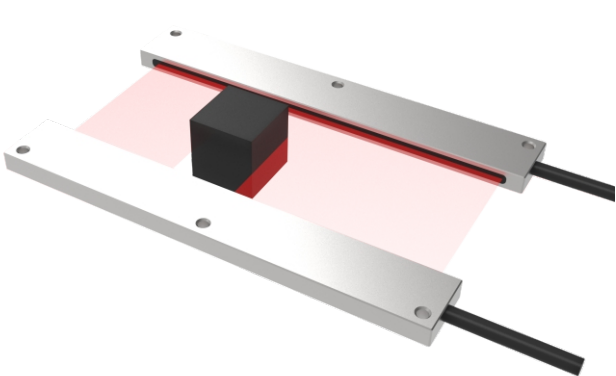
● Regular through-beam fiber optic

A wide range of targets can be easily detected to satisfy the requirements of various detection scenarios.

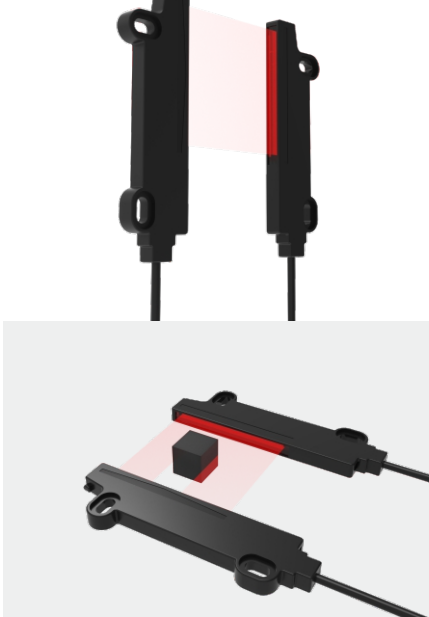
● Regional fiber optic

The Max. width of the zone is 120 mm, which can be used in cases where there is uncertainty as to where the workpiece will pass through. For example, if the workpiece falls off.

*PF-SI004



*PF-SI002



Fiber Optic Sensors

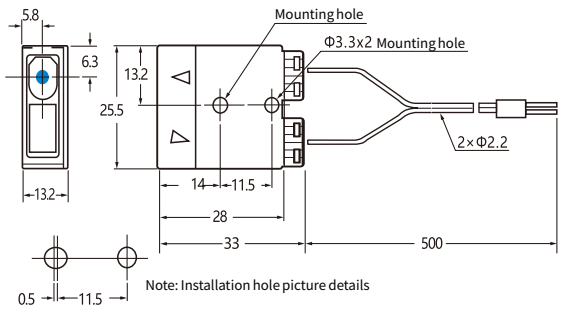
Fiber Selection

Reflective

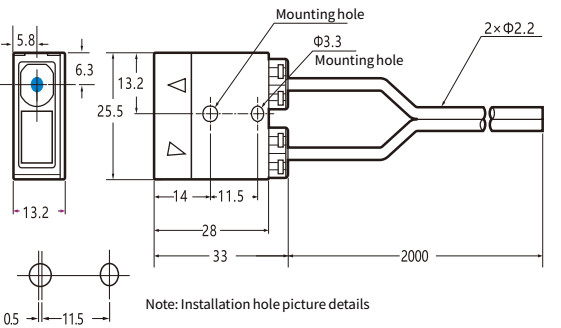
(Unit:mm) Free-cutting



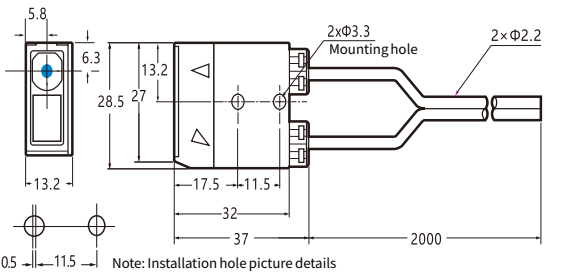
Model	PF-SD001
Sensing distance	60±10mm
Bending radius	R15
Heat resistance	-40~+70℃



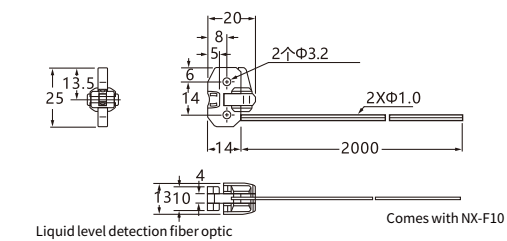
Model	PF-SD002
Sensing distance	70±20mm
Bending radius	R25
Heat resistance	-40~+70℃



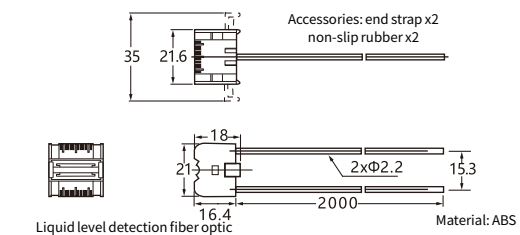
Model	PF-SD003
Sensing distance	16±4mm
Bending radius	R15
Heat resistance	-40~+70℃



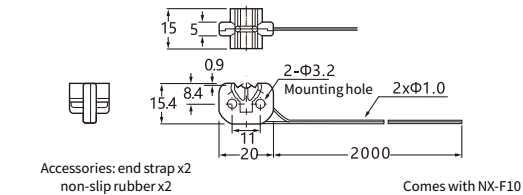
Model	PF-SD004
Sensing distance	Φ6 - Φ26mm
Bending radius	R10
Heat resistance	-40~+70℃



Model	PF-SD005
Sensing distance	Φ4 - Φ26mm
Bending radius	R5
Heat resistance	-40~+70℃



Model	PF-SD006
Sensing distance	Φ4 - Φ26mm
Bending radius	R10
Heat resistance	-40~+70℃



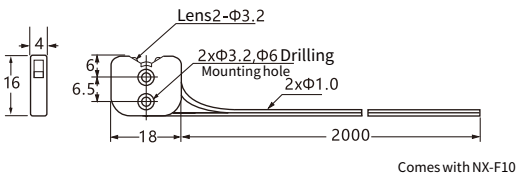
Fiber Optic Sensors

Fiber Selection

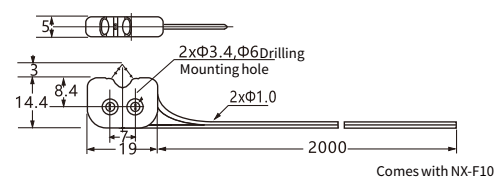
(Unit:mm) Free-cutting



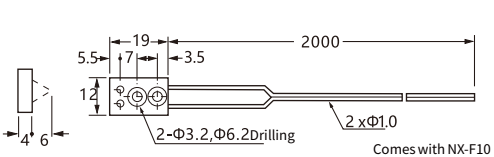
Model	PF-SD007
Sensing distance	5.4/9mm
Bending radius	R10
Heat resistance	-40~+70℃



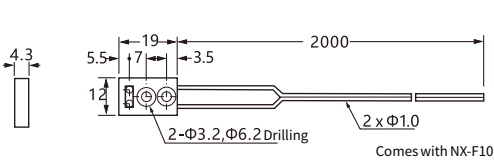
Model	PF-SD008
Sensing distance	3mm
Bending radius	R10
Heat resistance	-40~+70℃



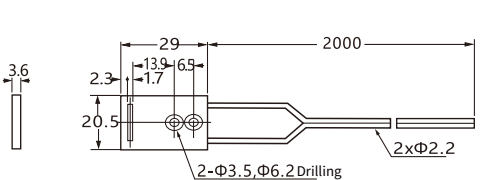
Model	PF-SD009
Sensing distance	6mm
Bending radius	R10
Heat resistance	-40~+70℃



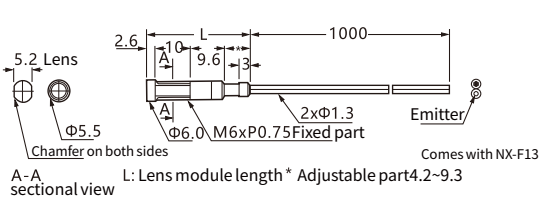
Model	PF-SD010
Sensing distance	1 - 4mm
Bending radius	R10
Heat resistance	-40~+70℃



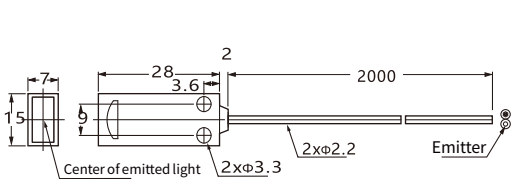
Model	PF-SD011
Sensing distance	1 - 25mm
Bending radius	R5
Heat resistance	-40~+70℃



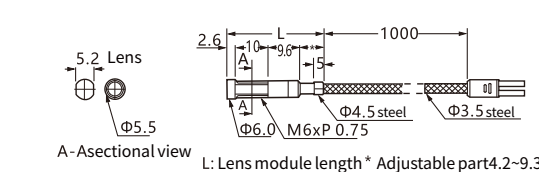
Model	PF-SD012
Sensing distance	10至30mm
Bending radius	R25
Heat resistance	-40~+70℃



Model	PF-SD013
Sensing distance	5 - 160mm
Bending radius	R25
Heat resistance	-40~+70℃



Model	PF-SD014
Sensing distance	10 - 30mm
Bending radius	R25
Heat resistance	-40~+70℃

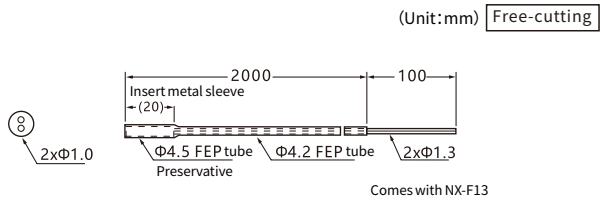


Fiber Optic Sensors

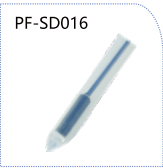
Fiber Selection



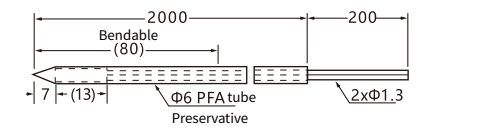
Model	PF-SD015
Sensing distance	45 - 220mm
Bending radius	R40
Heat resistance	-40~+70°C



Comes with NX-F13



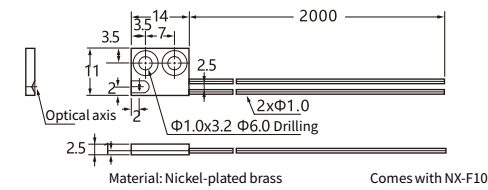
Model	PF-SD016
Sensing distance	1 - 10mm
Bending radius	R25
Heat resistance	-40~+70°C



Comes with NX-F13



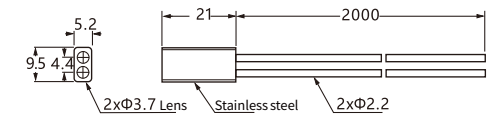
Model	PF-SD017
Sensing distance	2 - 6mm
Bending radius	R10
Heat resistance	-40~+70°C



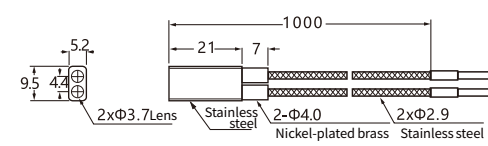
Comes with NX-F10



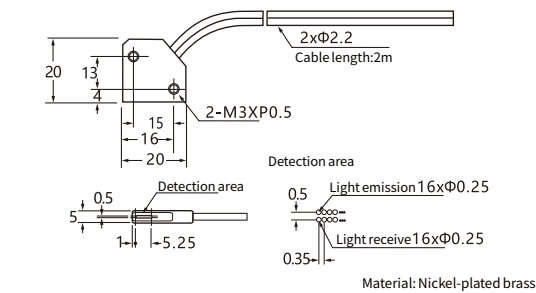
Model	PF-SD018
Sensing distance	30 - 1500mm
Bending radius	R2
Heat resistance	-40~+70°C



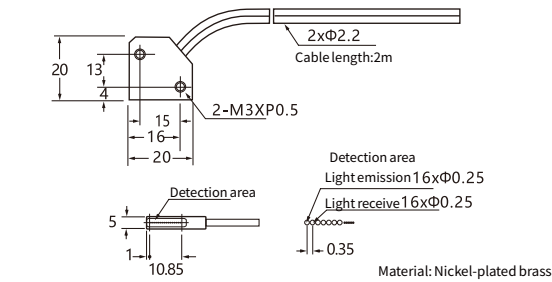
Model	PF-SD019
Sensing distance	30 - 1500mm
Bending radius	R10
Heat resistance	-40~+70°C



Model	PF-SD020
Sensing distance	30 - 370mm
Bending radius	R4
Heat resistance	-40~+70°C



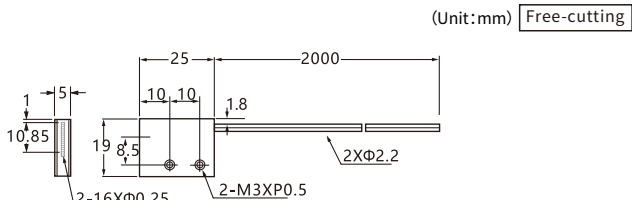
Model	PF-SD021
Sensing distance	30 - 370mm
Bending radius	R4
Heat resistance	-40~+70°C



Fiber Selection



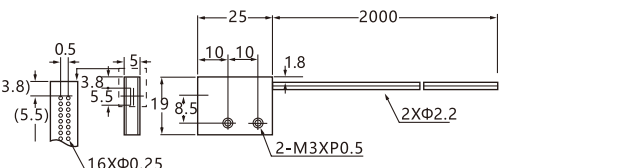
Model	PF-SD022
Sensing distance	0 - 100mm
Bending radius	R30
Heat resistance	-40~+70°C



Material: Nickel-plated brass



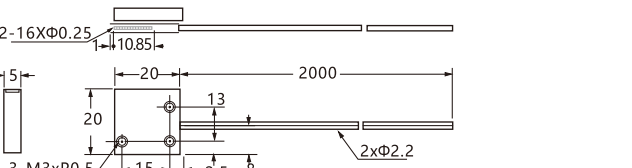
Model	PF-SD023
Sensing distance	25 - 170mm
Bending radius	R30
Heat resistance	-40~+70°C



Material: Nickel-plated brass



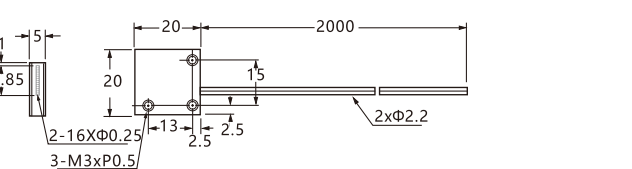
Model	PF-SD024
Sensing distance	50 - 500mm
Bending radius	R25
Heat resistance	-40~+70°C



Material: Nickel-plated brass



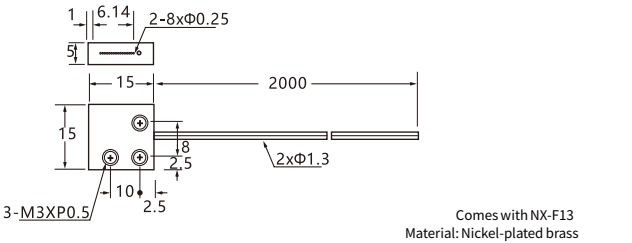
Model	PF-SD025
Sensing distance	50 - 500mm
Bending radius	R25
Heat resistance	-40~+70°C



Material: Nickel-plated brass



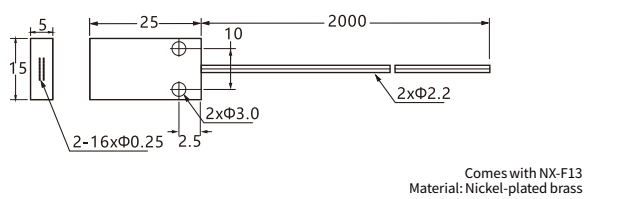
Model	PF-SD026
Sensing distance	50 - 500mm
Bending radius	R25
Heat resistance	-40~+70°C



Material: Nickel-plated brass



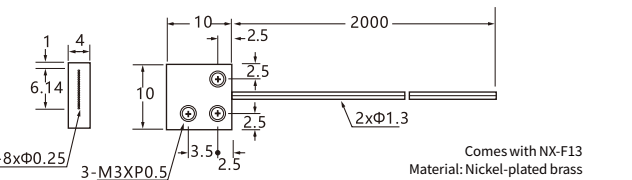
Model	PF-SD027
Sensing distance	50 - 500mm
Bending radius	R25
Heat resistance	-40~+70°C



Material: Nickel-plated brass



Model	PF-SD030
Sensing distance	50 - 500mm
Bending radius	R25
Heat resistance	-40~+70°C



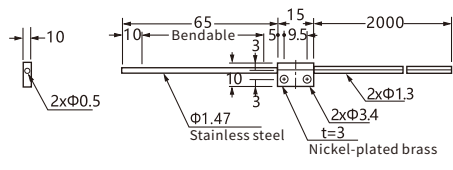
Material: Nickel-plated brass

Fiber Optic Sensors

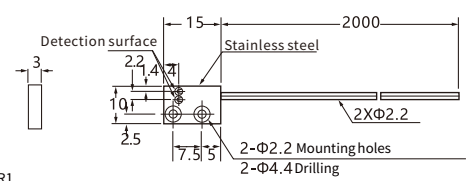
Fiber Selection



Model	PF-SD046
Sensing distance	18/50/150mm
Bending radius	R25
Heat resistance	-40~+70°C



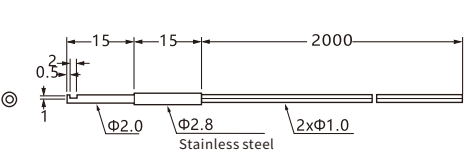
Model	PF-SD047®
Sensing distance	15/26/70mm
Bending radius	R25(R1)
Heat resistance	-40~+70°C



With R means bending-resistant optical fiber, the min. bending radius is R1



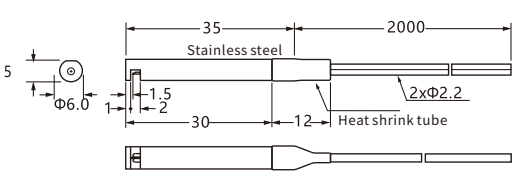
Model	PF-SD049
Sensing distance	10/30mm
Bending radius	R11
Heat resistance	-40~+70°C



Comes with NX-F10



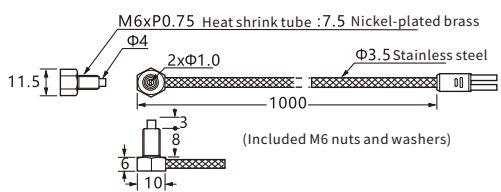
Model	PF-SD053
Sensing distance	80/120/150mm
Bending radius	R25
Heat resistance	-40~+70°C



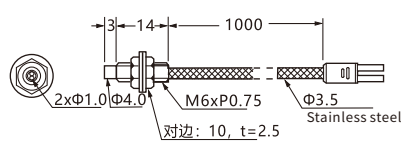
Protective net



Model	PF-SD056
Sensing distance	45/150/240mm
Bending radius	R10
Heat resistance	-40~+70°C



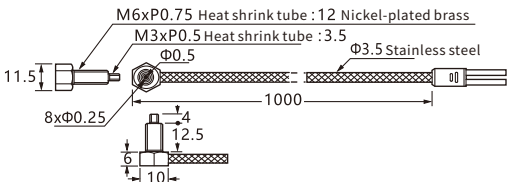
Model	PF-SD057
Sensing distance	70/150/230mm
Bending radius	R10
Heat resistance	-40~+70°C



Nickel-plated brass



Model	PF-SD058
Sensing distance	16/55/90mm
Bending radius	R10
Heat resistance	-40~+70°C

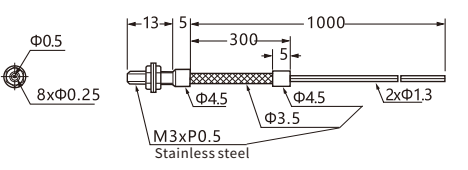


Fiber Optic Sensors

Fiber Selection



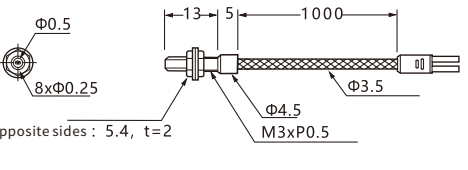
Model	PF-SD059
Sensing distance	25/65/120mm
Bending radius	R10
Heat resistance	-40~+70°C



Comes with NX-F13



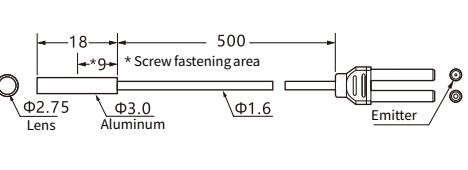
Model	PF-SD062
Sensing distance	20/35/120mm
Bending radius	R10
Heat resistance	-40~+70°C



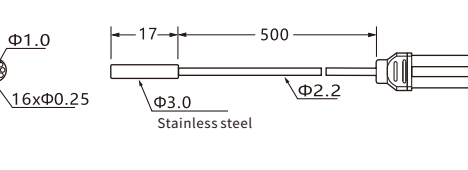
Fixed connector



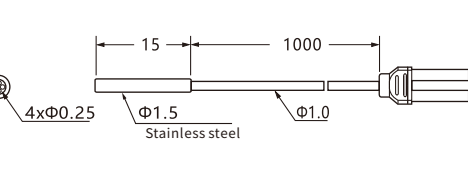
Model	PF-SD063
Sensing distance	5mm
Bending radius	R25
Heat resistance	-40~+70°C



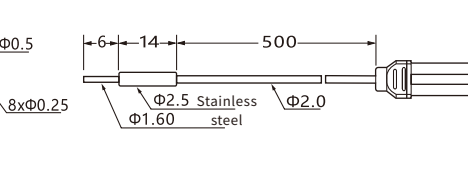
Model	PF-SD064
Sensing distance	50/100/150mm
Bending radius	R25
Heat resistance	-40~+70°C



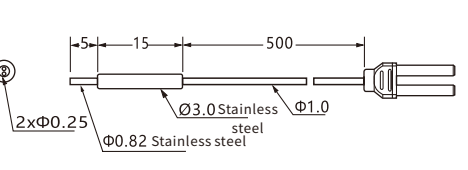
Model	PF-SD065
Sensing distance	10/22/45mm
Bending radius	R4
Heat resistance	-40~+70°C



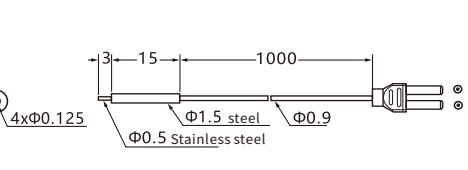
Model	PF-SD066
Sensing distance	6/18/45mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-SD067
Sensing distance	2/8/15mm
Bending radius	R4
Heat resistance	-40~+70°C



Model	PF-SD068
Sensing distance	2/5/12mm
Bending radius	R10
Heat resistance	-40~+70°C

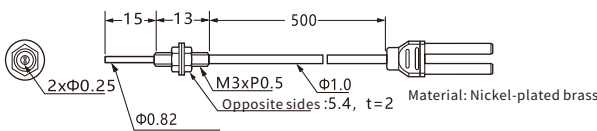


Fiber Optic Sensors

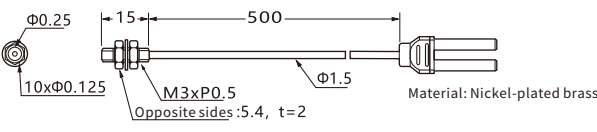
Fiber Selection



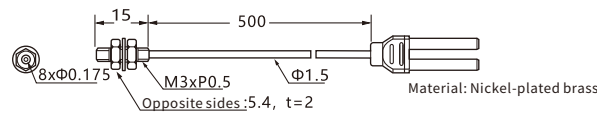
Model	PF-SD069
Sensing distance	5/15/25mm
Bending radius	R4
Heat resistance	-40~+70°C



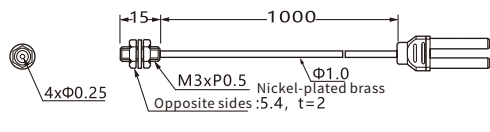
Model	PF-SD070
Sensing distance	12/20/50mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-D071
Sensing distance	4/15/20mm
Bending radius	R10
Heat resistance	-40~+70°C



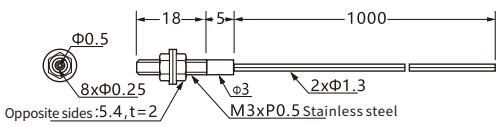
Model	PF-SD072
Sensing distance	5/15/25mm
Bending radius	R4
Heat resistance	-40~+70°C



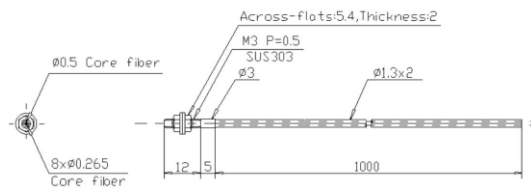
M3 Reflective



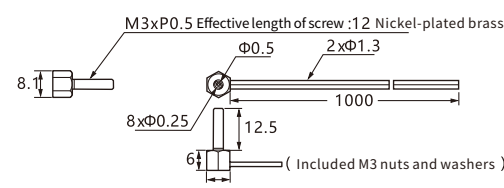
Model	PF-SD110
Sensing distance	20/60/150mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-SD111
Sensing distance	25/50/60mm
Bending radius	R25
Heat resistance	-40~+70°C



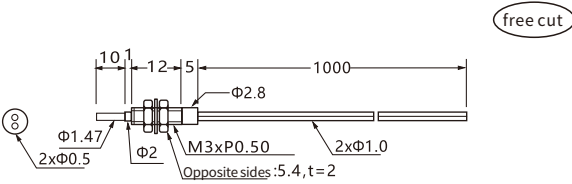
Model	PF-SD123
Sensing distance	25/50/60mm
Bending radius	R25
Heat resistance	-40~+70°C



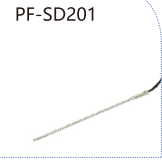
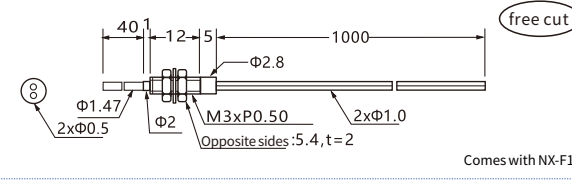
Fiber Selection



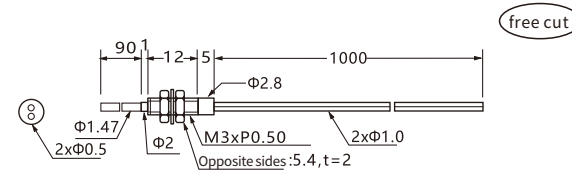
Model	PF-SD199
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



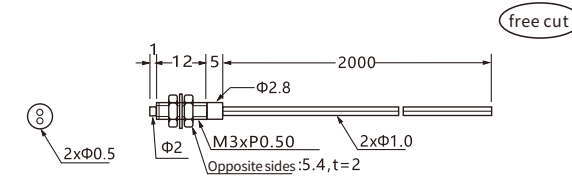
Model	PF-SD200
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



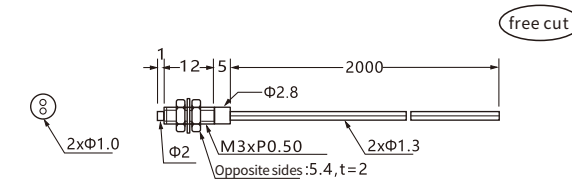
Model	PF-SD201
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



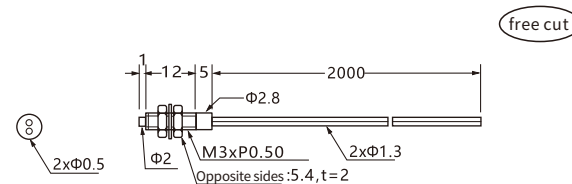
Model	PF-SD202
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



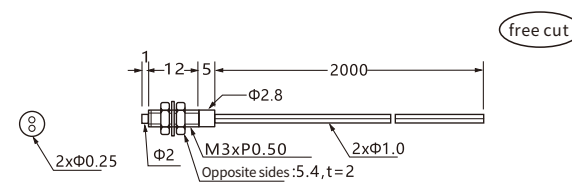
Model	PF-SD210
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-SD212
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



Model	PF-SD214
Sensing distance	10/20/20mm
Bending radius	R10
Heat resistance	-40~+70°C



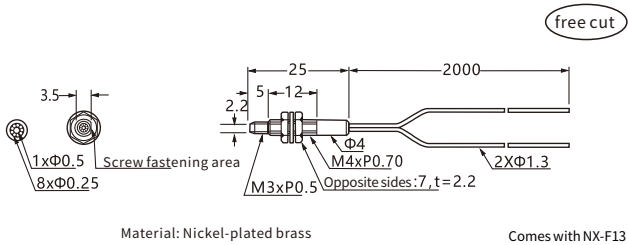
Fiber Optic Sensors

Fiber Selection

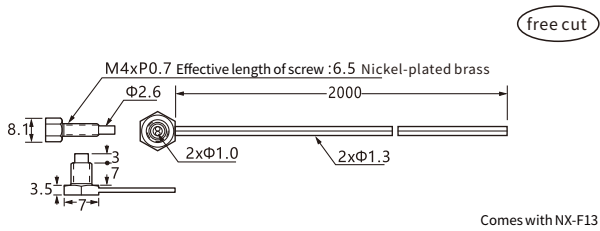
M4 Reflective



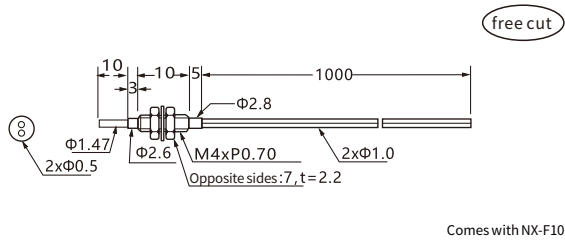
Model	PF-SD096
Sensing distance	25/35/45mm
Bending radius	R25
Heat resistance	-40~+70°C



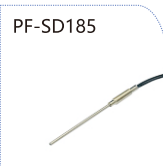
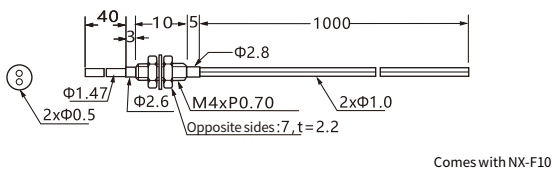
Model	PF-SD099®
Sensing distance	35/110/200mm
Bending radius	R2(R1)
Heat resistance	-40~+70°C



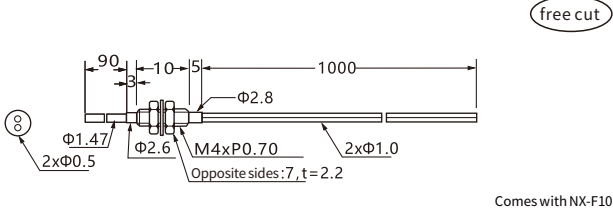
Model	PF-SD183
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



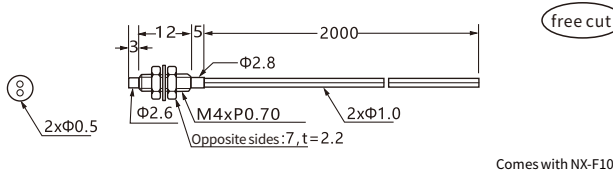
Model	PF-SD184
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



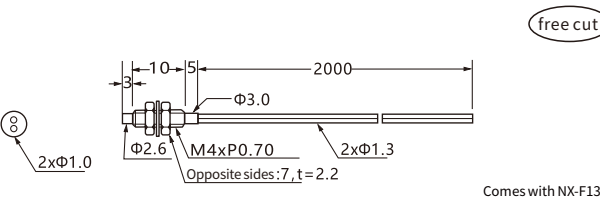
Model	PF-SD185
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



Model	PF-SD186
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



Model	PF-SD193
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-40~+70°C

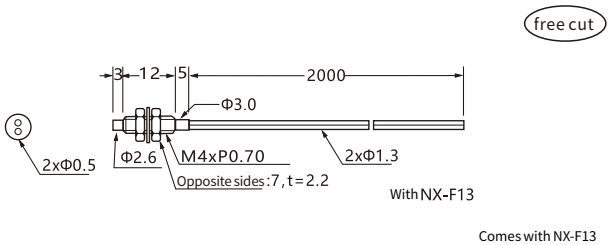


Fiber Optic Sensors

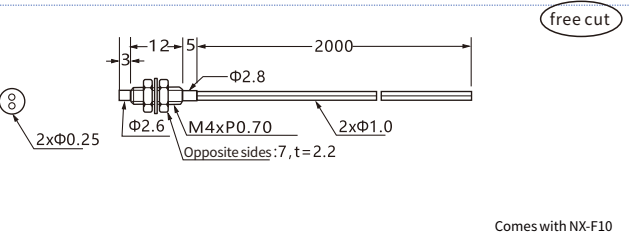
Fiber Selection



Model	PF-SD195
Sensing distance	30/60/150mm
Bending radius	R15
Heat resistance	-40~+70°C



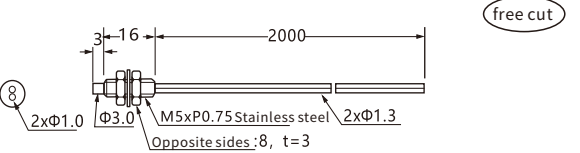
Model	PF-SD197
Sensing distance	10/20/20mm
Bending radius	R5
Heat resistance	-40~+70°C



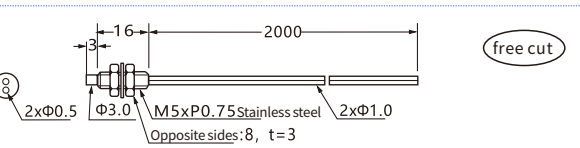
M5 Reflective



Model	PF-SD093
Sensing distance	30/120/180mm
Bending radius	R25
Heat resistance	-40~+70°C



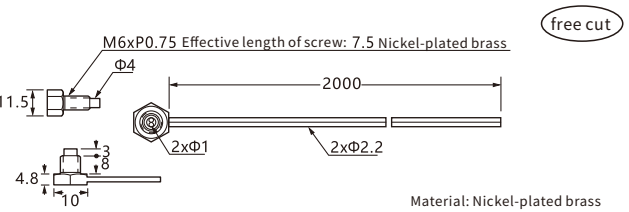
Model	PF-SD094
Sensing distance	30/60/100mm
Bending radius	R10
Heat resistance	-40~+70°C



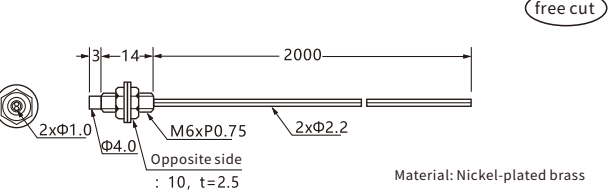
M6 Reflective



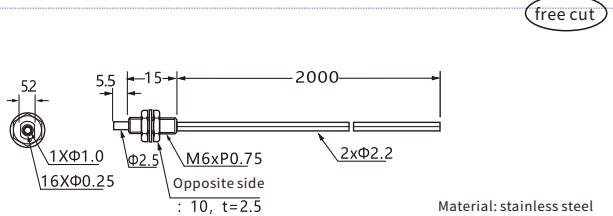
Model	PF-SD075®
Sensing distance	15/30/45mm
Bending radius	R2(R1)
Heat resistance	-40~+70°C



Model	PF-SD076
Sensing distance	60/150/280mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-SD080
Sensing distance	60/120/150mm
Bending radius	R22
Heat resistance	-40~+70°C



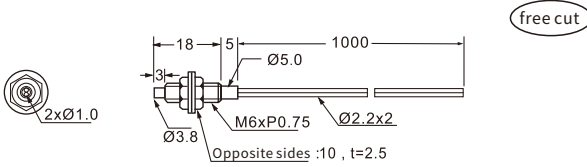
Fiber Optic Sensors

Fiber Selection

M6 Reflective



Model	PF-SD159
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-55~+70°C

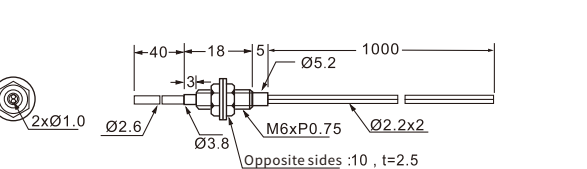


free cut

Material: Nickel-plated brass



Model	PF-SD161
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-55~+70°C

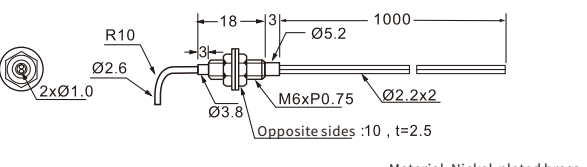


free cut

Material: Nickel-plated brass



Model	PF-SD162
Sensing distance	50/120/260mm
Bending radius	R25
Heat resistance	-55~+70°C

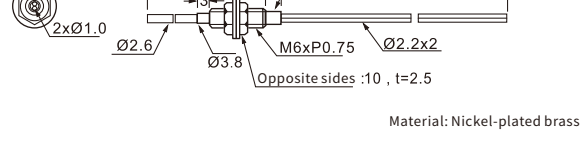


free cut

Material: Nickel-plated brass



Model	PF-SD163
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-55~+70°C

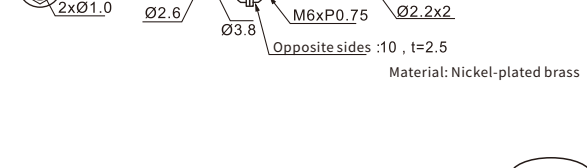


free cut

Material: Nickel-plated brass



Model	PF-SD165
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-55~+70°C

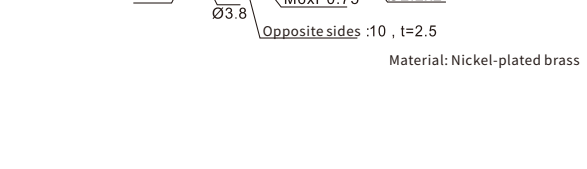


free cut

Material: Nickel-plated brass



Model	PF-SD166
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-55~+70°C



free cut

Material: Nickel-plated brass

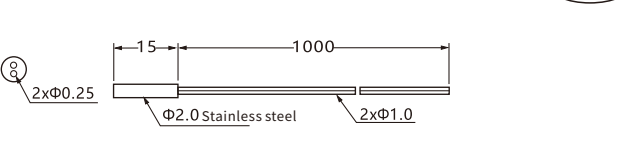
Fiber Optic Sensors

Fiber Selection

Φ2 Reflective



Model	PF-SD155
Sensing distance	定制
Bending radius	R4
Heat resistance	-40~+70°C



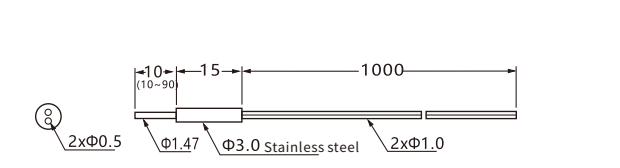
free cut

Comes with NX-F10

Φ3 Reflective



Model	PF-SD131
Sensing distance	30/60/150mm
Bending radius	R10
Heat resistance	-40~+70°C

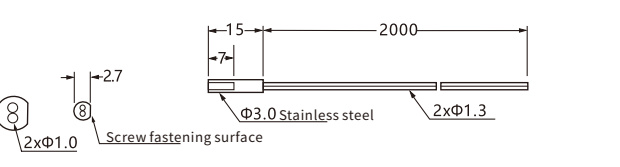


free cut

Comes with NX-F10



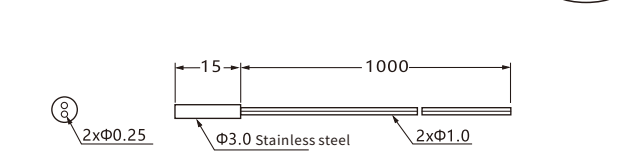
Model	PF-SD135
Sensing distance	60/150/280mm
Bending radius	R25
Heat resistance	-40~+70°C



free cut



Model	PF-SD142
Sensing distance	5/15/25mm
Bending radius	R4
Heat resistance	-40~+70°C



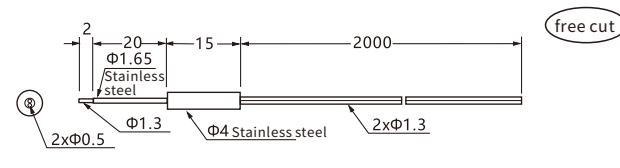
free cut

Comes with NX-F10

Φ4 Reflective



Model	PF-SD130
Sensing distance	18/50/100mm
Bending radius	R15
Heat resistance	-40~+70°C

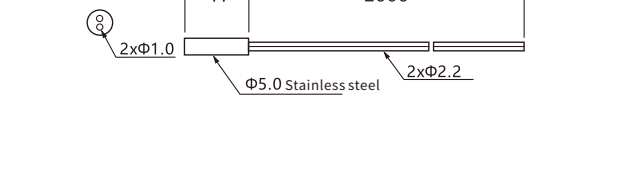


free cut

Φ5 Reflective



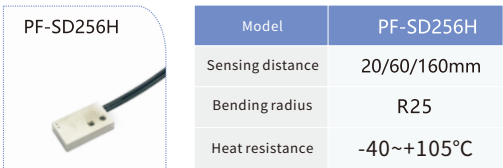
Model	PF-SD127
Sensing distance	60/150/280mm
Bending radius	R25
Heat resistance	-40~+70°C



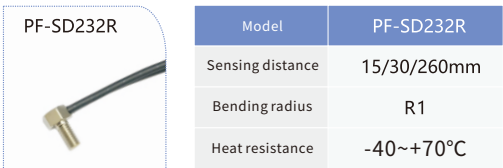
free cut

Fiber Selection

Customized

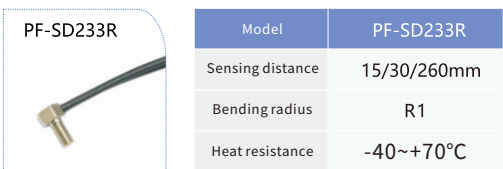


Model	PF-SD256H
Sensing distance	20/60/160mm
Bending radius	R25
Heat resistance	-40~+105℃



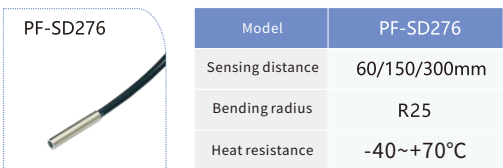
Model	PF-SD232R
Sensing distance	15/30/260mm
Bending radius	R1
Heat resistance	-40~+70°C

With R means bending-resistant optical fiber, the min. bending radius is R1



Model	PF-SD233R
Sensing distance	15/30/260mm
Bending radius	R1
Heat resistance	-40~+70°C

With R means bending-resistant optical fiber, the min. bending radius is R1

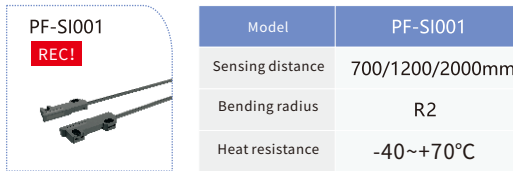


Model	PF-SD276
Sensing distance	60/150/300mm
Bending radius	R25
Heat resistance	-40~+70℃

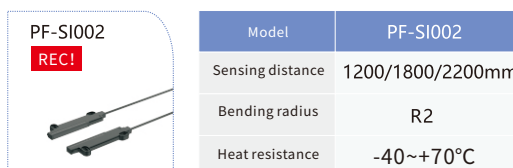


Fiber Selection

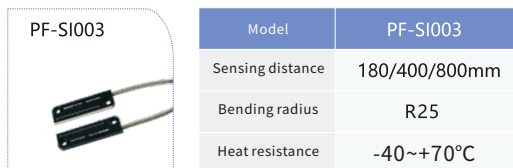
Transmitting



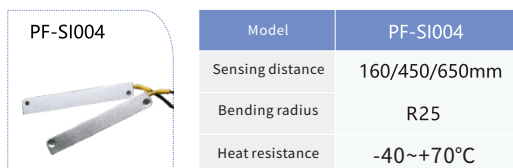
Model	PF-SI001
Sensing distance	700/1200/2000mm
Bending radius	R2
Heat resistance	-40~+70°C



Model	PF-SI002
Sensing distance	1200/1800/2200mm
Bending radius	R2
Heat resistance	-40~+70℃



Model	PF-SI003
Sensing distance	180/400/800mm
Bending radius	R25
Heat resistance	-40~+70℃



Model	PF-SI004
Sensing distance	160/450/650mm
Bending radius	R25
Heat resistance	-40~+70℃

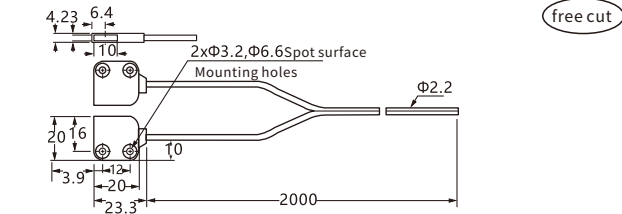


Fiber Optic Sensors

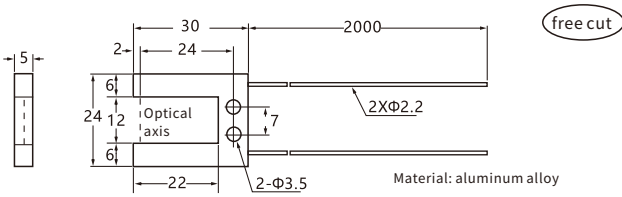
Fiber Selection



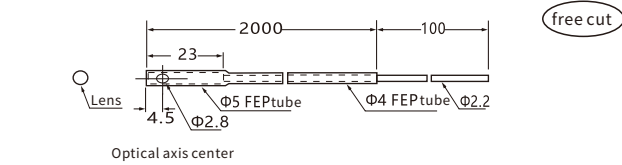
Model	PF-SI005
Sensing distance	350/800/1500mm
Bending radius	R2
Heat resistance	-40~+70°C



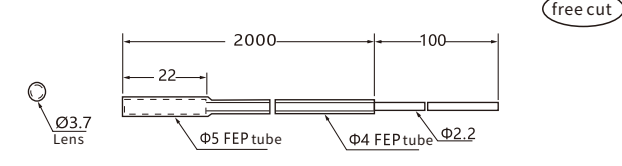
Model	PF-SI006
Sensing distance	12mm
Bending radius	R30
Heat resistance	-40~+70°C



Model	PF-SI014
Sensing distance	250/1200/1800mm
Bending radius	R40
Heat resistance	-40~+70°C



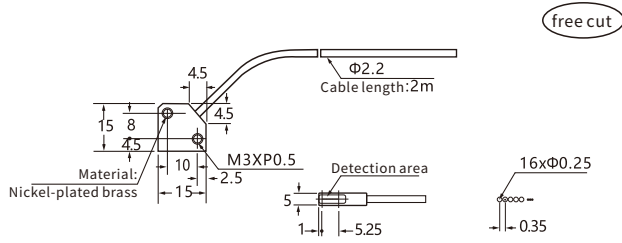
Model	PF-SI015
Sensing distance	750/1500/3000mm
Bending radius	R40
Heat resistance	-40~+70°C



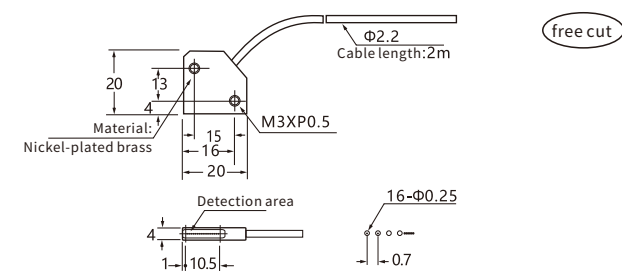
Matrix mapping



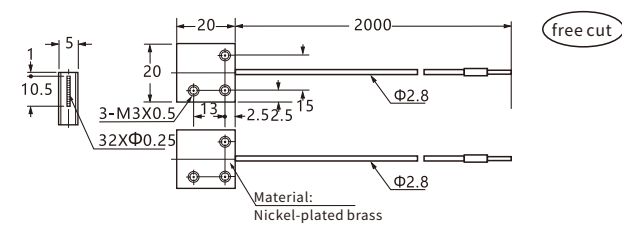
Model	PF-SI019
Sensing distance	40/100/200mm
Bending radius	R4*2
Heat resistance	-40~+70°C



Model	PF-SI020
Sensing distance	100/150/200mm
Bending radius	R4*2
Heat resistance	-40~+70°C



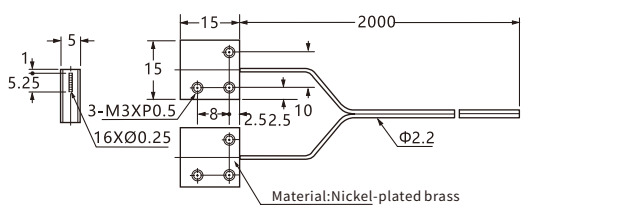
Model	PF-SI021
Sensing distance	160/350/600mm
Bending radius	R25
Heat resistance	-40~+70°C



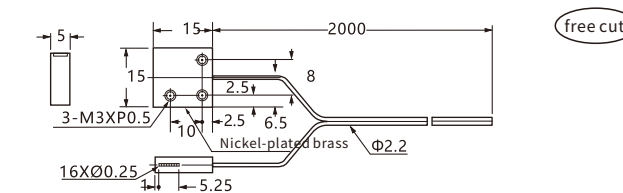
Fiber Selection



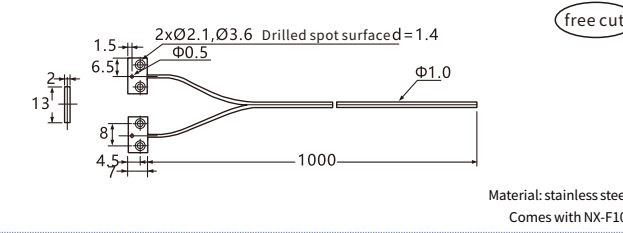
Model	PF-SI022
Sensing distance	100/150/200mm
Bending radius	R25
Heat resistance	-40~+70°C



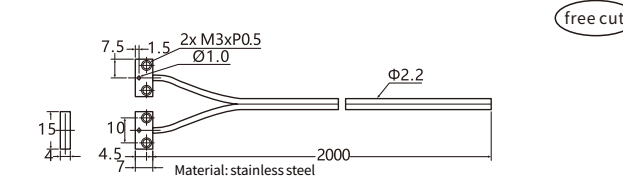
Model	PF-SI023
Sensing distance	130/150/200mm
Bending radius	R25
Heat resistance	-40~+70°C



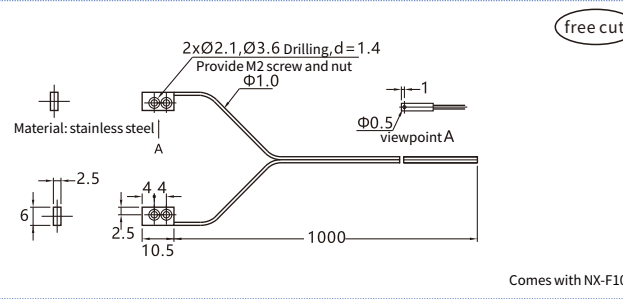
Model	PF-SI024®
Sensing distance	40/90/250mm
Bending radius	R2(R1)
Heat resistance	-40~+70°C



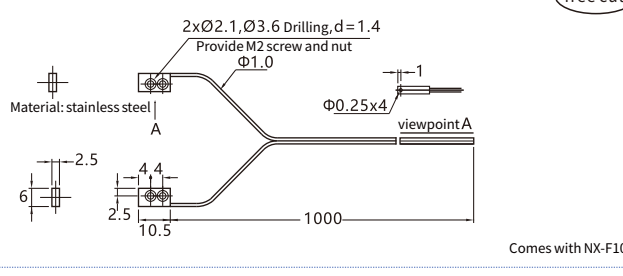
Model	PF-SI025®
Sensing distance	150/500/1300mm
Bending radius	R2(R1)
Heat resistance	-40~+70°C



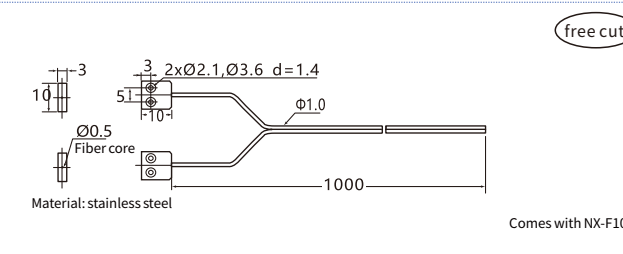
Model	PF-SI026
Sensing distance	40/90/250mm
Bending radius	R2
Heat resistance	-40~+70°C



Model	PF-SI027
Sensing distance	35/100/320mm
Bending radius	R4
Heat resistance	-40~+70°C



Model	PF-SI028
Sensing distance	45/130/380mm
Bending radius	R2
Heat resistance	-40~+70°C



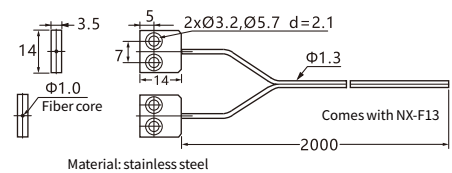
- Photoelectric
- Fiber Optic
- Color/Liquid/Correction
- Proximity
- Measurement Moudel
- Barcode Reader
- Communication
- Dust-Free Drag Chain
- Process Control
- Detect/Eliminate Static Electricity
- FO Accessories
- Reflective type
- Transmitting type
- Customized type
- Parameter table

Fiber Optic Sensors

Fiber Selection



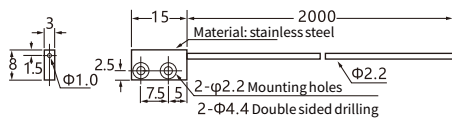
Model	PF-SI029
Sensing distance	160/450/1200mm
Bending radius	R2
Heat resistance	-40~+70°C



free cut



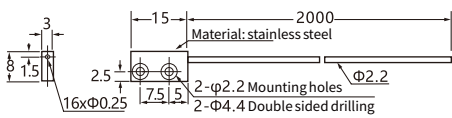
Model	PF-SI030
Sensing distance	280/500/1300mm
Bending radius	R25
Heat resistance	-40~+70°C



free cut



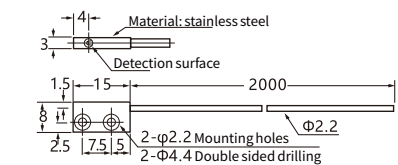
Model	PF-SI031
Sensing distance	280/600/1800mm
Bending radius	R4
Heat resistance	-40~+70°C



free cut



Model	PF-SI032®
Sensing distance	80/400/800mm
Bending radius	R25(R1)
Heat resistance	-40~+70°C

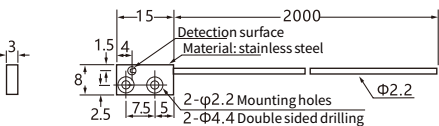


free cut

With R means bending-resistant optical fiber, the min. bending radius is R1



Model	PF-SI033®
Sensing distance	200/600/1500mm
Bending radius	R25(R1)
Heat resistance	-40~+70°C

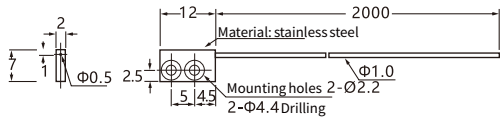


free cut

With R means bending-resistant optical fiber, the min. bending radius is R1



Model	PF-SI034
Sensing distance	50/100/300mm
Bending radius	R10
Heat resistance	-40~+70°C

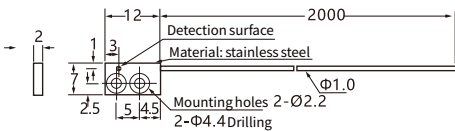


free cut

Comes with NX-F10



Model	PF-SI035®
Sensing distance	50/100/300mm
Bending radius	R10(R1)
Heat resistance	-40~+70°C



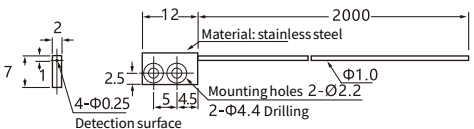
free cut

Comes with NX-F10

With R means bending-resistant optical fiber, the min. bending radius is R1



Model	PF-SI036
Sensing distance	35/100/320mm
Bending radius	R4
Heat resistance	-40~+70°C



free cut

Comes with NX-F10

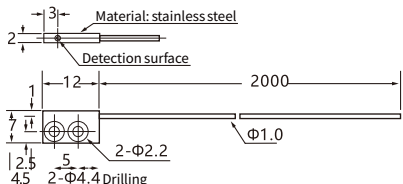
Fiber Optic Sensors

Fiber Selection



Model	PF-SI037®
Sensing distance	40/100/280mm
Bending radius	R10(R1)
Heat resistance	-40~+70°C

With R means bending-resistant optical fiber, the min. bending radius is R1



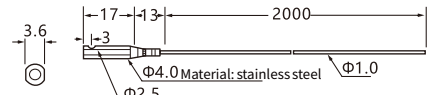
free cut

Comes with NX-F10

Side view



Model	PF-SI041
Sensing distance	500/1000/1800mm
Bending radius	R10
Heat resistance	-40~+70°C

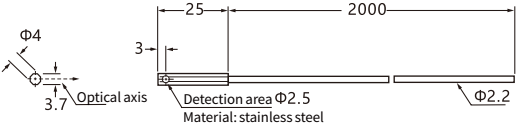


free cut

Comes with NX-F10



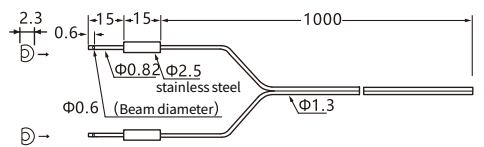
Model	PF-SI042
Sensing distance	400/1000/1800mm
Bending radius	R25
Heat resistance	-40~+70°C



free cut



Model	PF-SI046
Sensing distance	25/80/200mm
Bending radius	R25
Heat resistance	-40~+70°C

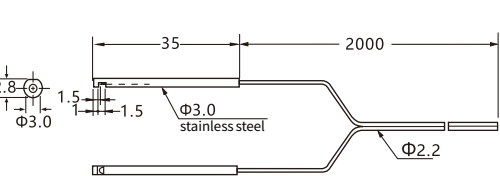


free cut

Comes with NX-F13



Model	PF-SI051
Sensing distance	300/600/800mm
Bending radius	R25
Heat resistance	-40~+150°C



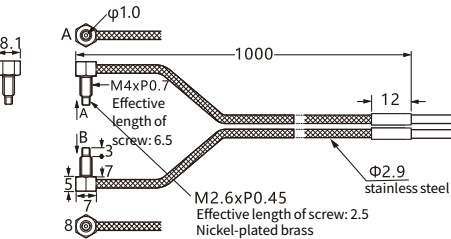
free cut

Protective net

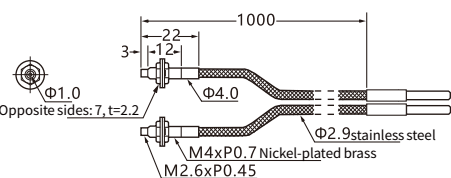


Model	PF-SI056®
Sensing distance	150/500/1200mm
Bending radius	R10(R1)
Heat resistance	-40~+70°C

With R means bending-resistant optical fiber, the min. bending radius is R1



Model	PF-SI057
Sensing distance	200/475/1200mm
Bending radius	R10
Heat resistance	-40~+70°C



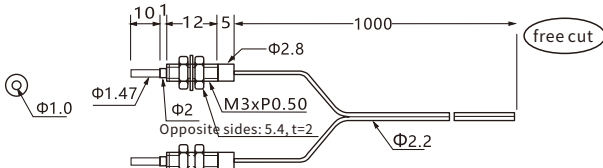
Fiber Optic Sensors

Fiber Selection

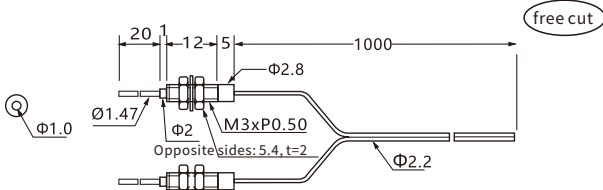
M3 through-beam



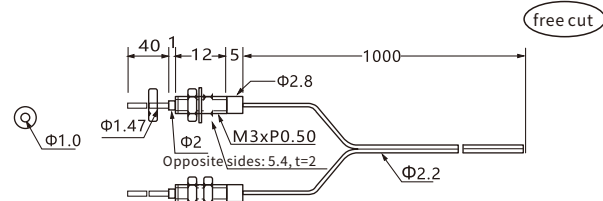
Model	PF-SI140
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



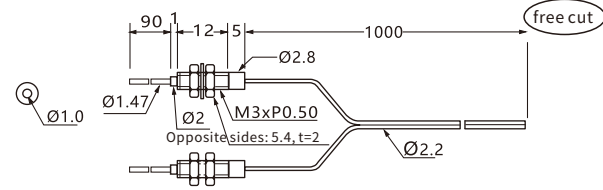
Model	PF-SI141
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



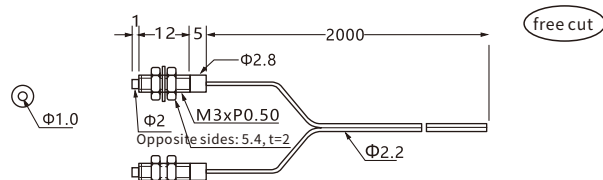
Model	PF-SI142
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



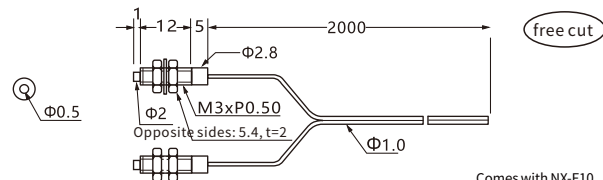
Model	PF-SI143
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



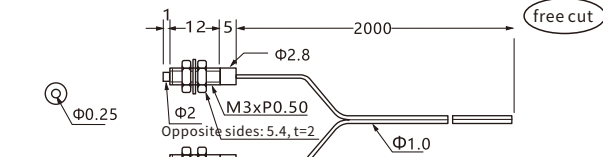
Model	PF-SI144
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



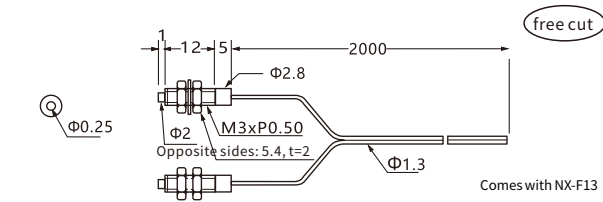
Model	PF-SI150
Sensing distance	60/150/300mm
Bending radius	R15
Heat resistance	-40~+70°C



Model	PF-SI152
Sensing distance	30/50/150mm
Bending radius	R10
Heat resistance	-40~+70°C



Model	PF-SI160
Sensing distance	30/50/150mm
Bending radius	R10
Heat resistance	-40~+70°C



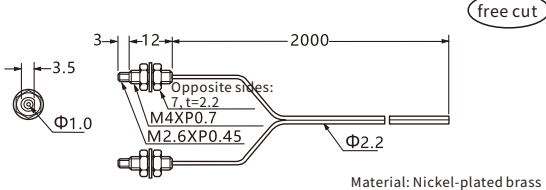
Fiber Optic Sensors

Fiber Selection

M4 through-beam

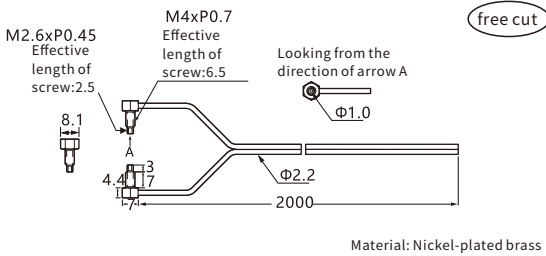


Model	PF-SI064
Sensing distance	300/800/1500mm
Bending radius	R25
Heat resistance	-40~+70°C

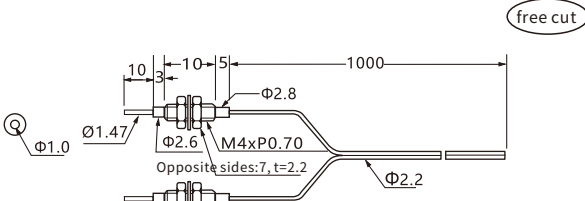


Model	PF-SI068
Sensing distance	150/500/1200mm
Bending radius	R2(R1)
Heat resistance	-40~+70°C

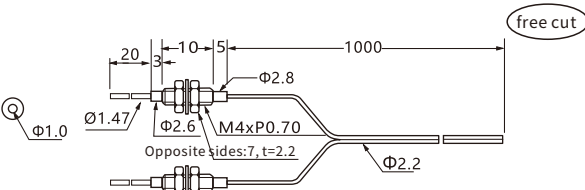
With R means bending-resistant optical fiber, the min. bending radius is R1



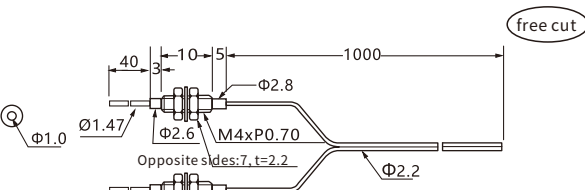
Model	PF-SI120
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



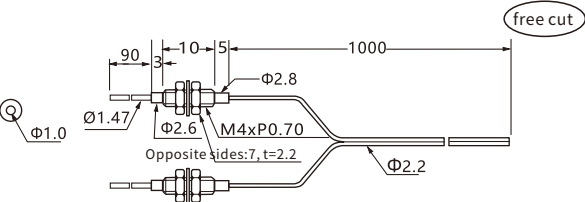
Model	PF-SI127
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



Model	PF-SI128
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



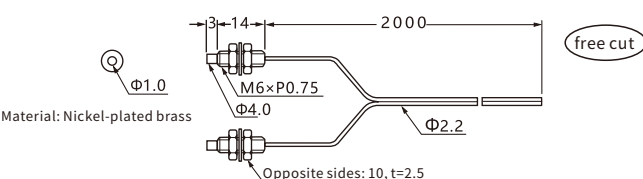
Model	PF-SI129
Sensing distance	140/500/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



M6 through-beam



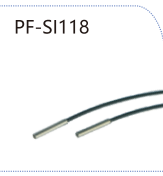
Model	PF-SI059
Sensing distance	140/180/1200mm
Bending radius	R25
Heat resistance	-40~+70°C



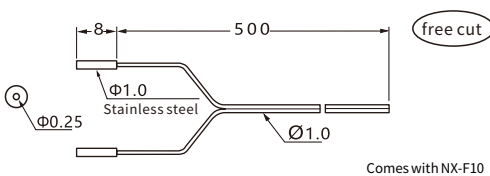
Fiber Optic Sensors

Fiber Selection

Φ1 through-beam

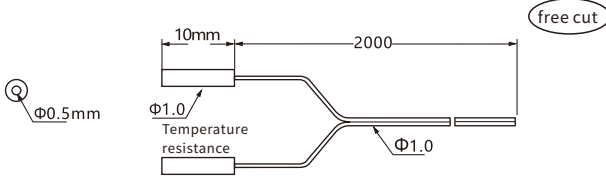


Model	PF-SI118
Sensing distance	30/50/150mm
Bending radius	R10
Heat resistance	-40~+70°C

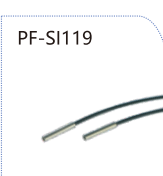




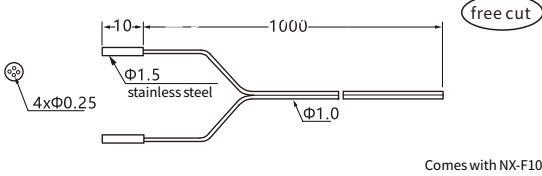
Model	PF-SI165
Sensing distance	60/150/300mm
Bending radius	R15
Heat resistance	-40~+70°C

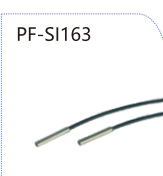


Φ1.5 through-beam

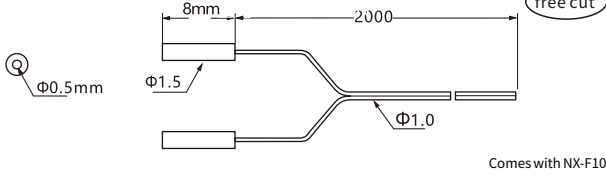


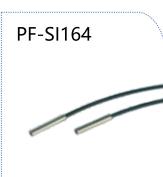
Model	PF-SI119
Sensing distance	70/200/500mm
Bending radius	R4
Heat resistance	-40~+70°C



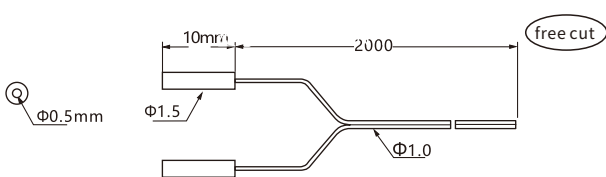


Model	PF-SI163
Sensing distance	60/150/300mm
Bending radius	R15
Heat resistance	-40~+70°C





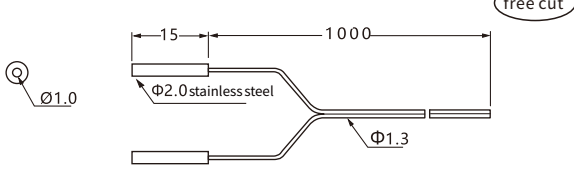
Model	PF-SI164
Sensing distance	60/150/300mm
Bending radius	R15
Heat resistance	-40~+70°C



Φ2 through-beam



Model	PF-SI112
Sensing distance	300/800/1500mm
Bending radius	R25
Heat resistance	-40~+70°C



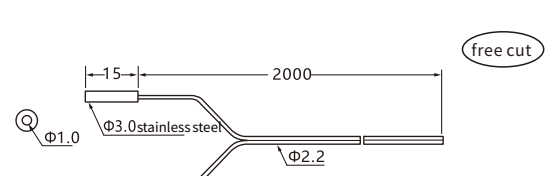
Fiber Optic Sensors

Fiber Selection

Φ3 through-beam

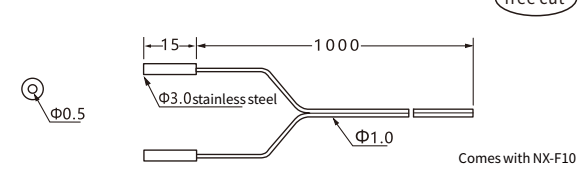


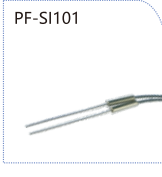
Model	PF-SI094
Sensing distance	300/800/1500mm
Bending radius	R25
Heat resistance	-40~+70°C



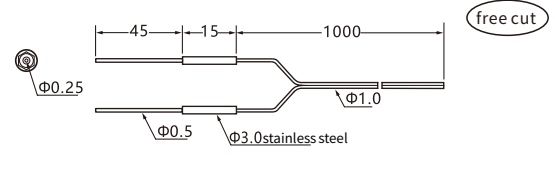


Model	PF-SI099
Sensing distance	50/100/500mm
Bending radius	R10
Heat resistance	-40~+70°C





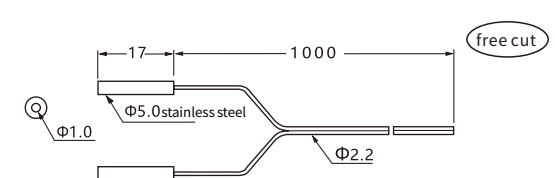
Model	PF-SI101
Sensing distance	30/60/100mm
Bending radius	R10
Heat resistance	-40~+70°C



Φ5 through-beam



Model	PF-SI089
Sensing distance	300/800/1500mm
Bending radius	R25
Heat resistance	-40~+70°C



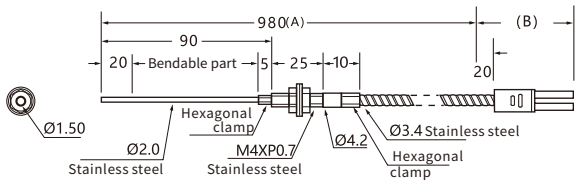
Fiber Optic Sensors

Fiber Selection

Reflective



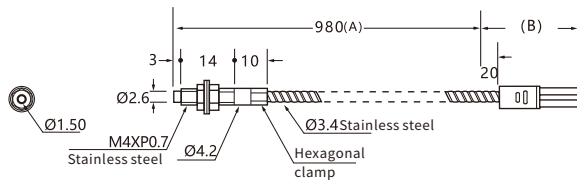
Model	PF-G01
Sensing distance	100/450/680mm
Bending radius	R25
Heat resistance	-40~+300°C



Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier



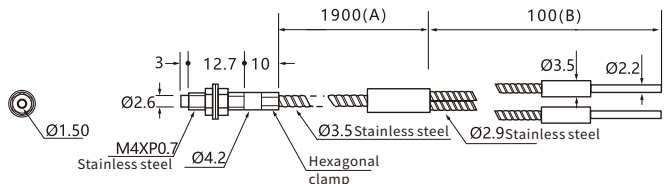
Model	PF-G02
Sensing distance	100/450/680mm
Bending radius	R25
Heat resistance	-40~+300°C



Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier



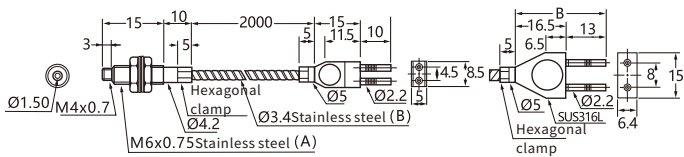
Model	PF-G02-W2
Sensing distance	100/450/680mm
Bending radius	R25
Heat resistance	-40~+300°C



Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier



Model	PF-G03
Sensing distance	100/450/680mm
Bending radius	R25
Heat resistance	-40~+300°C

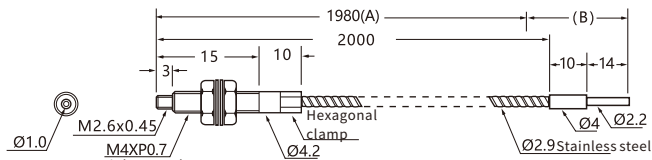


Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier

Through



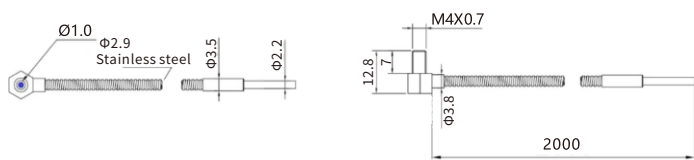
Model	PF-G17
Sensing distance	60/360/500mm
Bending radius	R25
Heat resistance	-40~+300°C



Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier



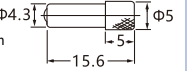
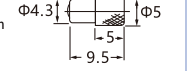
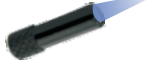
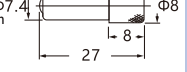
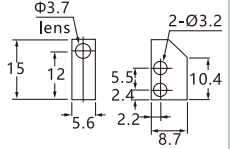
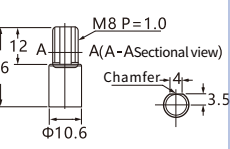
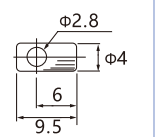
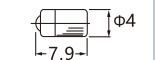
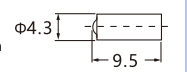
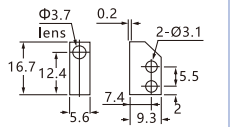
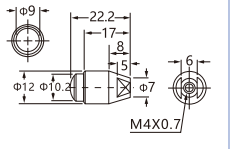
Model	PF-SI12-H3M
Sensing distance	40/250mm
Bending radius	R25
Heat resistance	-40~+300°C



Temperature resistance. Part A: -40 to +300°C;
Part B: -40 to +70°C for use within the operating temperature range of the amplifier

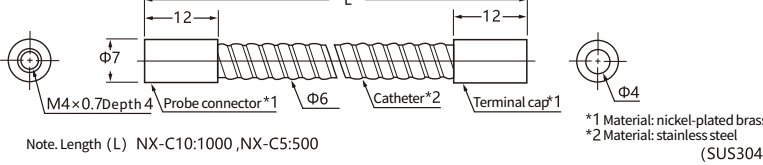
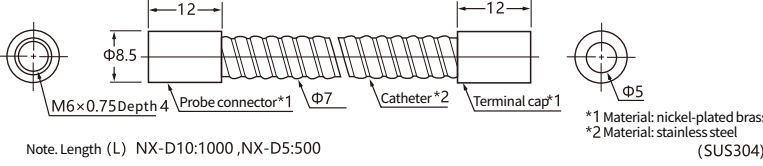
Photoelectric
Fiber Optic
Color/Liquid/Correction
Proximity
Measurement Moudel
Barcode Reader
Communication
Dust-Free Drag Chain
Process Control
Detect/Eliminate Static Electricity
FO Accessories
Reflective type
Transmitting type
Customized type
Parameter table

Reflective fiber lens

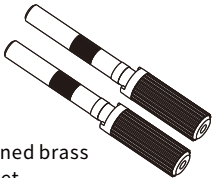
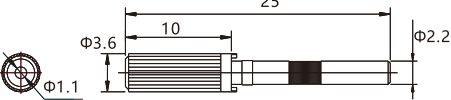
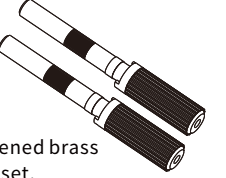
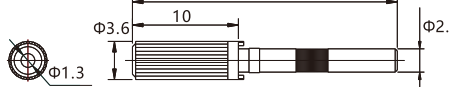
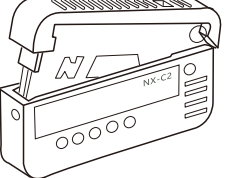
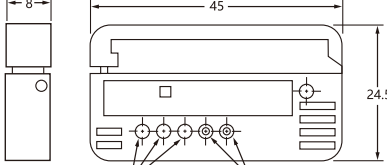
For reflective fiber	Small spot short distance lens	F-2A		Can detect small objects or marks small light spot Φ0.1~0.4mm Detection distance: 7±2mm Operating Tempe: -40~+300°C	PF-SD058、PF-SD059 PF-SD062、PF-SD070 PF-SD071、PF-SD110 PF-SD111、PF-SD123	Housing: aluminum Lens: glass 
	Parallel beam lens	F-3A		Parallel beam spot diameter Φ4mm detection distance: 0~20mm Tempe: -40~+300°C	PF-SD058、PF-SD059 PF-SD062、PF-SD110 PF-SD111、PF-SD123	Housing: aluminum Lens: glass 
	Small spot medium distance lens	F-4A		Can detect small objects or marks small light spot Φ0.5mm detection distance: 15±2mm Tempe: -40~+300°C	PF-SD058、PF-SD059 PF-SD062、PF-SD110 PF-SD111、PF-SD123	Housing: aluminum Lens: glass 
	Small light point side view perspective	F-5A		Can detect small objects or marks small light spot Φ0.5~3.0mm detection distance: 8~30mm Tempe: -40~+100°C	PF-SD059、PF-SD062 PF-SD110、PF-SD111	Housing: aluminum Lens: glass 
	Small spot long distance lens	F-6A		Can detect small objects or marks small light spot Φ2.0mm detection distance: 35±3mm Tempe: -40~+70°C	PF-SD058、PF-SD059 PF-SD062、PF-SD110 PF-SD111、PF-SD123	Housing: aluminum Lens: acrylic 
	Side view lens	F-1		The longest detection distance is 1800mm Suitable tempe: -40~+300°C	PF-SI057、PF-SI064 PF-SI069	Housing: nickel-plated brass Lens: glass 
For thru-beam fiber	Long detection distance lens	F-2		The longest detection distance is 3600mm Suitable tempe: -40~+300°C	PF-SI055、PF-SI056 PF-SI057、PF-SI068 PF-SI069	Housing: nickel-plated brass Lens: glass 
	Long detection distance lens	F-4		The longest detection distance is 3600mm Suitable tempe: -40~+300°C	PF-SI055、PF-SI056 PF-SI057、PF-SI068 PF-SI069	Housing: aluminum Lens: glass 
	Side view lens with mounting hole	F-5		The longest detection distance is 3600mm Suitable tempe: -40~+300°C	PF-SI057、PF-SI069	Housing: aluminum Lens: glass 
	Thru-beam telephoto lens	F-9		The longest detection distance is 3600mm Suitable tempe: -60~+300°C	PF-SI064、PF-SI066 PF-SI074	Housing: aluminum Lens: glass 

Optical fiber selection parameter table

Guard solenoid

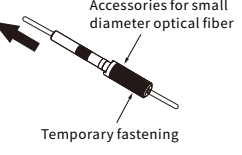
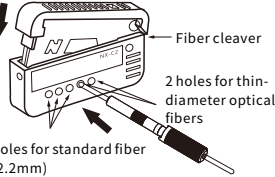
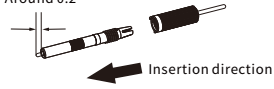
Apperance	Dimensions
	 Note. Length (L) NX-C10:1000 ,NX-C5:500 *1 Material: nickel-plated brass *2 Material: stainless steel (SUS304)
	 Note. Length (L) NX-D10:1000 ,NX-D5:500 *1 Material: nickel-plated brass *2 Material: stainless steel (SUS304)

Fiber optic accessories

Apperance	Dimensions
 Material: blackened brass Note: 2 pcs in 1 set. With small diameter fiber unit	
 Material: blackened brass Note: 2 pcs in 1 set. With small diameter fiber unit	
	 Standard fiber insertion holes Small diameter fiber insertion hole

Fiber cleavage steps

Follow the steps below to cleave thin-diameter fibers

1 After setting according to the figure below is shipped from the factory (temporarily fastened state)	2. Adjust the length according to the direction of the arrow, and tighten it actually.	3. Put the fiber into NX-C2 for cutting.	4. Finished. (normal cutting state)
			 Note: Please follow the insertion direction as shown in the figure above.



Official website