

The logo for Hecho, featuring the word "Hecho" in a bold, blue, sans-serif font. A small red inverted triangle is positioned above the letter "h".

A magnifying glass with a black frame and a clear lens is centered over the URL. The lens is slightly blurred, giving it a 3D effect.  
<http://www.gohecho.com>



# 2017 Catalog

NANJING HECHO TECHNOLOGY CO., LTD



Halogen light source



Multi-branch bundles

Our Advantages:

▼  
**Hécho**

.....  
Professional production,  
meet to various design  
requirements



Fiber optic amplifier



Threaded sensor



LED light source



Straight light guide



Dual arm light guide



Ring light guide



Line light guide



Tailed fibers



Fiber illumination



Silica fiber



Light source module



Machine visions

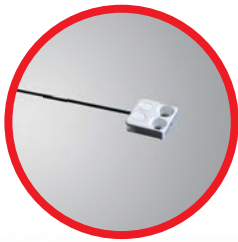
## Professional Optical Fiber & Illuminator Manufacturer

Professional service,  
to provide system  
solutions

Provide more cost-effective  
products, Lowering the  
operating costs

Constant pursuit of  
perfect quality, to sincere  
cooperation with you

Energy conservation and  
environmental protection  
product design concept



Flat-thin sensor



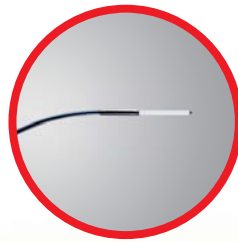
Wide area sensor



Heat resistant sensor



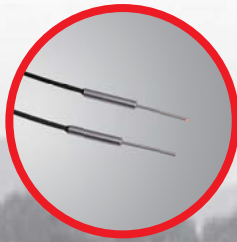
Sensor lens



Liquid-level sensor



Cylinder sensor



Defined light sensor



MITSUBISHI POC



Toray POF



AsahiKASEI POF

# High Precision Digital Fiber Optic Sensor FAS-N11 Series



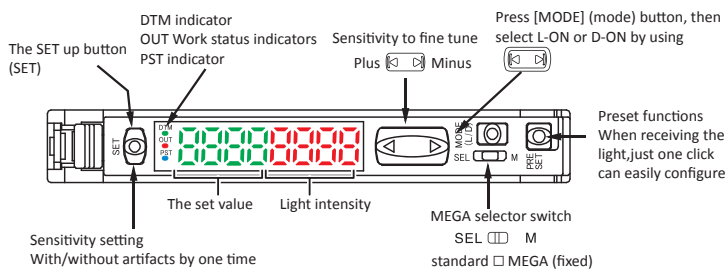
- ▶ Automatic sensitivity tracking function
- ▶ High power, variety of patterns
- ▶ Easy to use standard of double digital display
- ▶ A new concept, one key set button

## Specification

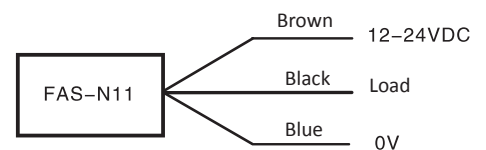
Model	FAS-N11	FAS-N11P
Type	NPN	PNP
Light source	Red light emitting diode LED tube body	
Response time	100μs(HIGH SPEED)/250μs(FINE)/1ms(TURBO)16ms(MEGA)	
Output selection	LIGHT-ON / DARK-ON (Switch selection)	
Detection mode	Light intensity (Area detection, Automatic sensitivity tracking function)	
Delay function	Disconnect delay timer/Open delay timer/Single timer/Open single delay timer, choose the timer duration: 0.1ms ~ 9.999ms, Precision scope as set value ± 10%	
Control output	NPN open collector 24V; Max. output value:100mA; Residual voltage: Max. 1V	PNP open collector 24V; Max. output value:100mA; Residual voltage: Max. 1V
Supply voltage	12-24VDC ± 10%, Ripple voltage (P-P): Max. 10%	
Current consumption	Max. 750mW (24V, maximum 31mA; 12V, maximum 40mA). Energy saving mode: maximum 580mW (24V, maximum 24mA; 12V, maximum 28mA) Note: when using the "HIGH SPEED" mode, the power onsumption will increase 160mW (7mA).	
Environmental photometric	Incandescent lamp Maximum 20000lux Daylight: Max 30000lux	
Environment temperature	-20 to +55 C (no freezing)	
Relative humidity	35 to +85%RH (no freezing)	
Anti vibration property	10 to 55Hz, the composite amplitude of 1.5mm, X、Y、Z axis direction of the 2 hours each	
Seismic property	X, Y, Z axis direction of the 3 time	
Shell material	Polycarbonate	
Size	30.3mm (H) x 9.8mm (W) x 71.8mm (D)	
Weight	Approx. 80g	

## FAS-N11 Quick Start And Wiring

### Quick Start



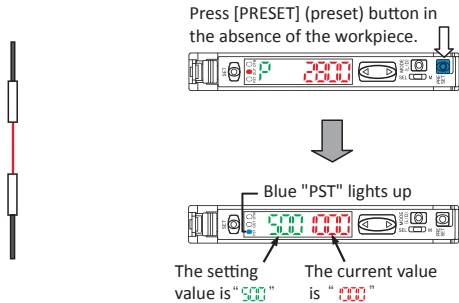
### Wiring



\* Hold the [MODE (MODE) button to change advanced Settings.

### Preset function

When received, press [PRESET] (preset) button. Current value is set to 1000



Press the [PRESET] button to change the current value and the setting value.

#### Disabling the preset, application of preset

Setting value is 500

Through normal calibration method can change the set point.

Enabling preset, application of preset

Only the current value is "1000", the setting value is unchanged.

**Note** Preset function with zero displacement function cannot be used together. To use the zero transfer function, must first be banned preset functions. This pattern is not suitable for transparent artifacts and other low light intensity difference detection.

#### Disabling the preset functions

Hold the [PRESET] (preset) button to disable the preset functions  
Disable the preset function, the ratio of the value and current value remains intact.



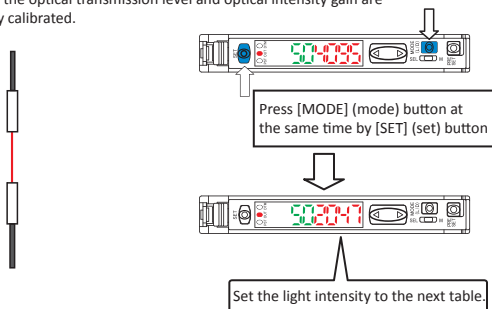
#### Convenient function of preset function.

This feature is most suitable for the use of a control type of optical fiber unit for the implementation of a simple detection of the situation (for example, complete block detection, such as optical fiber unit all optical axis are not transparent workpiece blocking the case).

### Saturation recovery function

Press [MODE] (mode) button at the same time by [SET] (set) button to start the saturation recovery function.

At this point, the optical transmission level and optical intensity gain are automatically calibrated.



Power mode	Light intensity setting range
HSP*, FINE	2047 ± 350
SUPER	4095 ± 500
MEGA	5000 ± 600

\*HIGH SPEED

#### Disabling saturation recovery function

After starting the saturation recovery function, press the [SET] (mode) button at the same time to press the [MODE] button to cancel to enable this feature.



#### Convenient function of saturation recovery function

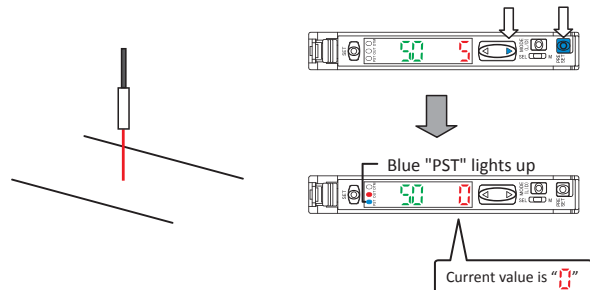
For the installation of light intensity saturated situation this feature is particularly useful. This function can automatically adjust the optical transmission level and the optical intensity gain through the simple operation, and then realize the correction of saturation.

### Zero transfer function

This feature is mainly used for reflective.

At the same time, hold down the [PRESET] (pre set) button and [▶] button.

The current value is set to "0"



#### Note

Zero migration and preset function cannot be used together. To use the preset functions, zero migration must first be disabled.

#### Disabling the zero migration function

Hold the [PRESET] (PRESET) button to disable the zero transfer function.

#### Convenient function of zero shift function

This feature is mainly used for the reflection type optical fiber unit to set the current value to "0".

After first installation of reflective optical fiber unit, sometimes light intensity is not set to "0".

If this is the case, the use of zero migration function will be set to "0", so that the intensity difference is more obvious.

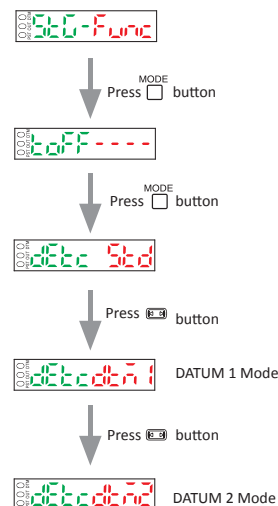
### DATUM Model

DATUM model Trough beam type applicable to the received light intensity gradually changing environment. Optical fiber module, for example, affected by pollution or sharp temperature change environment.

DATUM reflection type is only applicable to the background, and the target reflection is very weak environment, such as the black on the white cloth buttons.

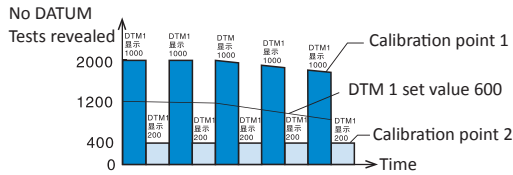
In DTUM mode, in the absence of the workpiece under the condition of the received light intensity is always correct to "000" (for DTUM1) or "0" (DATUM2). In addition, the set value will be according to the amount of correction for correction, so that the ratio of the value and the intensity of light received remains the same, so as to realize stable detection. Set data showed no change.

#### Enter the DATUM mode of operation



**The sensitivity of setting DATUM 1 mode**

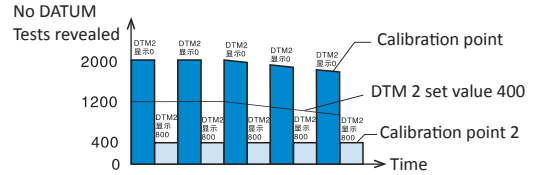
Sensitivity Settings will always be automatic correction, so in the case of no artifacts receives the light intensity is "000".



Below the sensitivity setting step is an example of a two-point calibration. Among them, when there is no artifacts, the received light intensity is "000", when the workpiece is I, the received light intensity is "200".

**The sensitivity of setting DATUM 2 mode**

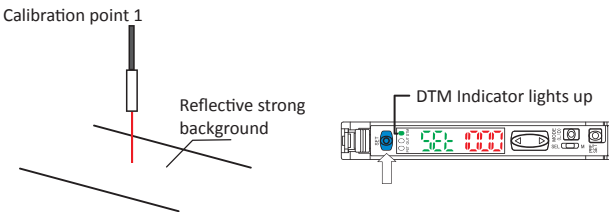
Sensitivity Settings will always be automatic correction, so in the case of no artifacts receives the light intensity is "000".



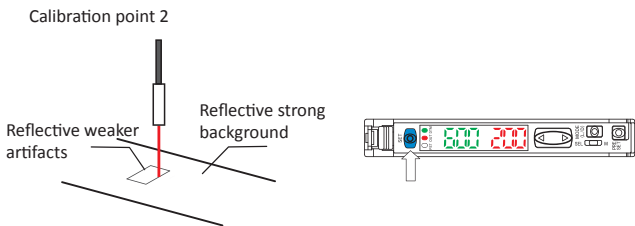
Below the sensitivity setting step is an example of a two-point calibration. Among them, when there is no artifacts, the received light intensity is "000", when the workpiece is I, the received light intensity is "200".

**Trough beam** and **Reflection** is conformity

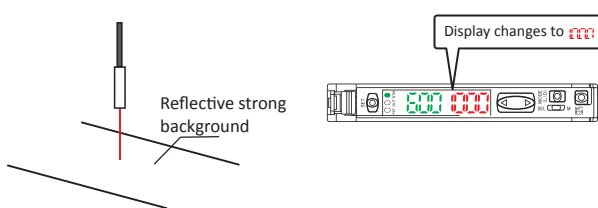
In the case of no artifacts, press SET button



In the case of have artifacts, press SET button

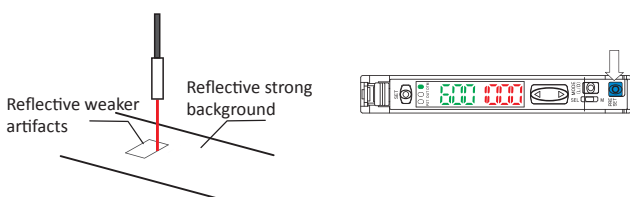


In the full light receiving state receive light intensity shows "000"



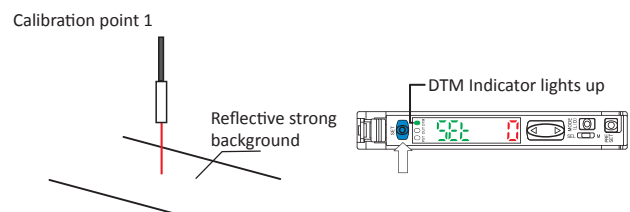
**Note**

If in the case of no artifacts displayed value less than 200, and did not reach 200 after the 30 seconds, inquire the PRESST button. Intensity of light that will receive the correction is 200. When the intensity of received light to stop flashing, the correction has been completed.

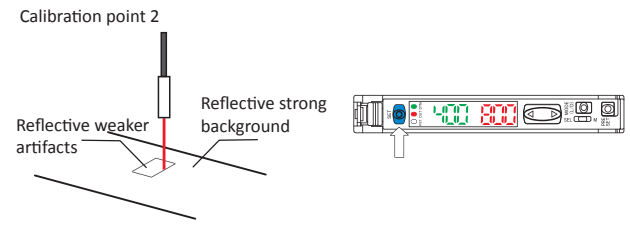


**Trough beam** and **Reflection** is conformity

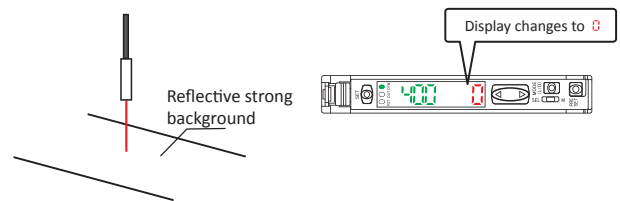
In the case of no artifacts, press SET button



In the case of have artifacts, press SET button

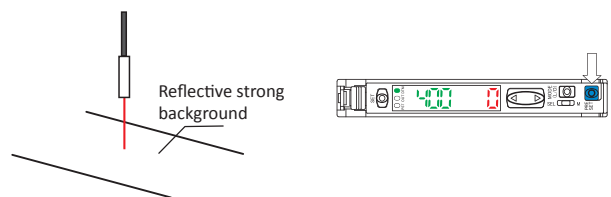


In the full light receiving state receive light intensity shows "000"



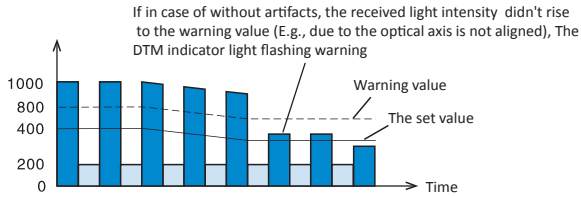
**Note**

If in the case of no artifacts shows values greater than 200, and did not reach 200 after the 30 seconds, inquire the PRESST button. Intensity of light that will receive the correction is 200, when the intensity of received light to stop flashing, the correction is complete.



### Warning of change output level

The DATUM warning value is the intermediate value of the light intensity and setpoint received by the workpiece. If the received light intensity is between the warning value and the set value, the received light intensity will stop the correction and the DTM indicator Flashing warning.

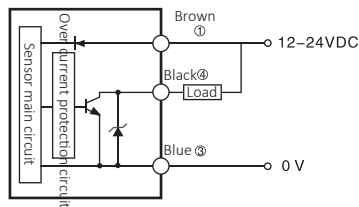


### Input/Output circuit diagram

#### Output circuit diagram

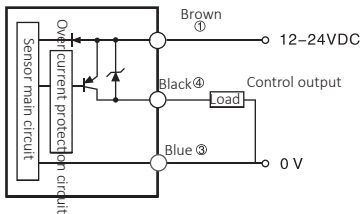
NPN

FAS-N11



PNP

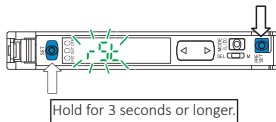
FAS-N11P



### Initialization setting

#### Initialization method

- At the same time hold down the [SET] (set) and [PRESET] (pre set) button for 3 seconds.



- Use select **r5t**, then press [MODE] (mode) button.

- Use select **m i t**, then press [MODE] (mode) button.

After the completion of the initialization, the module displays the current value again.

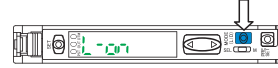
Initial setting

Set	Initial value
Power mode	FINE
Detection mode	Std (Standard)
Setting value	200
Output switching	L-on

### Selecting Output

Optional mode for the light action (L-on) or shading action (D-on).

- When displaying the current value , press [MODE] (mode) button.



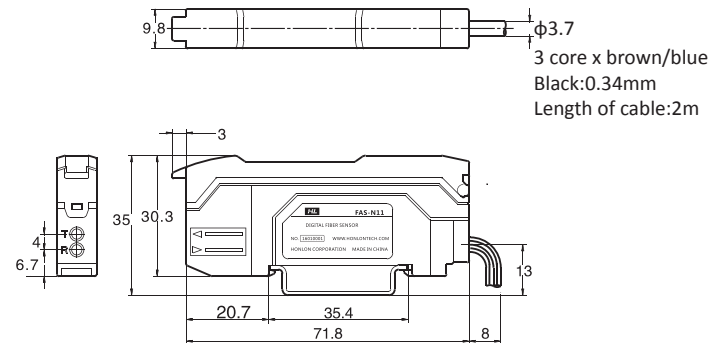
- Use to switch output ( L - o n / d - o n ), then press the MODE (MODE) button. After completion of the output switch module to display the current values.

### Error indication & correction measures

Error indication	ERC	ERE	END APC	LOC
Reason	Control over current existing in the output	Internal data write / load failure	Heavy load on the light source	Open the key lock function
Solution	Detect load ,and return current to the rated value range.	Perform initialization	For high precision testing, please replace the sensor.	The disabled (set) method, please refer to the "FAS-N11 user manual"

### Drawing






FAS-N11



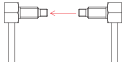
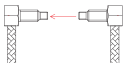
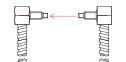
Units: mm

**Trough beam Fiber Optic Sensor**





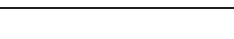
**Threaded Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing
M4		R25	MEGA: 3600 FINE: 1100	∅1	∅ 0.005 Gold wire	PT-7F	➔ P.30
		R2	MEGA: 3600 FINE: 880	∅1.13		PT-77	➔ P.31
		R10 SUS	MEGA: 1800 FINE: 880	∅1		PT-77G	
		R4	MEGA: 2200 FINE: 440	∅1		PT-78	
M6		R25	MEGA: 3600 FINE: 1300	∅1.5		PT-71	

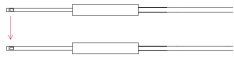
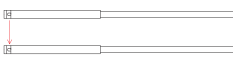
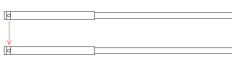


**Hex-shaped Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing
M4		R2	MEGA: 3100 FINE: 640	∅1	∅ 0.005 Gold wire	PT-77TZ	➔ P.31
		R10 SUS	MEGA: 1800 FINE: 640			PT-77TG	
		R20 SUS	MEGA: 1800 FINE: 640			PT-77MTG	

**Cylindrical Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing
∅1.5		R4	MEGA: 1200 FINE: 230	∅0.5	∅ 0.005 Gold wire	PT-59	➔ P.30
∅2.5		R10	MEGA: 45 FINE: 13	∅0.125		PT-55	
		R10	MEGA: 45 FINE: 13	∅0.125		PT-56	
∅3		R25	MEGA: 3600 FINE: 1100	∅1.13		PT-5F	
		R2	MEGA: 3600 FINE: 880	∅1		PT-5FZ	

**Drivepipe Type Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing
侧视		R25	MEGA: 520 FINE: 100	∅0.6	∅ 0.005 Gold wire	PT-32	➔ P.30
		R25	MEGA: 600 FINE: 300	∅1		PT-T14L-OM	
		R1	MEGA: 270 FINE: 130	∅1		PT-T14LR-OM	
顶视		R10	MEGA: 370 FINE: 85	∅0.265		PT-76F	➔ P.31
		R10	MEGA: 45 FINE: 13	∅0.125		PT-56	➔ P.30

Note:

1. The above units are as follows: mm
2. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings



▣ Flat-thin detection sensor

Type	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing
Top		R2	MEGA: 810 FINE: 170	Ø0.5	φ 0.005 Gold wire	PT-51TZ	⇒ P.30
		R2	MEGA: 2900 FINE: 610	Ø1		PT-52TZ	
Side		R2	MEGA: 740 FINE: 140	Ø0.5		PT-57TZ	
		R4	MEGA: 630 FINE: 110	Ø0.7		PT-57TE	
Flat		R2	MEGA: 500 FINE: 140	Ø0.5		PT-53TZ	
		R2	MEGA: 2900 FINE: 610	Ø1		PT-54TZ	

▣ Area detection sensor

Type	Appearance	Minimum bending radius	Detection distance	Optical axis width	Minimum detectable objects	Model	Drawing
Array		R4	MEGA: 2200 FINE: 440	10	φ 0.005 Gold wire	PT-A10	⇒ P.32
		R2	MEGA: 2300 FINE: 860	5.5		PT-AL05-PA	
Area		R2	MEGA: 3600 FINE: 2700	11		PT-E11	
		R2	MEGA: 3600 FINE: 2700	40		PT-E40	
		R4	MEGA: 2200 FINE: 150	5.25		PT-10ML	
		R4	MEGA: 2200 FINE: 440	24.8		PT-30ML	
		R4	MEGA: 2200 FINE: 300	46.5		PT-50ML	
		R4	MEGA: 2200 FINE: 300	46.5		PT-50ML	

▣ Heat resistant sensor

Temperature	Appearance	Minimum bending radius	Detection distance	Optical axis diameter	Minimum detectable objects	Model	Drawing	
105°C		R25	MEGA: 3600 FINE: 1100	Ø1	φ 0.005 Gold wire	PT-86A	⇒ P.31	
200°C			MEGA: 1800 FINE: 450			GT-410FP		
			MEGA: 3600 FINE: 390			GT-420FP		
250°C			MEGA: 1800 FINE: 350			GT-11-10		⇒ P.32
300°C			MEGA: 1800 FINE: 390			GT-84C		⇒ P.31
350°C			MEGA: 1800 FINE: 450			GT-410		
			MEGA: 3600 FINE: 390			GT-420		

Note:

1. The above units are as follows: mm
2. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings

**▣ Lens**

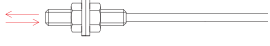
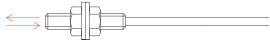
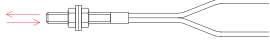

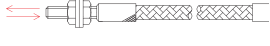





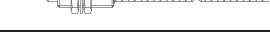
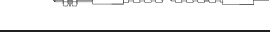
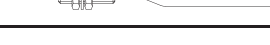
Type	Appearance	Detection distance	Environment temperature	Applicable models	Model	Drawing
Side view		MEGA: 3600 FINE: 3600	-40 ~ 70°C	PT-7F	F-1	
		MEGA: 3600 FINE: 3600		PT-77		
		MEGA: 3600 FINE: 3600		PT-77TZ		
		MEGA: 1800 FINE: 1800		PT-77G		
		MEGA: 1800 FINE: 1800		PT-77TG		
Top view		MEGA: 3600 FINE: 3600	-40 ~ 300°C	PT-7F	F-2	
		MEGA: 3600 FINE: 3600		PT-77		
		MEGA: 3600 FINE: 3600		PT-77TZ		
		MEGA: 1800 FINE: 1800		PT-77G		
		MEGA: 1800 FINE: 1800		PT-77TG		
Top view		MEGA: 3600 FINE: 3600	-40 ~ 70°C	PT-7F	F-4	
		MEGA: 3600 FINE: 3600		PT-77		
		MEGA: 3600 FINE: 3600		PT-77TZ		
		MEGA: 1800 FINE: 1800		PT-77G		
		MEGA: 1800 FINE: 1800		PT-77TG		
Side view		MEGA: 3600 FINE: 3600	-40 ~ 105°C	PT-7F	F-5	
		MEGA: 3600 FINE: 3600		PT-77		
		MEGA: 3600 FINE: 3600		PT-77TZ		
		MEGA: 1800 FINE: 1800		PT-77G		
		MEGA: 1800 FINE: 1800		PT-77TG		
		MEGA: 3600 FINE: 1300		PT-86A		

**▣ Accessories · fiber protection tube**






Type	Appearance	Minimum bending radius	Length	Applicable models	Model	Drawing
M3		R25	1000	PR-21X	FK-310	
				PR-24X		
				PR-35FA		
				PR-35FZ		
M4				PR-66	FK-410	
				PR-66Z		
				PT-7F		
				PT-77		
M6				PR-6F	FK-610	
				PR-25		
				PR-67		

## Reflective Fiber Sensors

### Threaded Fiber Sensors

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing	
M3		R25	MEGA: 130 FINE: 36	φ 0.005 Gold wire	PR-21X		
		R10	MEGA: 100 FINE: 13		PR-24X		
		R25	MEGA: 550 FINE: 110		PR-35FA		➔ P.33
		R2	MEGA: 450 FINE: 72		PR-35FZ		
		R10 SUS	MEGA: 450 FINE: 72		PR-35FG		
M4		R25	MEGA: 1100 FINE: 300		PR-66	➔ P.35	
		R2	MEGA: 770 FINE: 190		PR-66Z		
M6		R25	MEGA: 720 FINE: 160		PR-25	➔ P.33	
		R25	MEGA: 1100 FINE: 300		PR-6F	➔ P.35	
		R2	MEGA: 900 FINE: 210		PR-67		
		R10 SUS	MEGA: 900 FINE: 210		PR-67G	➔ P.36	
		R20 SUS	MEGA: 900 FINE: 210		PR-67MG		
		R25	MEGA: 1300 FINE: 380		PR-61	➔ P.35	

### Hex-shaped Fiber Sensors

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
M3		R2	MEGA: 400 FINE: 70		PR-35TZ	➔ P.33
		R10 SUS	MEGA: 400 FINE: 70		PR-35TG	➔ P.34
M4		R2	MEGA: 710 FINE: 210		PR-66TZ	➔ P.35
M6		R10 SUS	MEGA: 710 FINE: 210		PR-67TG	
		R25 SUS	MEGA: 710 FINE: 210		PR-67MTG	➔ P.36

Note:

1. The above units are as follows: mm
2. The above detection distance standard reference is: 100 mm x 100 mm matte white paper
3. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings

**▣ Cylindrical Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
Ø1.5		R4	MEGA: 150 FINE: 32	φ 0.005 Gold wire	PR-49X	➔ P.35
		R10	MEGA: 27 FINE: 5		PR-46	➔ P.34
Ø2.5		R25	MEGA: 72 FINE: 23		PR-22X	➔ P.33
Ø3		R2	MEGA: 770 FINE: 190		PR-4FZ	➔ P.34
		R25	MEGA: 1100 FINE: 300		PR-4F	
		R4	MEGA: 290 FINE: 63		PR-48	
		R2	MEGA: 140 FINE: 40		PR-48U	➔ P.33
		R25	MEGA: 830 FINE: 180		PR-23X	
		R4	MEGA: 68 FINE: 18		PR-45X	

**▣ Drivepipe Type Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
Side		R10	MEGA: 180 FINE: 32	φ 0.005 Gold wire	PR-31	➔ P.33
		R25	MEGA: 320 FINE: 45		PR-33	
Top		R4	MEGA: 68 FINE: 18		PR-65X	➔ P.35
		R25	MEGA: 330 FINE: 72		PR-63T	
		R4	MEGA: 68 FINE: 18		PR-45X	➔ P.34
		R10	MEGA: 27 FINE: 5		PR-46	
		R25	MEGA: 72 FINE: 23		PR-22X	➔ P.33

**▣ Flat-thin Fiber Sensors**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
Top		R2	MEGA: 160 FINE: 36	φ 0.005 Gold wire	PR-44TZ	➔ P.34
			MEGA: 160 FINE: 36		PR-47TZ	
Side			MEGA: 120 FINE: 24		PR-41TZ	
			MEGA: 500 FINE: 70		PR-42TZ	
			MEGA: 2300 FINE: 290		PR-40	

Note:

1. The above units are as follows: mm

2. The above detection distance standard reference is: 100 mm x 100 mm matte white paper

3. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings

**▶ Limit light Fiber Sensor**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
Side		R10	6	φ 0.1 Gold wire	PR-38	➔ P.34
		R10	4	φ 0.1 Gold wire	PR-38V	

**▶ Area Detection Fiber Sensor**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing
阵列		R4	MEGA: 740 FINE: 140	φ 0.005 Gold wire	PR-A05D	➔ P.37
		R4	MEGA: 740 FINE: 140	φ 0.005 Gold wire	PR-A10D	
区域		R25	MEGA: 200 FINE: 140	φ 0.1 Gold wire	PR-11	➔ P.33
		R2	MEGA: 285 FINE: 100	φ 0.1 Gold wire	PR-AL11-PA	➔ P.37





**▶ Heat Resistant Fiber Sensor**

Type	Appearance	Minimum bending radius	Detection distance	Minimum detectable objects	Model	Drawing	
105℃		R25	MEGA: 1100 FINE: 230	φ 0.005 Gold wire	PR-85A	➔ P.36	
200℃			MEGA: 1100 FINE: 230		GR-610FP		
			MEGA: 1100 FINE: 230		GR-620FP		
250℃			MEGA: 1100 FINE: 150		GR-11-10		
300℃			MEGA: 770 FINE: 190		GR-82C		
			MEGA: 500 FINE: 70		GR-83C		
350℃			MEGA: 1100 FINE: 180		GR-410(100)		
			MEGA: 1100 FINE: 180		GR-420(100)		
			MEGA: 1100 FINE: 180		GR-610(100)		
			MEGA: 1100 FINE: 180		GR-620(100)		
			MEGA: 1100 FINE: 180		GR-D61		
			MEGA: 1100 FINE: 180		GR-D61-S		
			MEGA: 1100 FINE: 180		GR-D73		
			MEGA: 1100 FINE: 180		GR-D73-S		➔ P.37

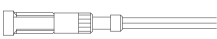




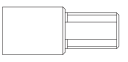
Note:

1. The above units are as follows: mm
2. The above detection distance standard reference is: 100 mm x 100 mm matte white paper
3. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings

▶ Liquid level Detection Fiber Sensor

Type	Appearance	Minimum bending radius	Detection distance	Model	Drawing
Pipeline		R10	φ4 to φ26 transparent pipe	PR-95	➔ P.37
		R10	φ4 to φ26 transparent pipe	PR-95HA	
		R4	Unlimited transparent pipe diameter	PR-D36T-OM	
Immersion		R40	50 to 1950	PR-320-SQ	

▶ Lens

Type	Appearance	Light spot diameter	Focal length	Applicable models	Model	Drawing
Adjustable light spot		φ0.9 ~ φ3.5	10 ~ 30	One-piece	PR-10	➔ P.33
Small light point		Approx. φ0.4	7 ± 2	PR-21X PR-24X PR-35FA PR-35FZ PR-35FG PR-35TZ PR-35TG	F-2HA	➔ P.38
Parallel beam		Approx. φ4	0 ~ 20		F-3HA	
Small light point		Approx. φ0.5	15 ± 2		F-4HA	
Adjustable light spot		φ0.5 ~ 3	8 ~ 30		F-5HA	
Small light point		Approx. φ2	35 ± 3		F-6HA	

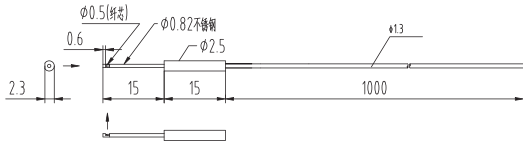
Note:

1. The above units are as follows: mm
2. The above detection distance standard reference is: 100 mm x 100 mm matte white paper
3. The minimum detectable object is under the condition of optimal detection distance and sensitivity Settings

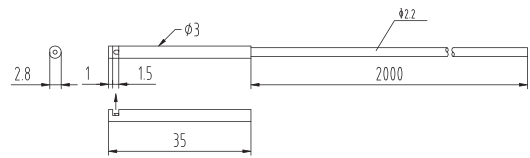
## Trough Beam Sensor

(单位: mm)

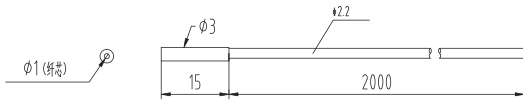
PT-32



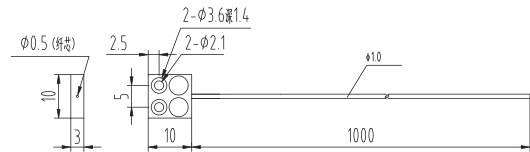
PT-T14L-OM PT-T14LR-OM



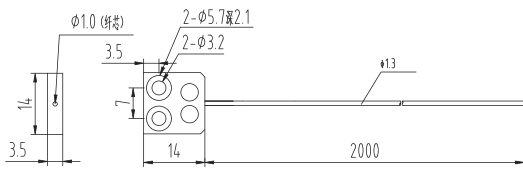
PT-5F / PT-5FZ



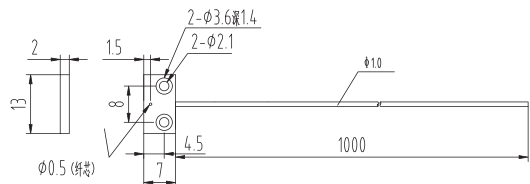
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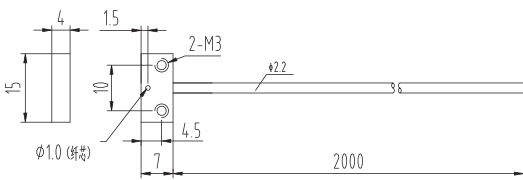
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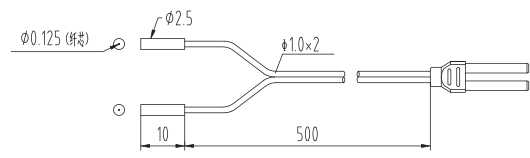
PT-53TZ



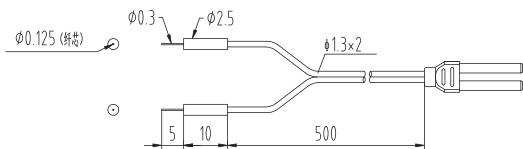
PT-54TZ



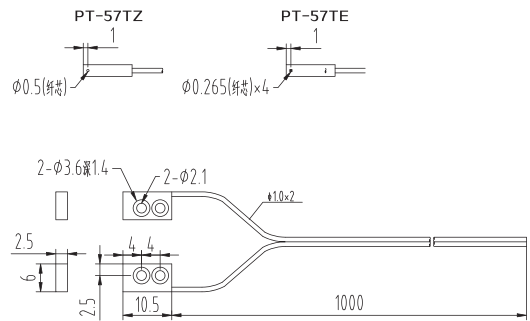
PT-55



PT-56



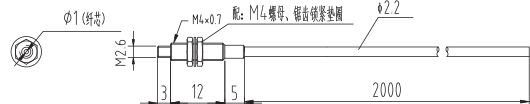
PT-57TZ / PT-57TE



PT-59



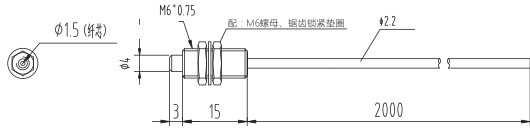
PT-7F



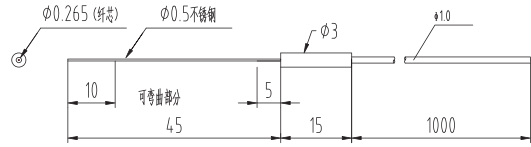
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Trough Beam Sensors

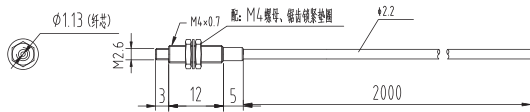
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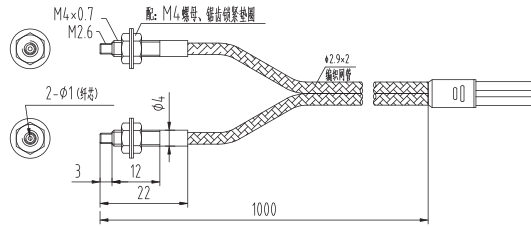
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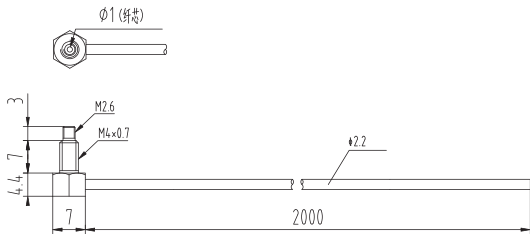
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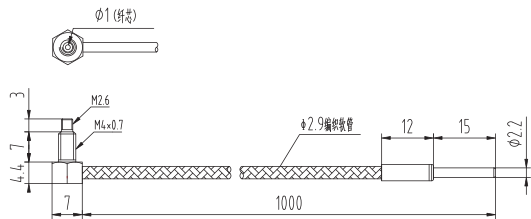
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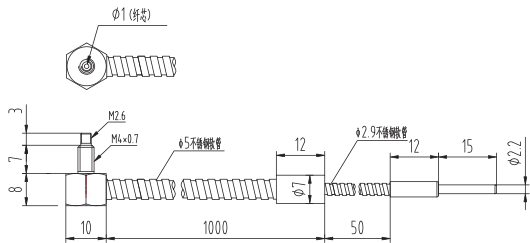
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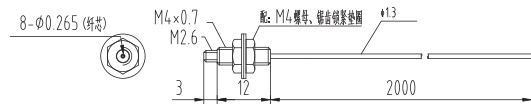
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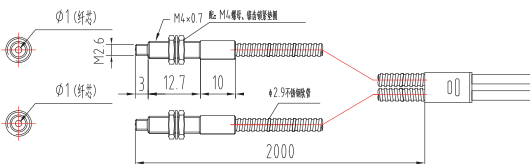
PT-77MTG



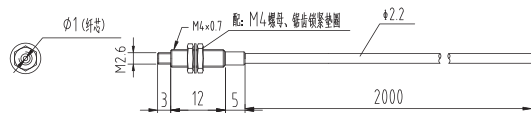
PT-78



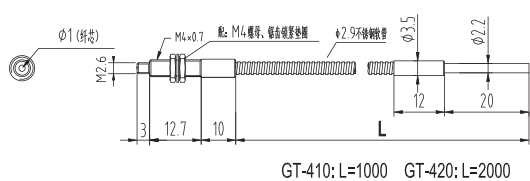
GT-84C



PT-86A

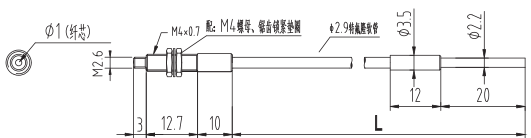


GT-410 / GT-420



GT-410: L=1000 GT-420: L=2000

GT-410FP / GT-420FP



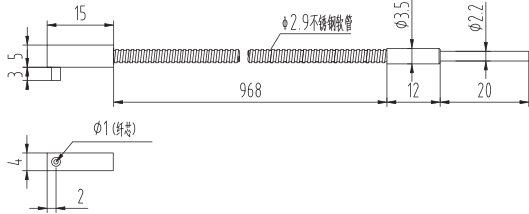
GT-410FP: L=1000 GT-420FP: L=2000



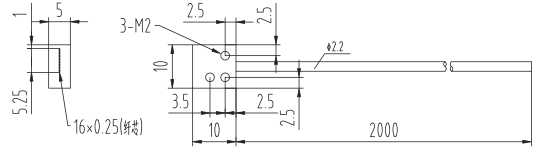
## Trough Beam Sensor

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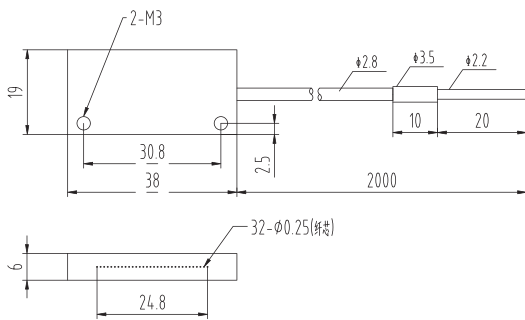
GT-11-10



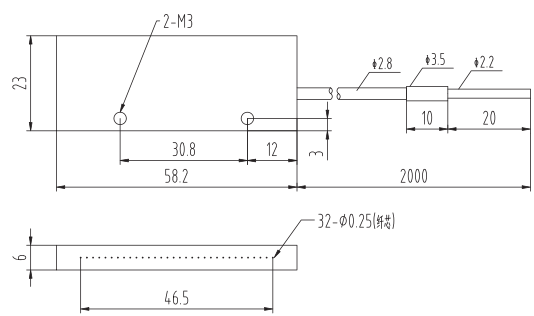
PT-10ML



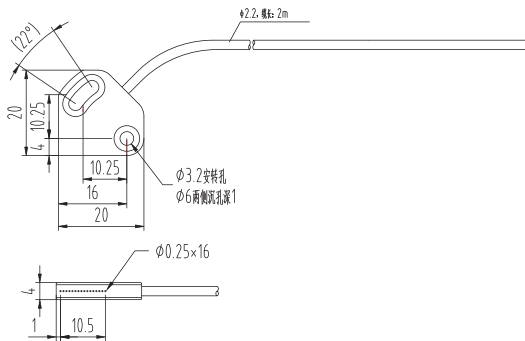
PT-30ML



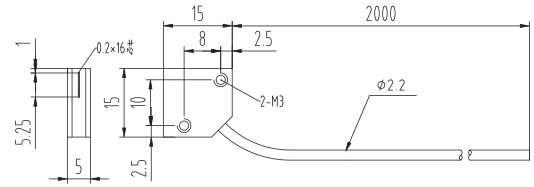
PT-50ML



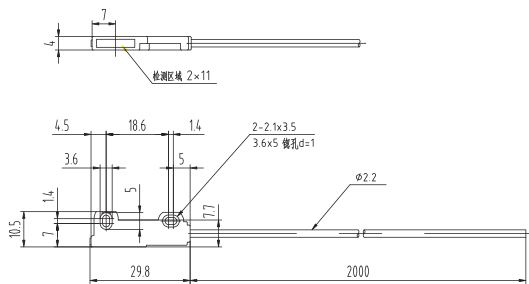
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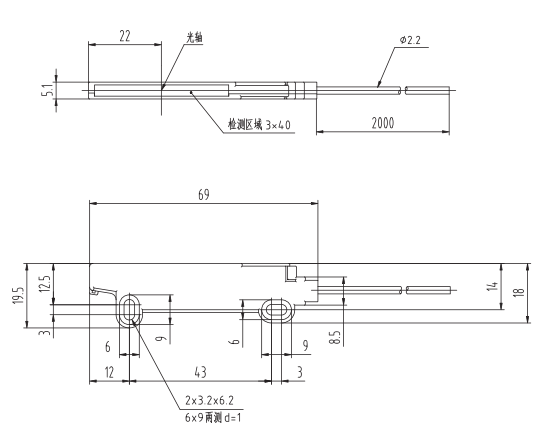
PT-AL05-PA



PT-E11



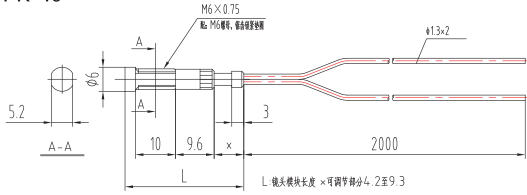
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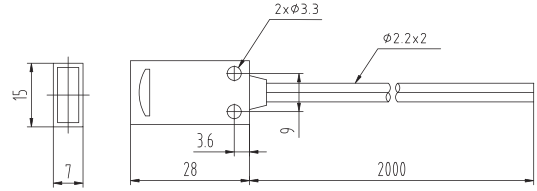
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Reflective Sensor

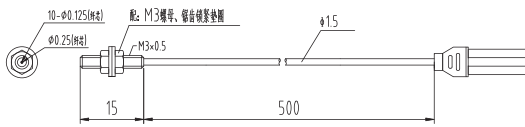
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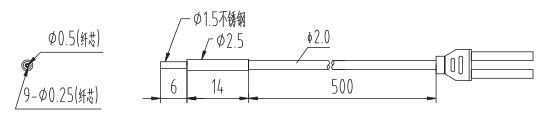
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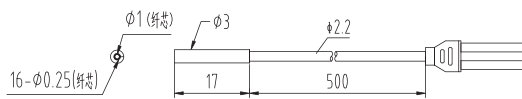
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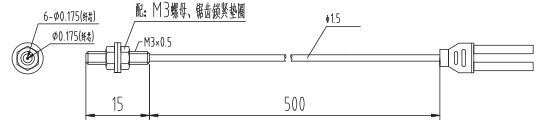
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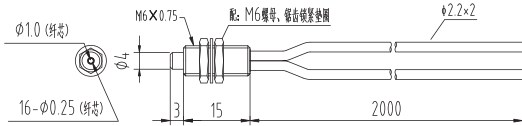
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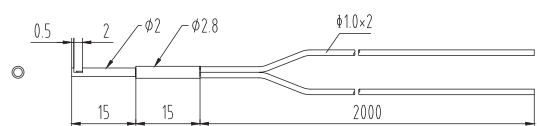
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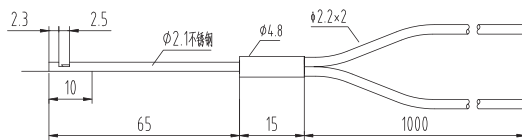
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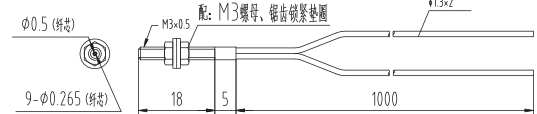
PR-31



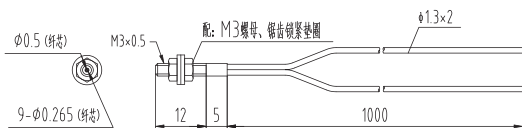
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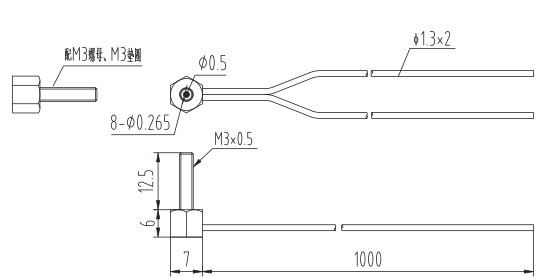
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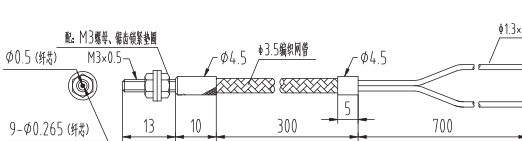
PR-35FZ



PR-35TZ



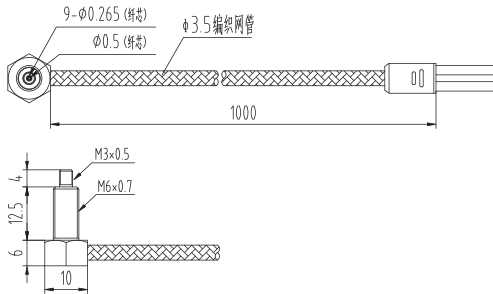
PR-35FG



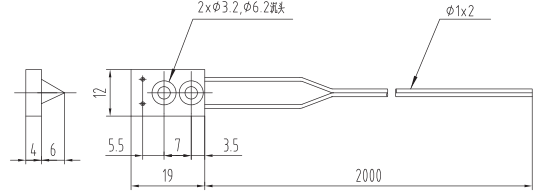
## Reflective Sensor

(单位: mm)

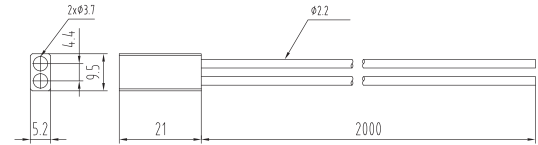
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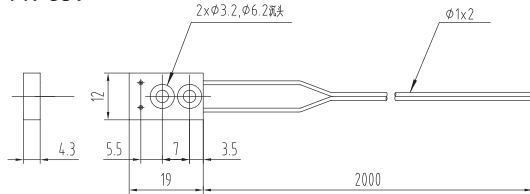
PR-38



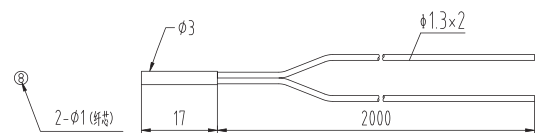
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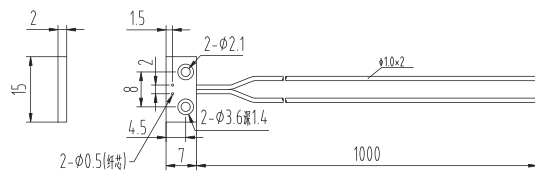
PR-38V



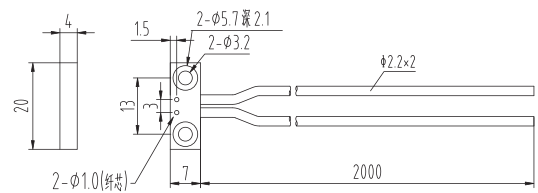
PR-4F / PR-4FZ



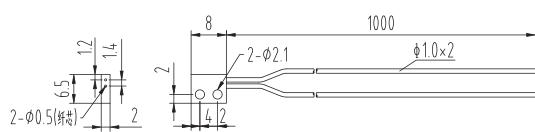
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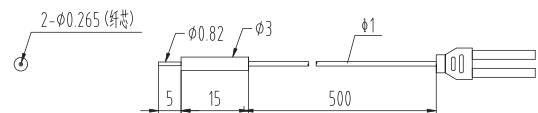
PR-42TZ



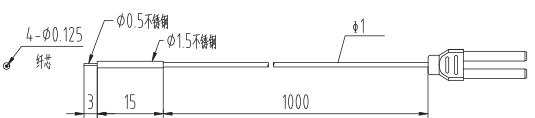
PR-44TZ



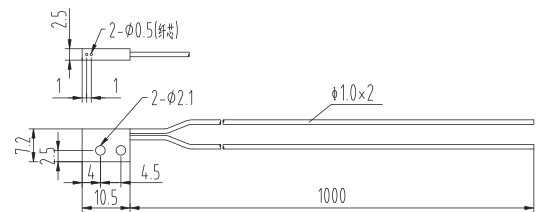
PR-45X



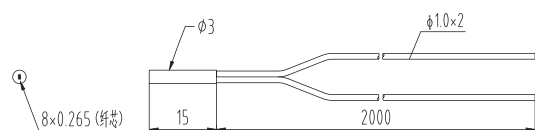
PR-46



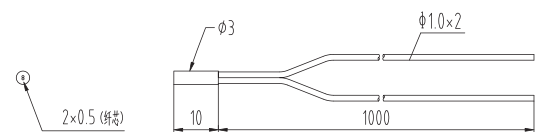
PR-47TZ



PR-48



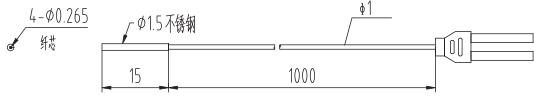
PR-48U



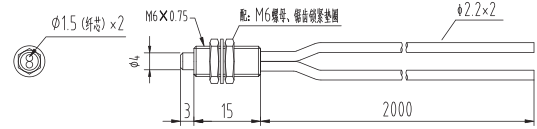
(单位: mm)

Reflective Sensor

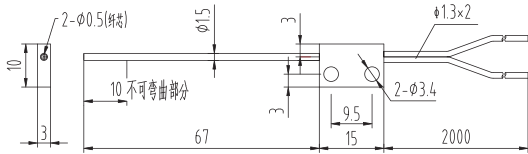
PR-49X



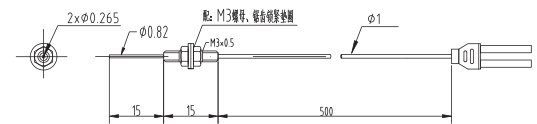
PR-61



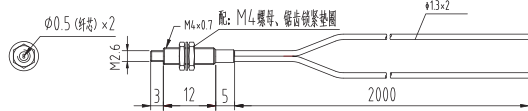
PR-63T



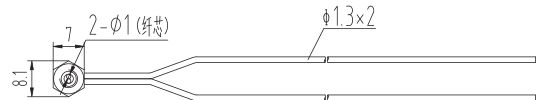
PR-65X



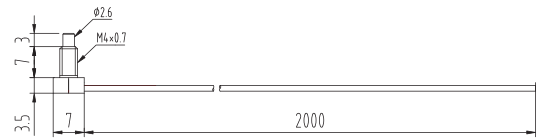
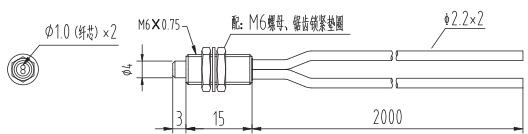
PR-66/PR-66Z



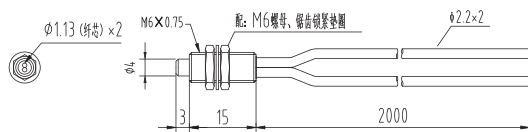
PR-66TZ



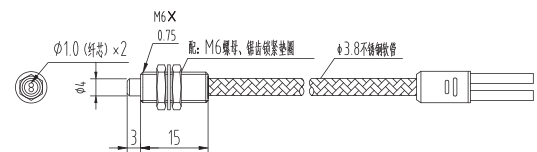
PR-6F



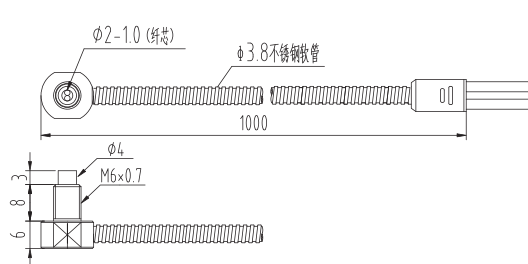
PR-67



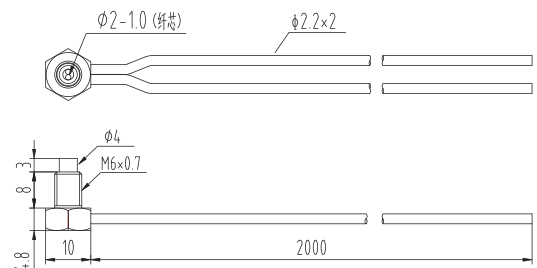
PR-67G



PR-67TG



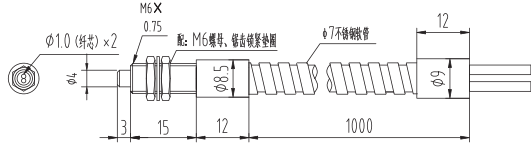
PR-67TZ



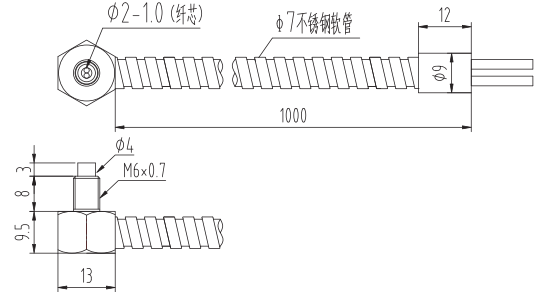
## Reflective Sensor

(单位: mm)

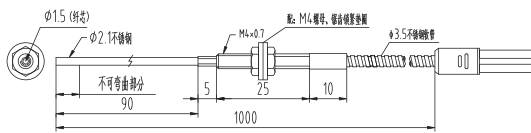
PR-67MG



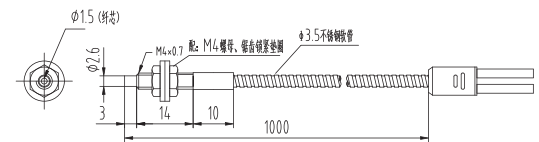
PR-67MTG



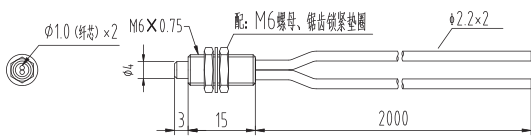
GR-82C



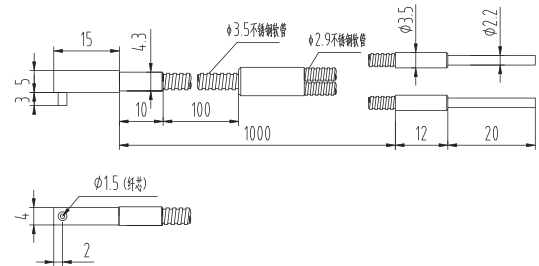
GR-83C



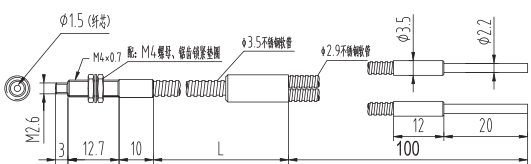
PR-85A



GR-11-10

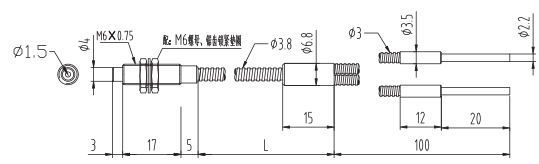


GR-410(100) / GR-420(100)



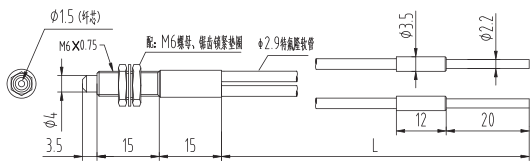
GR-410(100): L=900 GR-420(100): L=1900

GR-610(100) / GR-620(100)



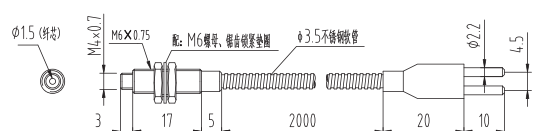
GR-610(100): L=900 GR-620(100): L=1900

GR-610FP / GR-620FP

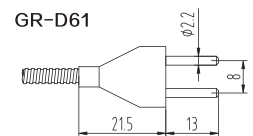


GR-610: L=100 GR-620: L=2000

GR-D61-S / GR-D61



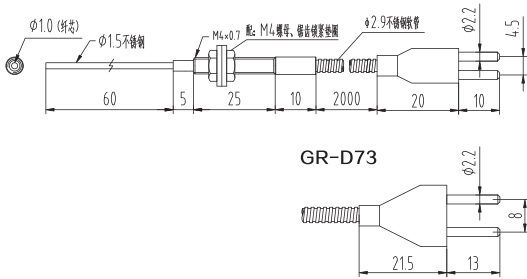
GR-D61



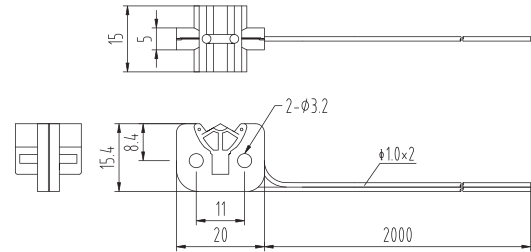
(单位: mm)

Reflective Sensor

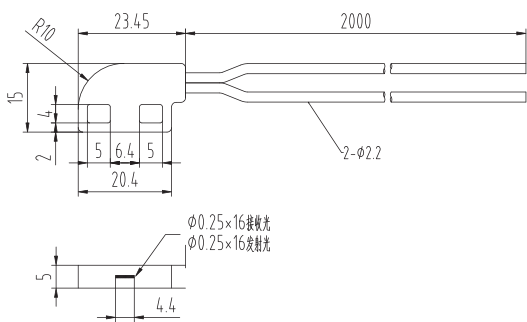
GR-D73-S / GR-D73



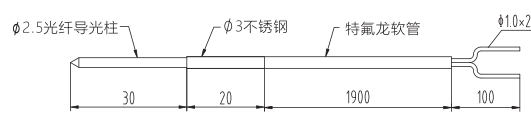
PR-95 / PR-95HA



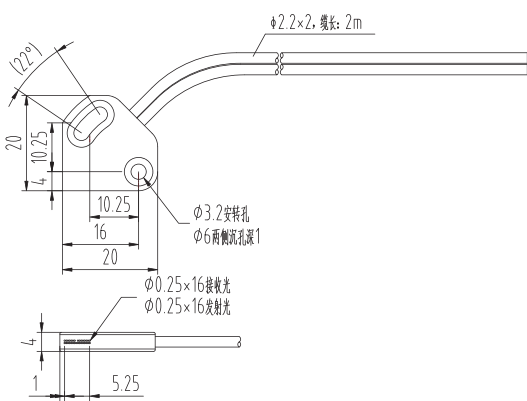
PR-D36T-OM



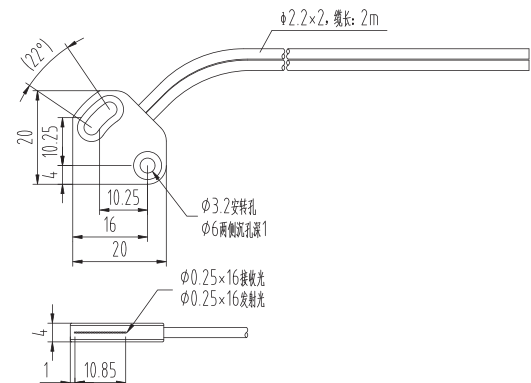
PR-320-SQ



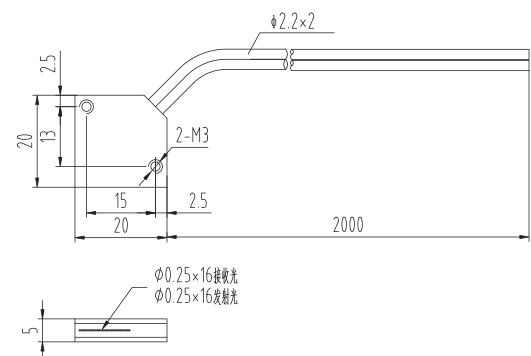
PR-A05D



PR-A10D



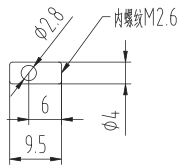
PR-AL11-PA



## Lens

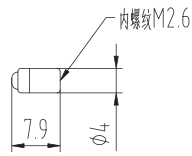
(单位: mm)

F-1



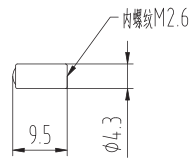
参数说明: 侧视镜头

F-2



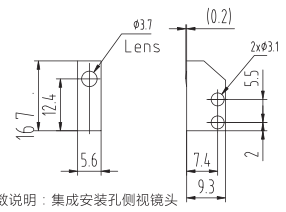
参数说明: 长距离检测 孔径角约15°

F-4



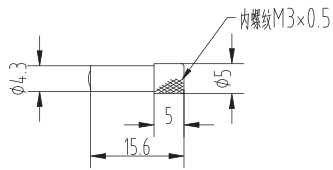
参数说明: 超长距离检测 孔径角约8°

F-5



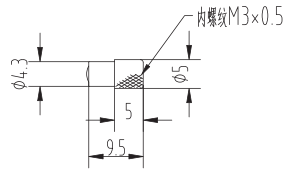
参数说明: 集成安装孔侧视镜头

F-2HA



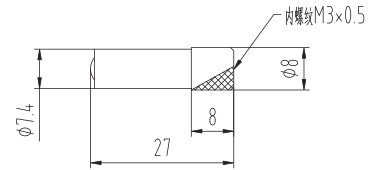
参数说明: 小光点型, 光点直径约Φ0.1-Φ0.4, 焦距7±2

F-3HA



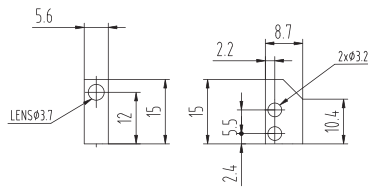
参数说明: 平行光点型, 光点直径约Φ4, 焦距20内

F-4HA



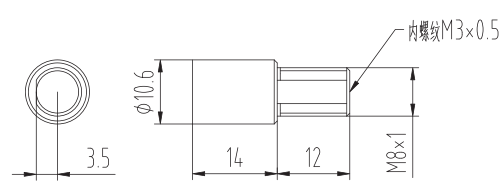
参数说明: 小光点型, 光点直径约Φ0.5, 焦距15±2

F-5HA



参数说明: 侧视可调光点, 直径Φ0.5至3, 焦距8-30

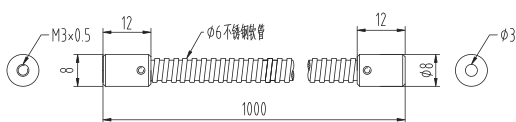
F-6HA



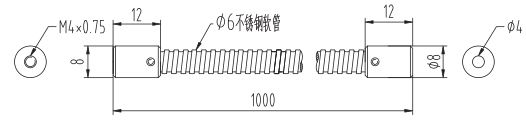
参数说明: 小光点型, 光点直径约Φ1-Φ2, 焦距35±3

## Protection tubes

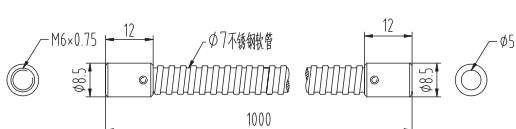
FK-310



FK-410



FK-610





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