Proximity Sensors



- Highly sensitive and intense accuracy, durability up to 8 years
- Various housing materials and sizes available
- IP67, excellent water and oil resistance

Most materials can be detected

Adopting both inductive and capacitive principle design, compatible with detection of metal and non-metal objects
The product can detect the presence or absence of most objects such as metal, plastic, glass, wood, and liquids.



Glass



Metal



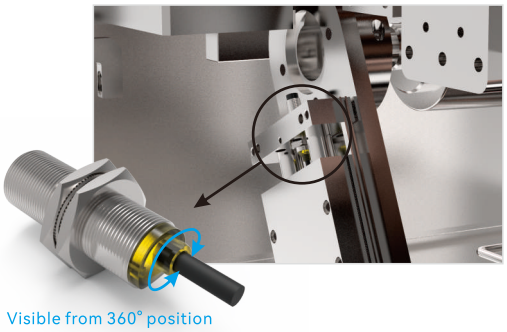
Liquid



Wood

Equipped with all around 360° signal indicator

No need to worry about the direction of the indicator when installing, more convenient to install and adjust.



Visible from 360° position

8%SN

High temperature compensation

Unique adjustable design and excellent temperature characteristics

Adopting self-developed temperature compensation algorithm, realizing 8%SN of ultra-high temperature compensation

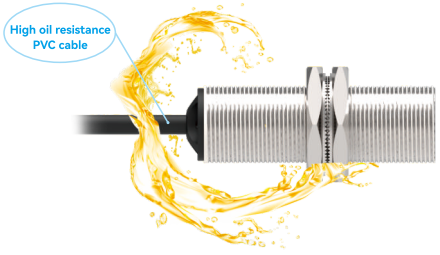
Self-developed debugging software realizing the flexible adjustment of the product output mode and detection distance

Excellent oil resistance*

Conventional products: cable deterioration due to oil chipping

Upgraded products: with highly oil-resistant PVC cables, greatly enhancing the performance of oil resistance.

* All proximity sensors can be customized





Ultra-compact (TX series)

Ultra-compact design for stable operation in small spaces

Sensors with built-in amplifier, shielded construction, can be embedded in objects for detection, easy installation

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

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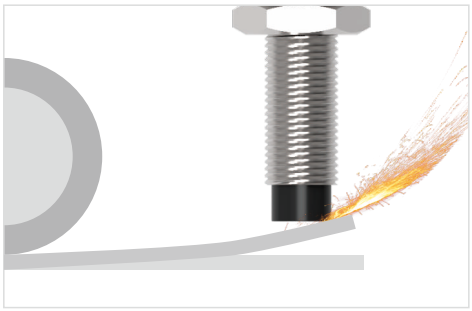
Capacitive sensors
Cylinderical
Correctsion resistanct type
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Level detection

Product Highlights

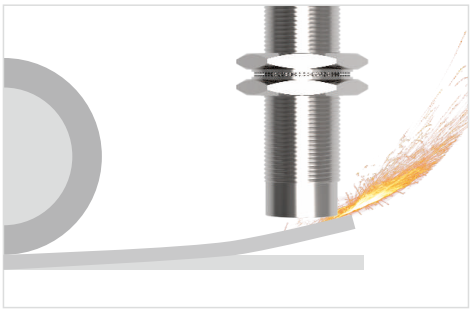
Full-metal sensing surface(TMF/TMN series)*

Anti-collision and scratch metal sensing head is not easily damaged by friction, collision with the workpiece, or cleaning with metal brushes. Compared with general resin sensing heads, it reduces unplanned downtime due to friction and collision, and has better durability.

* Full-metal sensors



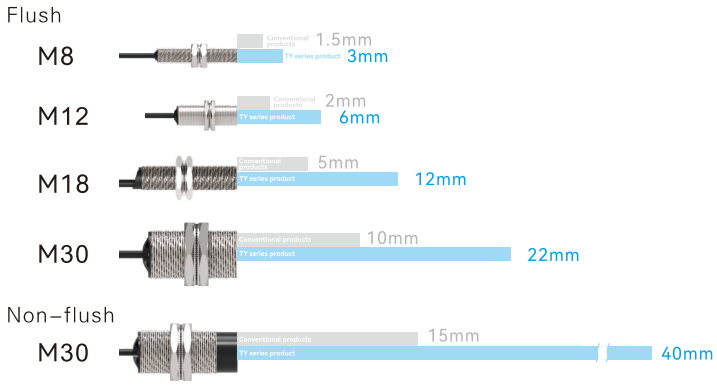
Failure after collision



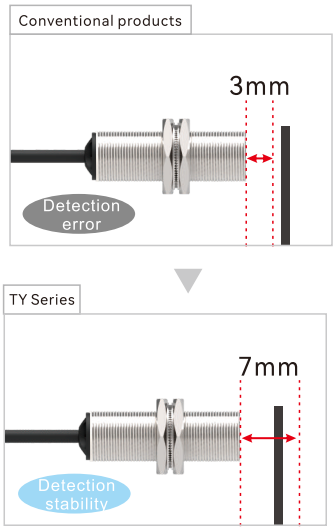
Less likely to fail after collision

Long sensing distance(TYF/N series)

1.2 times longer detection distance than conventional products



2.Even if the gripper is deflected due to vibration of the equipment, it has less effect on the detection





Standard Distance Type (TR series)

- Classical cylindrical appearance, high stability
- Adaptive to different occasions, top–notch quality, low price
- Customizable cables & connectors as requested

P.E-19



Extended Distance Type (TL series)

- sensing distance is double that of standard products
- Save installing space effectively
- Customizable cables & connectors at your request

P.E-23



Long Distance Type (TY series)

- Ultra–long sensing distance, up to 40mm
- Avoid any attenuation caused by the material of detected objects
- Ip67 high protection degree

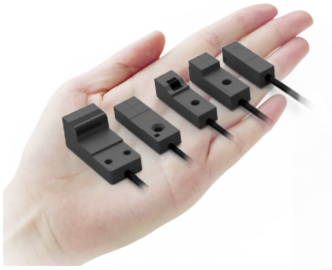
P.E-27



Square Type (TQ series)

- Kidney –shaped hole, easy installation
- Up to 8 mm sensing distance
- Plastic housing, protection degree IP67

P.E-31



Mini-square Type (TE series)

- 6mm (extral small), built–in amplifier
- 8mm sensing distance, the longest sensing distance in the industry
- Sensing surface on the top and at the front to suit your needs

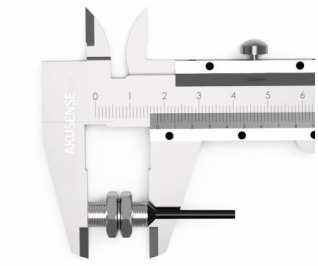
P.E-33



Mini-cylindrical Type (TX series)

- Highly stablized detection in narrow space
- Shield type, can be embeded in detecting objects
- Φ3, Φ4, M4, M5, various models for you to choose from

P.E-36



Short-body Type (TSS/TS series)

- Compared with similar sensors, the length can be shortened 1/3
- 18mm body length can perfectly fit into narrow space
- Epoxy resin fillings exhibit excellent shock resistance

P.E-39



Ring-type (TH series)

- 2mm thickness, the thinnest one in the industry
- Stainless steel housing; strong impact resistance
- Flexible sensitivity adjustment with knobs

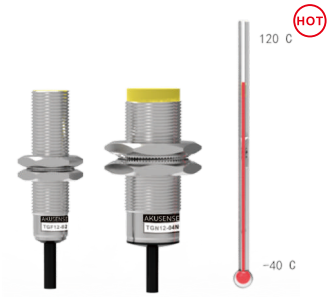
P.E-44



Metal Face Type (TM series)

- Stainless steel face, with great impact resistance
- 1000PSI/High pressure resistance
- Wonderful thermal shock and chemical resistance

P.E-46



Temperature Resistance Type (TG/TZ series)

- Extended temperature varies from –40℃ to +220℃
- Degree of protection up to IP67
- Reverse polarity protection and surge protection

P.E-49



IP69K High Protection (TP series)

- AISI 316L stainless steel housing
- IP67–IP68–IP69K protection level
- Can be used in the food and beverage field

P.E-52



Anti-welding Slag (TW series)

- Factor 1, no attenuation
- Teflon coating
- Interference suppression and high magnetic resistance

P.E-55

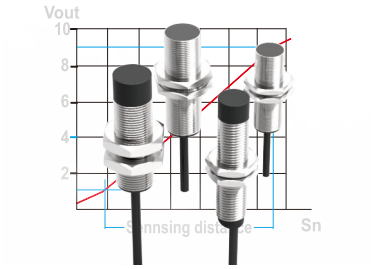
Fiber Optic
Slot Sensors
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Laser
Proximity
Displacement
Magnetic
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Cylinderical
Correctsion resistanct type
Flat type
Level detection

Guidance Inductive Sensors



Analog Output Type (TA series)

- First choice of short distance and non-contact detection
- Analog output 0~20mA and 0~10v
- Output PNP-Analog

P.E-57



DC 2-wire Type (TD series)

- Nonpolarized specifications, easy wiring method
- With smallest sensing surface M8
- 10~30V DC and 10~60V DC ,two voltages

P.E-59

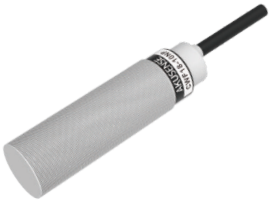
Guidance Capacitive sensors



Cylindrical Type (CK series)

- Detect metal, plastic and liquid, ect
- With reverse polarity, short circuit, surge and many other protection functions
- Metal and plastic housings are available

P.E-62



Corrosion Resistance Type (CWF series)

- Up to 20 turns sensitivity adjustment
- Teflon coatings ensure superior corrosion resistance
- Widely used in detection of metals, water, oil, glasses, plastic and water, etc

P.E-64

NEW!



Flat Type (CQ series)

- 7mm of thickness only for saving space
- Enjoy stablility; comparable to world famous brands
- Offer different kinds of sensing distance of 5mm, 6mm, 7mm and 10mm, etc

P.E-66

HOT



Liquid Level Detection (CE series)

- Free from influence of liquid color in pipeline
- Suitable for pipeline diameter from Φ8mm to Φ11mm, Φ12mm to Φ26 mm
- With built-in amplifier to save installing space

P.E-70

Type 1	Type 2	Series	
Inductive Sensors	Cylinderical	Standard Distance	TR Series
		Extended Distance	TL Series
		Long Distance	TY Series
		Mini–cylindrical	TX Series
		Short–body	TSS/TS Series
		Analog Output	TA Series
		DC 2–wire	TD Series
	Square	Standard Square	TQ Series
		Mini–square	TE Series
	Special Applications	Ring–type	TH Series
		Metal Face	TM Series
		Temerature Resistance	TG/TZ Series
		IP69K High Protection	TP Series
		Anti–welding slag	TW Series
Capacitive Sensors	Cylinderical	Plastic Housing	CK Series
	Corrosion Resistant	Teflon Housing	CWF Series
	Flat	Plastic Housing	CQ Series
	Special Applications	Liquid Level Detecion	CE Series

Fiber Optic
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Guidance

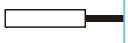
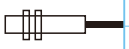
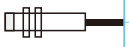
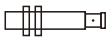
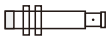
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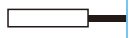
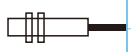
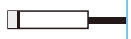
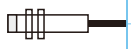
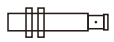
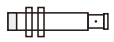
Guidance

Standard Distance DC 3-wire

Type		Appearance	Unit: mm	Sensing distance	Model number NPN Normally open	Model number NPN Normally closed	Page
Pre-wired Type	Flush		ϕ6.5*45.5	1.5mm	TRF6.5-1.5NO	TRF6.5-1.5NC	E-19
			M8*45	1.5mm	TRF08-1.5NO	TRF08-1.5NC	
			M12*44.5	2mm	TRF12-02NO	TRF12-02NC	
			M18*55	5mm	TRF18-05NO	TRF18-05NC	
			M30*54	10mm	TRF30-10NO	TRF30-10NC	
	Non-flush		ϕ6.5*45	2mm	TRN6.5-02NO	TRN6.5-02NC	
			M8*45.5	2mm	TRN08-02NO HOT	TRN08-02NC	
			M12*46.5	4mm	TRN12-04NO HOT	TRN12-04NC	
			M18*54	8mm	TRN18-08NO	TRN18-08NC	
			M30*58	15mm	TRN30-15NO	TRN30-15NC	
Connector Type	Flush		M8*60	1.5mm	TRF08-1.5NO-E1	TRF08-1.5NC-E1	
			M12*68	2mm	TRF12-02NO-E2	TRF12-02NC-E2	
			M18*82	5mm	TRF18-05NO-E2	TRF18-05NC-E2	
			M30*78	10mm	TRF30-10NO-E2	TRF30-10NC-E2	
	Non-flush		M8*60	2mm	TRN08-02NO-E1	TRN08-02NC-E1	
			M12*67	4mm	TRN12-04NO-E2	TRN12-04NC-E2	
			M18*78	8mm	TRN18-08NO-E2	TRN18-08NC-E2	
			M30*78	15mm	TRN30-15NO-E2	TRN30-15NC-E2	

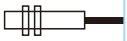
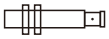
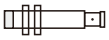
Noted: Model numbers ended with "PO/""PO-E1/""PO-E2" are PNP normally open ;model numbers ended with"PC/"PC-E1/""PC-E2" are PNP normally closed.

Extended Distance DC 3-wire

Type		Appearance	Unit: mm	Sensing distance	Model number NPN Normally open	Model number NPN Normally closed	Page
Pre-wired Type	Flush		ϕ6.5*45	2mm	TLF6.5-02NO	TLF6.5-02NC	E-23
			M8*45	2mm	TLF08-02NO	TLF08-02NC	
			M12*45	4mm	TLF12-04NO	TLF12-04NC	
			M18*54	8mm	TLF18-08NO	TLF18-08NC	
			M30*54	16mm	TLF30-16NO	TLF30-16NC	
	Non-flush		ϕ6.5*44	4mm	TLN6.5-04NO	TLN6.5-04NC	
			M8*44	4mm	TLN08-04NO HOT	TLN08-04NC	
			M12*53	8mm	TLN12-08NO HOT	TLN12-08NC	
			M18*58	16mm	TLN18-16NO	TLN18-16NC	
			M30*61	25mm	TLN30-25NO	TLN30-25NC	
Connector Type	Flush		M8*60	2mm	TLF08-02NO-E1	TLF08-02NC-E1	E-24
			M12*68	4mm	TLF12-04NO-E2	TLF12-04NC-E2	
			M18*82	8mm	TLF18-08NO-E2	TLF18-08NC-E2	
			M30*78	16mm	TLF30-16NO-E2	TLF30-16NC-E2	
	Non-flush		M8*60	4mm	TLN08-04NO-E1	TLN08-04NC-E1	
			M12*71	8mm	TLN12-08NO-E2	TLN12-08NC-E2	
			M18*82	16mm	TLN18-16NO-E2	TLN18-16NC-E2	
			M30*81	25mm	TLN30-25NO-E2	TLN30-25NC-E2	

Noted: Model numbers ended with "PO/""PO-E1/""PO-E2" are PNP normally open ; model numbers ended with"PC/"PC-E1/""PC-E2" are PNP normally closed.

DC 3-wire **Long Distance**

Type		Appearance		Sensing distance	Model number		Page
		Unit: mm			NPN Normally open	NPN Normally closed	
Pre-wired Type	Flush		ϕ6.5*45	3mm	TYF6.5-03NO	TYF6.5-03NC	E-27
			M8*45	3mm	TYF08-03NO	TYF08-03NC	
			M12*45	6mm	TYF12-06NO	TYF12-06NC	
			M18*54	12mm	TYF18-12NO	TYF18-12NC	
			M30*54	22mm	TYF30-22NO	TYF30-22NC	
	Non-flush		ϕ6.5*44	6mm	TYN6.5-06NO	TYN6.5-06NC	
			M8*44	6mm	TYN08-06NO	TYN08-06NC	
			M12*53	10mm	TYN12-10NO	TYN12-10NC	
			M18*58	20mm	TYN18-20NO	TYN18-20NC	
			M30*61	40mm	TYN30-40NO	TYN30-40NC	
Connector Type	Flush		M8*60	3mm	TYF08-03NO-E1	TYF08-03NC-E1	E-28
			M12*68	6mm	TYF12-06NO-E2	TYF12-06NC-E2	
			M18*82	12mm	TYF18-12NO-E2	TYF18-12NC-E2	
			M30*78	22mm	TYF30-22NO-E2	TYF30-22NC-E2	
	Non-flush		M8*60	6mm	TYN08-06NO-E1	TYN08-06NC-E1	
			M12*71	10mm	TYN12-10NO-E2	TYN12-10NC-E2	
			M18*82	20mm	TYN18-20NO-E2	TYN18-20NC-E2	
			M30*81	40mm	TYN30-40NO-E2	TYN30-40NC-E2	

Noted: Model numbers ended with "PO/""PO-E1/""PO-E2" are PNP normally open ;model numbers ended with"PC/"PC-E1/""PC-E2" are PNP normally closed.

DC 3-wire **Square**

Type	Appearance		Sensing distance		Model number		Page
	Unit: mm				NPN Normally open	NPN Normally closed	
Pre-wired Type	 17*17*27	Q17	Shielded	5mm	TQF17-05NO	TQF17-05NC	E-31
			Unshielded	8mm	TQN17-08NO	TQN17-08NC	
	 18*18*34	Q18	Shielded	5mm	TQF18-05NO HOT	TQF18-05NC	
			Unshielded	8mm	TQN18-08NO	TQN18-08NC	
	 18*10*30.5	Q18C	Shielded	5mm	TQF18C-05NO	TQF18C-05NC	
			Unshielded	8mm	TQN18C-08NO	TQN18C-08NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

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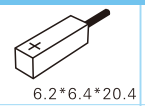
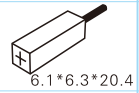
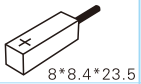
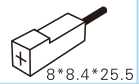
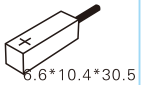
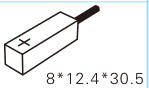
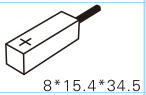
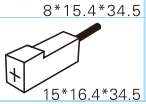
Inductive sensors
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Mini Square DC 3-wire

Type	Appearance	Sensing distance	Model number		Page
Unit: mm			NPN Normally open	NPN Normally closed	
Pre-wired Type / Non-flush	 6.2*6.4*20.4	E06	1mm	TEN06-01NO	TEN06-01NC	E-33
	 6.1*6.3*20.4	E07	1mm	TEN07-01NO	TEN07-01NC	
	 8*8.4*23.5	E08	2.5mm	TEN08-2.5NO HOT	TEN08-2.5NC	
			3mm	TEN08-03NO	TEN08-03NC	
	 8*8.4*25.5	E09	2.5mm	TEN09-2.5NO	TEN09-2.5NC	
			3mm	TEN09-03NO HOT	TEN09-03NC	
	 6.6*10.4*30.5	E10	2.5mm	TEN10-2.5NO	TEN10-2.5NC	E-34
			4mm	TEN10-04NO	TEN10-04NC	
	 8*12.4*30.5	E12	4mm	TEN12-04NO	TEN12-04NC	
	 8*15.4*34.5	E15	5mm	TEN15-05NO	TEN15-05NC	
			8mm	TEN15-08NO	TEN15-08NC	
	 15*16.4*34.5	E16	5mm	TEN16-05NO	TEN16-05NC	
			8mm	TEN16-08NO	TEN16-08NC	

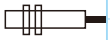
Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

Mini-cylindrical DC 3-wire

Type	Appearance	Sensing distance	Model number		Page
Unit: mm			NPN Normally open	NPN Normally closed	
Pre-wired Type / Flush		ϕ3*25	0.6mm	TXF03-0.6NO	TXF03-0.6NC	E-36
			0.8mm	TXF03-0.8NO	TXF03-0.8NC	
			1.0mm	TXF03-01NO	TXF03-01NC	
		ϕ4*25	0.8mm	TXF04-0.8NO	TXF04-0.8NC	
			1.0mm	TXF04-01NO	TXF04-01NC	
			1.2mm	TXF04-1.2NO	TXF04-1.2NC	
			1.5mm	TXF04-1.5NO	TXF04-1.5NC	
		M4*25	0.6mm	TXFM4-0.6NO	TXFM4-0.6NC	E-37
			0.8mm	TXFM4-0.8NO	TXFM4-0.8NC	
			1.0mm	TXFM4-01NO	TXFM4-01NC	
		M5*25	0.8mm	TXF05-0.8NO	TXF05-0.8NC	
			1.0mm	TXF05-01NO	TXF05-01NC	
			1.2mm	TXF05-1.2NO	TXF05-1.2NC	
			1.5mm	TXF05-1.5NO	TXF05-1.5NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

DC 3-wire **Ultra-short Body**

Type		Appearance		Sensing distance	Model number		Page
		Unit: mm			NPN Normally open	NPN Normally closed	
Pre-wired Type	Flush		ϕ6.5*18	1mm	TSSF6.5-01NO	TSSF6.5-01NC	E-39
				2mm	TSSF6.5-02NO	TSSF6.5-02NC	
				3mm	TSSF6.5-03NO	TSSF6.5-03NC	
			ϕ6.5*18	1mm	TSSF6.5Y-01NO	TSSF6.5Y-01NC	
				2mm	TSSF6.5Y-02NO	TSSF6.5Y-02NC	
				3mm	TSSF6.5Y-03NO	TSSF6.5Y-03NC	
			M8*18	1mm	TSSF08-01NO	TSSF08-01NC	E-40
				2mm	TSSF08-02NO HOT	TSSF08-02NC	
			M12*22	2mm	TSSF12-02NO	TSSF12-02NC	
				4mm	TSSF12-04NO	TSSF12-04NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

DC 3-wire **Short-body**

Type		Appearance	Sensing distance	Model number		Page
		Unit: mm		NPN Normally open	NPN Normally closed	
Pre-wired Type	Flush		M8*35	1mm	TSF08-01NO	TSF08-01NC	E-41
				2mm	TSF08-02NO	TSF08-02NC	
			M12*35	2mm	TSF12-02NO	TSF12-02NC	
				4mm	TSF12-04NO	TSF12-04NC	
			M18*35	5mm	TSF18-05NO	TSF18-05NC	
				8mm	TSF18-08NO	TSF18-08NC	
			M30*35	10mm	TSF30-10NO	TSF30-10NC	
				16mm	TSF30-16NO	TSF30-16NC	
	Non-flush		M8*35	2mm	TSN08-02NO	TSN08-02NC	E-42
				4mm	TSN08-04NO	TSN08-04NC	
			M12*35	4mm	TSN12-04NO	TSN12-04NC	
				8mm	TSN12-08NO	TSN12-08NC	
			M18*43	8mm	TSN18-08NO	TSN18-08NC	
				16mm	TSN18-16NO	TSN18-16NC	
			M30*47	15mm	TSN30-15NO	TSN30-15NC	
				25mm	TSN30-25NO	TSN30-25NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

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Ring-type DC 3-wire

Type	Appearance		Sensing distance	Model number		Page
		Unit: mm		NPN Normally open	NPN Normally closed	
Pre-wired Type		H10 Hole height:20	10.5mm	TH10-20NO	TH10-20NC	E-44
		H15 Hole height:20	15.5mm	TH15-20NO	TH15-20NC	
		H21 Hole height:20	22.5mm	TH21-20NO	TH21-20NC	
		H43 Hole height:20	43.5mm	TH43-20NO	TH43-20NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

Metal Face DC 3-wire

Type		Appearance		Sensing distance	Model number		Page
			Unit: mm		NPN Normally open	NPN Normally closed	
Pre-wired Type	Flush		M8*45	1mm	TMF08-01NO	TMF08-01NC	E-46
				2mm	TMF08-02NO	TMF08-02NC	
			M12*45	2mm	TMF12-02NO	TMF12-02NC	
				4mm	TMF12-04NO	TMF12-04NC	
			M18*54	5mm	TMF18-05NO	TMF18-05NC	
				8mm	TMF18-08NO	TMF18-08NC	
			M30*54	10mm	TMF30-10NO	TMF30-10NC	
				16mm	TMF30-16NO	TMF30-16NC	
	Non-flush		M8*49	2mm	TMN08-02NO	TMN08-02NC	E-47
				3mm	TMN08-03NO	TMN08-03NC	
			M12*54	4mm	TMN12-04NO	TMN12-04NC	
				8mm	TMN12-08NO	TMN12-08NC	
			M18*62	8mm	TMN18-08NO	TMN18-08NC	
				16mm	TMN18-16NO	TMN18-16NC	
			M30*66	15mm	TMN30-15NO	TMN30-15NC	
				25mm	TMN30-25NO	TMN30-25NC	

Noted: Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

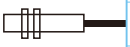
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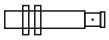
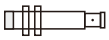
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DC 3-wire **Temperature Resistance**

Type			Appearance	Sensing distance		Model number		Page
				Unit: mm		NPN Normally open	NPN Normally closed	
High temperature resistant	120℃	Flush		M12*54	2mm	TGF12-02NO	TGF12-02NC	E-49
				M18*55	5mm	TGF18-05NO	TGF18-05NC	
				M30*51.5	10mm	TGF30-10NO	TGF30-10NC	
		Non-flush		M12*51	4mm	TGN12-04NO	TGN12-04NC	
				M18*51.5	8mm	TGN18-08NO HOT	TGN18-08NC	
				M30*51.5	15mm	TGN30-15NO	TGN30-15NC	
	220℃	Flush		M12*55	2mm	TGF12-02NO2	TGF12-02PO2	E-50
				M18*55	5mm	TGF18-05NO2	TGF18-05PO2	
				M30*54	10mm	TGF30-10NO2	TGF30-10PO2	

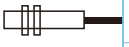
Noted:Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

IP69K High Protection

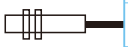
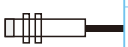
Type		Appearance	Sensing distance		Model number		Page
			Unit: mm		NPN	PNP	
Connector Type	Flush		M12*64. 6	2mm	TPF12-02NR-E2	TPF12-02PR-E2	E-52
				4mm	TPF12-04NR-E2	TPF12-04PR-E2	
			M18*63. 1	5mm	TPF18-05NR-E2	TPF18-05PR-E2	E-53
				8mm	TPF18-08NR-E2	TPF18-08PR-E2	
	Non-flush		M12*64. 6	4mm	TPN12-04NR-E2	TPN12-04PR-E2	E-52
				8mm	TPN12-08NR-E2	TPN12-08PR-E2	
			M18*63. 1	8mm	TPN18-08NR-E2	TPN18-08PR-E2	E-53
				12mm	TPN18-12NR-E2	TPN18-12PR-E2	

Note: The model ending with **NR-E2 is NPN normally open + normally closed; the model ending with **PR-E2 is PNP normally open + normally closed.

Anti-welding Slag

Type		Appearance	Sensing distance		Model number		Page
			Unit: mm		NPN	PNP	
Pre-wired Type	Flush		M12*57.2	4mm	TWF12-04NO/POE	TWF12-04NC/PCE	E-55
			M18*57.2	8mm	TWF18-08NO/POE	TWF18-08NC/PCE	
			M30*57.2	15mm	TWF30-16NO/POE	TWF30-16NC/PCE	

DC 3-wire **Analog Output**

Type		Appearance	Sensing distance		Model number		Page
			Unit: mm		PNP Current output	PNP Volage output	
Pre-wired Type	Flush		M12*45	3mm	TAF12-03PA	TAF12-03PV	E-57
			M18*54	4mm	TAF18-04PA	TAF18-04PV	
			M30*54	10mm	TAF30-10PA	TAF30-10PV	
	Non-flush		M12*44	4mm	TAN12-04PA	TAN12-04PV	
			M18*54	7mm	TAN18-07PA	TAN18-07PV	
			M30*58	14mm	TAN30-14PA	TAN30-14PV	

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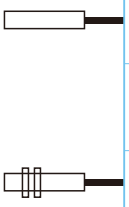
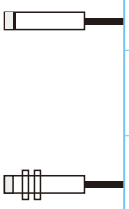
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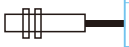
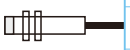
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DC 2-Wire

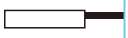
Type		Appearance	Sensing distance		Model number		Page
			Unit: mm		Normally open	Normally closed	
Pre-wired Type	Flush		ϕ6.5*45	1mm	TDF6.5-01HO	TDF6.5-01HC	E-59
				2mm	TDF6.5-02HO	TDF6.5-02HC	
			M8*45	1mm	TDF08-01HO	TDF08-01HC	
				2mm	TDF08-02HO	TDF08-02HC	
			M12*45	2mm	TDF12-02HO	TDF12-02HC	
				4mm	TDF12-04HO	TDF12-04HC	
			M18*54	5mm	TDF18-05HO	TDF18-05HC	
				8mm	TDF18-08HO	TDF18-08HC	
			M30*54	10mm	TDF30-10HO	TDF30-10HC	
				16mm	TDF30-16HO	TDF30-16HC	
	Non-flush		ϕ6.5*44	2mm	TDN6.5-02HO	TDN6.5-02HC	E-60
				4mm	TDN6.5-04HO	TDN6.5-04HC	
			M8*44	2mm	TDN08-02HO	TDN08-02HC	
				4mm	TDN08-04HO	TDN08-04HC	
			M12*44	4mm	TDN12-04HO	TDN12-04HC	
				8mm	TDN12-08HO	TDN12-08HC	
			M18*54	8mm	TDN18-08HO	TDN18-08HC	
				16mm	TDN18-16HO	TDN18-16HC	
			M30*58	15mm	TDN30-15HO	TDN30-15HC	
				25mm	TDN30-25HO	TDN30-25HC	

DC 3-wire Cylindrical

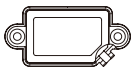
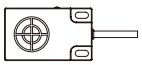
Type		Appearance	Sensing distance		Model number		Page
			Unit: mm		NPN Normally open	NPN Normally closed	
Plastic Housing	Flush		M12*55	3mm	CKF12-03NO	CKF12-03NC	E-62
			M18*70	8mm	CKF18-08NO	CKF18-08NC	
			M30*80	20mm	CKF30-20NO	CKF30-20NC	
	Non-flush		M12*59	6mm	CKN12-06NO	CKN12-06NC	
			M18*73	15mm	CKN18-15NO	CKN18-15NC	
			M30*82	30mm	CKN30-30NO	CKN30-30NC	

Noted:Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

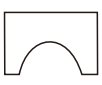
DC 4-wire Corrosion Resistance Type

Type	Appearance	Sensing distance		Model number	Page
	Unit: mm			NPN PNP Normally open/Normally closed	
Teflon housing Non-flush		M18*70.5	10mm	CWF18-10NP	E-64

DC 3-wire Flat Type

Appearance	Sensing distance	Model number	Page
	4mm	CQ06-04NO/NC/PO/PC	E-66
	8mm	CQ06-08NO/NC/PO/PC	
	5mm	CQ07-05NO/NC/PO/PC	E-67
	10mm	CQ07-10NO/NC/PO/PC	
	8mm	CQ07-08NO/NC/PO/PC	E-68

DC 3-wire Liquid Level Detection

Type	Appearance	Exterior diameter of pipes	Model number		Page
			NPN Normally open	NPN Normally closed	
Non-flush		ϕ8~ϕ11	CE15-13NO	CE15-13NC	E-70
		ϕ12~ϕ26	CE30-26NO HOT	CE30-26NC	

Noted:Model numbers ended with "PO" are PNP normally open ;model numbers ended with"PC" are PNP normally closed.

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories
Guidance
Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
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Fiber Optic
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IP69K high protection
Anti-Slag
Analog output
DC 2 wires

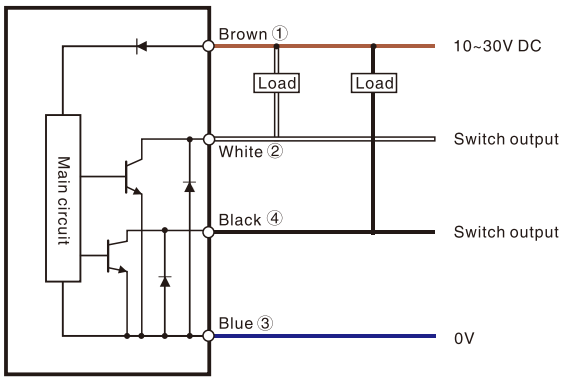
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Guidance

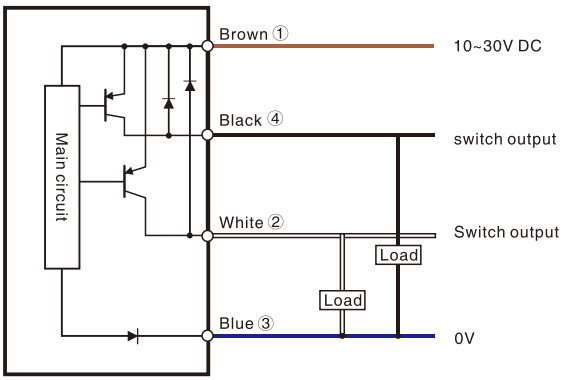
Input/Output Circuit

DC 4-Wire

NPN Output

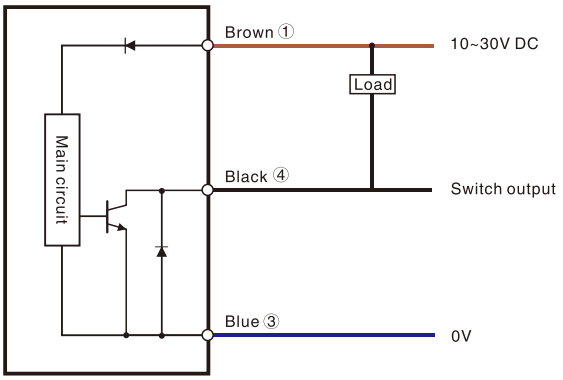


PNP Output

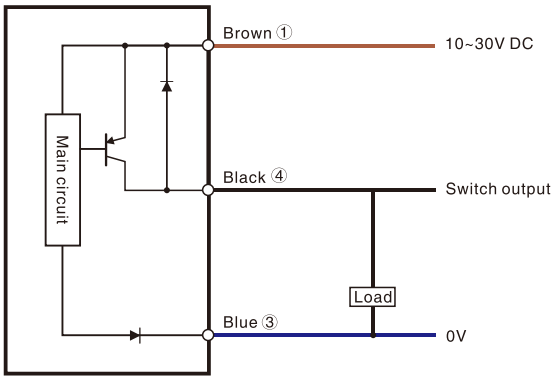


DC 3-Wire

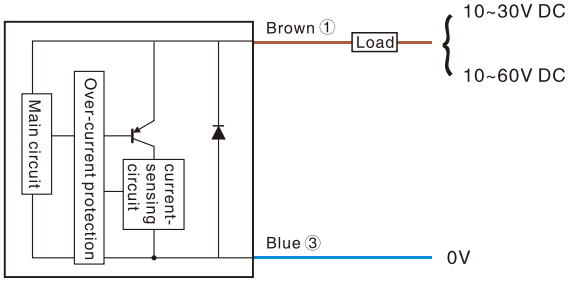
NPN Output



PNP Output

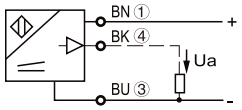
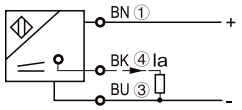
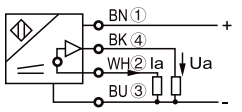


DC 2-Wire



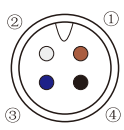
*Load (can be connected between blue wire and negative power supply.)
M8 sensor does not include short-circuit protection or current detection circuit. 1 and 4 in the circuit diagram show the connection of the connector type.

Analog

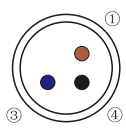
3-wire Voltage output	
3-wire Current output	
4-wire Voltage/current output	

Configulation of Connector Type Sensor

Note:Terminal 1 and 4 are used in connector models



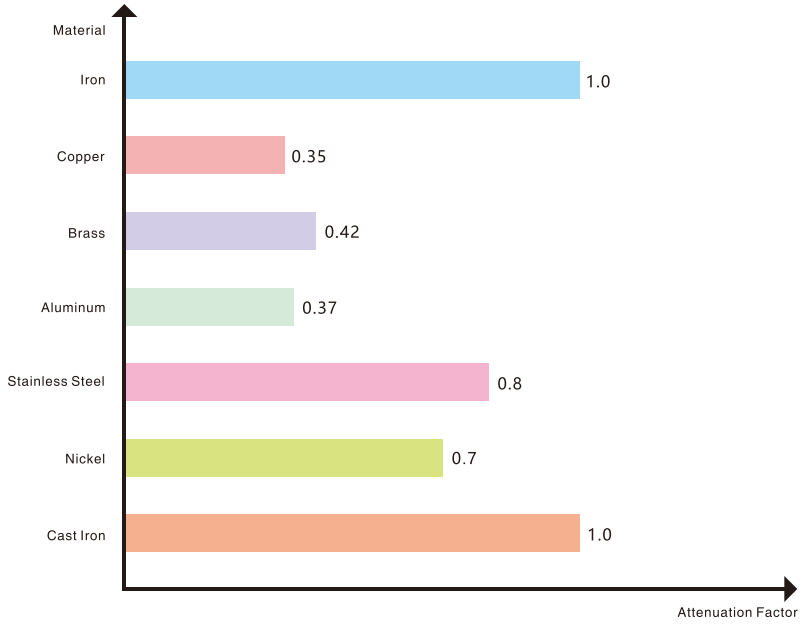
M12 4 pin



M8 3 pin

Inductance Attenuation Coefficien

Sensing distance=Nominal sensing distance*Attenuation factor



Note:

1.Proper installation: shielded or unshielded
2.Specifcations
3.Sensing distance
4.Feature of detecting objects(material and size)

Capacitive Sensors Dielectric Constant

For capacitive sensors, the sensing distance and sensitivity vary due to changes in the dielectric constant of the target object. The bigger the dielectric constant of the target object, the farther the sensing distance of the sensor

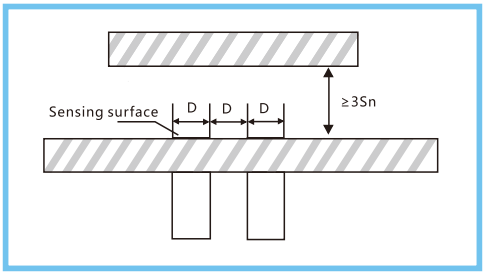
Dielectric Constant chart

Material	Dielectric Constant
Air	1
Wood	2~7
Paper	2.3
Polypropylene	2.3
Rubber, neoprene	2.5
Porcelain	4.4
Glass, pyrex	5
Water	80

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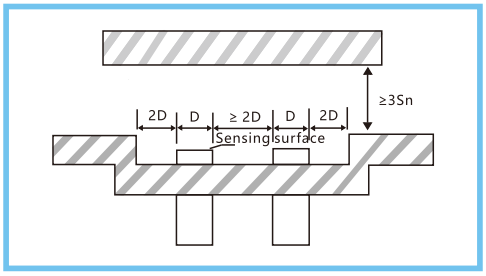
Guidance

Mounting Method



Flush Type Mounting Proximity Sensors

Sensing surface must be flush with metal surface



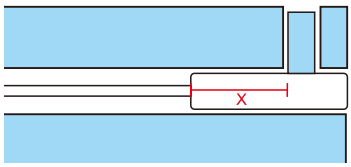
Non-flush Type Mounting Proximity Sensors

The distance between sensing surface to surrounding metals must be more than 2 times sensing distance

Mounting Torque

Cylindrical Type

1. φ3/3.4/4:Fix the sensing head with a screw at 7mm where it is near the tip part;
2. φ6.5 Fluse mounting: Fix the sensing head with a screw at 8mm where it is near the tip part;
3. φ6.5 Non-flush mounting: Fix the sensing head with a screw at 12mm where it is near the tip part.



φ3/φ3.4/φ4: X=7mm φ6.5: X=8~12mm

Thread Type

When installing a threaded sensor,please do not exceed the torque listed below.

Model No.	Tightening torque N
M4*0.5	1.5
M5*0.5	1.5
M8*1	3.5
M12*1	16
M18*1	28
M30*1.5	150

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Capacitive Sensors

T ① ② ③ – ④ ⑤ ⑥ – ⑦

No.	Classification	Explantion of model numbers
①	Series	A: Analog Output D: DC 2–wire E: Mini Square G: High–temperature Resistant H: Ring–type L: Extended Distance M: Metal Face Q: Square R: Standard Distance S: Short body P: IP69K SS: Super Short Body W:Anti–welding Slag X: Mini–cylindrical Y: Long Distance Z: Low Temperature Resistant
②	Mounting	F: Flush N: Non–flush
③	Specifications	08: M8 12: M12 18: M18 30: M30
④	Sensing Distance	1.5: 1.5mm 02: 2mm 05: 5mm 08: 8mm
⑤	Output Type	N: NPN P: PNP H: DC 2–Wire
⑥	Output Status	O: Normally open C: Normally closed A: Current output V: Voltage output
⑦	Connection	Null: Pre–wired type E1: M8 3 pin connector E2: M12 4 pin connector

Capacitive Sensors

C ① ② ③ – ④ ⑤ ⑥ – ⑦

No.	Classification	Explantion of model numbers
①	Series	E: Liquid Level Detection K: Plastic Shells Q: Flat Type W: Corrosion resistant
②	Mounting	F: Flush N: Non–flush
③	Specifications	08: M8 12: M12 18: M18 30: M30
④	Sensing Distance	1.5: 1.5mm 02: 2mm 05: 5mm 08: 8mm
⑤	Output Type	N: NPN P: PNP H: DC 2–Wire
⑥	Output Status	O: Normally open C: Normally closed
⑦	Connection	Null: Pre–wired type E1: M8 3 pin connector E2: M12 4 pin connector

Standard Range-TR series

Pre-wired



Basic Features	Working principle	Inductive sensor									
	Housing	Cylindrical									
	Installation type	Flush					Non-flush				
	Sensing distance	1.5mm ± 10%		2.0mm ± 10%	5.0mm ± 10%	10mm ± 10%	2.0mm ± 10%		4.0mm ± 10%	8.0mm ± 10%	15mm ± 10%
	Thread size	ϕ6.5	M8	M12	M18	M30	ϕ6.5	M8	M12	M18	M30
	Sensing surface material	PBT									
	Detected objects	Metal									
	Indicator	Operation Status: LED									
	Sensing range adjustment	None									
Electrical data	Switching output	No:normally open,NC:normally closed									
	Output mode	NPN or PNP Open Collector									
	External input	None									
	Switching frequency	2.0kHz	1.5kHz	1.0kHz		0.3kHz	2.0kHz	1.0kHz	0.8kHz	0.5kHz	0.15kHz
	Repeatability	1%							5%	1%	
	Hysteresis	≤15%									
	Operating Voltage	10~30V DC±10%									
	Current consumption	≤10mA								≤20mA	
	Residual Voltage	≤1.5V		≤2.0V			≤1.5V		≤2.0V		
	Load current	150mA									
	Leakage current	<0.01mA									
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure									
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure									
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions									
	Circuit Protection	Short circuit protection									
Environmental conditions	Operating Temperature	–25~+75℃									
	Operating Humidity	35~85%									
	Enclosure rating	IP67									
Mechanical data	Connection type	2m/3-core Cable									
	Dimension	Ø6.5x45.5mm	M8x46.7mm	M12x49.7mm	M18x63.0mm	M30x55.6mm	Ø6.5x45.0mm	M8x50.7mm	M12x54.6mm	M18x63.1mm	M30x58.5mm
	Material	Stainless steel+PBT		Copper–nickel alloy+PBT			Stainless steel+PBT		Copper–nickel alloy+PBT		
	Weight	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TRF6.5-1.5[NO]	TRF08-1.5[NO]	TRF12-02[NO]	TRF18-05[NO]	TRF30-10[NO]	TRN6.5-02[NO]	TRN08-02[NO] HOT	TRN12-04[NO] HOT	TRN18-08[NO]	TRN30-15[NO]
	Others	[NO]:NPN Normally open		[NC]:NPN Normally closed			[PO]:PNP Normally open		[PC]:PNP Normally closed		

Fiber Optic
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Guidance

Inductive sensors
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Temperature resistance type
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Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Connector Type





Basic Features	Working principle	Inductive sensor							
	Housing	Cylindrical							
	Installation type	Flush				Non-flush			
	Sensing distance	1.5mm ± 10%	2.0mm ± 10%	5.0mm ± 10%	10mm ± 10%	2.0mm ± 10%	4.0mm ± 10%	8.0mm ± 10%	15mm ± 10%
	Thread size	M8	M12	M18	M30	M8	M12	M18	M30
	Sensing surface material	PBT							
	Detected objects	Metal							
	Indicator	Operation Status: LED							
	Sensing range adjustment	None							
Electrical data	Switching output	No:normally open,NC:normally closed							
	Output mode	NPN or PNP Open Collector							
	External input	None							
	Switching frequency	1.5kHz	2.0kHz	1.0kHz	0.3kHz	1.0kHz		0.5kHz	0.15kHz
	Repeatability	1%							
	Hysteresis	≤15%							
	Operating Voltage	10~30V DC±10%							
	Current consumption	≤10mA							
	Residual Voltage	≤1.5V							
	Load current	150mA							
	Leakage current	<0.01mA							
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure							
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure							
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions							
	Circuit Protection	Short circuit protection							
Environmental conditions	Operating Temperature	–25~+75℃							
	Operating Humidity	35~85%							
	Enclosure rating	IP67							
Mechanical data	Connection type	M8/3-pin Connector	M12/4-pin Connector			M8/3-pin Connector	M12/4-pin Connector		
	Dimension	M8x60.0mm	M12x68.0mm	M18x82.0mm	M30x78.0mm	M8x60.0mm	M12x67.0mm	M18x78.0mm	M30x78.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT			Stainless steel+PBT	Copper–nickel alloy+PBT		
	Weight	0.012kg	0.05kg	0.08kg	0.12kg	0.012kg	0.05kg	0.08kg	0.012kg
	Accessories	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TRF08-1.5NO-E1	TRF12-02NO-E2	TRF18-05NO-E2	TRF30-10NO-E2	TRN08-02NO-E1	TRN12-04NO-E2	TRN18-08NO-E2	TRN30-15NO-E2
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed							

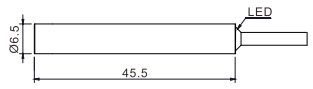
Standard Distance-TR Series

Dimensions- Pre-wired Type

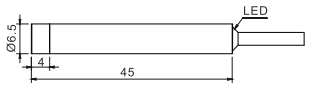
Unit:mm

ϕ6.5

TRF6.5-1.5□□

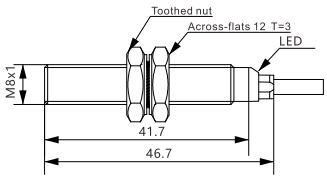


TRN6.5-02□□

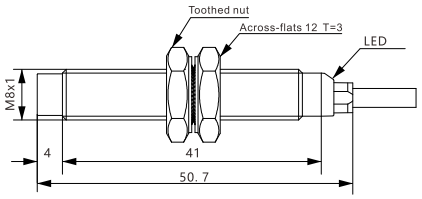


M8

TRF08-1.5□□

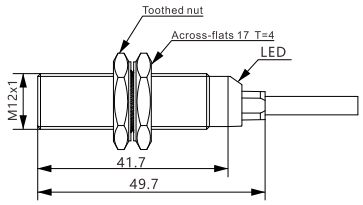


TRN08-02□□

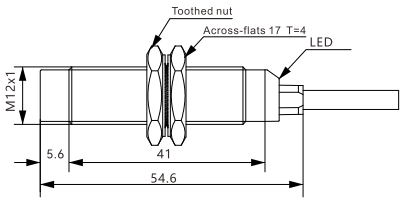


M12

TRF12-02□□

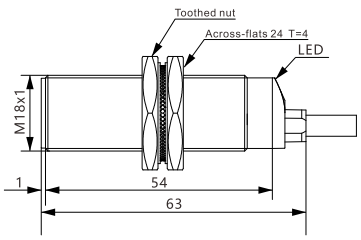


TRN12-04□□

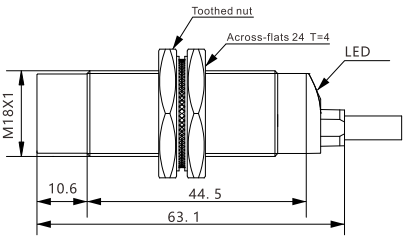


M18

TRF18-05□□

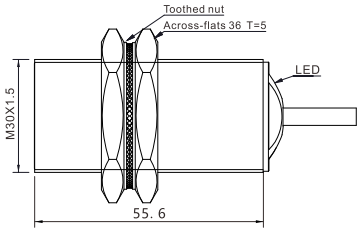


TRN18-08□□

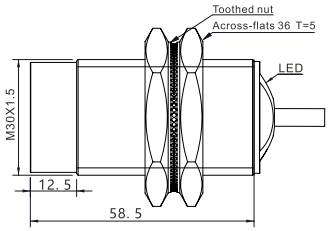


M30

TRF30-10□□



TRN30-15□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

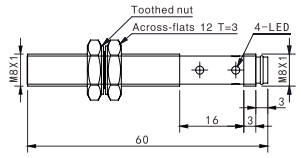
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Unit:mm

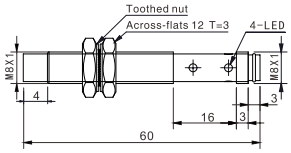
Dimensions- Connector Type

M8

TRF08-1.5□□-E1



TRN08-02□□-E1

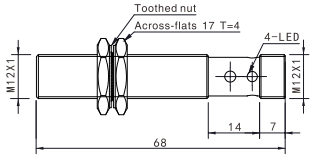




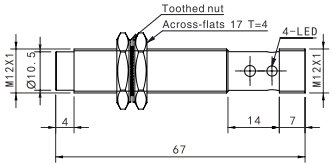
M8 3PIN

M12

TRF12- 02□□-E2



TRN12-04□□-E2

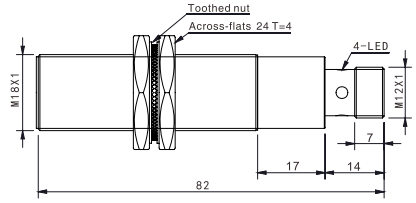




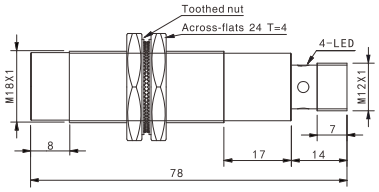
M12 4PIN

M18

TRF18-05□□-E2



TRN18- 08□□-E2

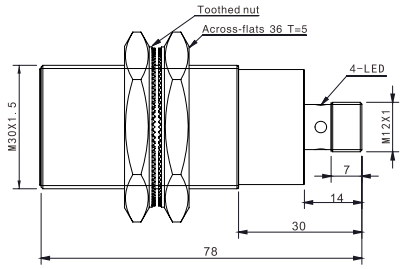




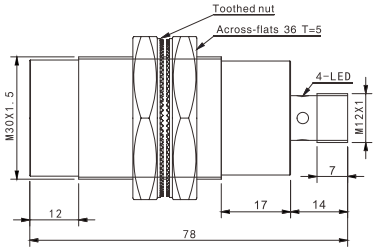
M12 4PIN

M30

TRF30-10□□-E2



TRN30-15□□-E2





M12 4PIN

Extended Distance-TL Series

Pre-wired Type






Basic Features	Working principle	Inductive sensor									
	Housing	Cylindrical									
	Installation type	Flush					Non-flush				
	Sensing distance	2.0mm ± 10%		4.0mm ± 10%	8.0mm ± 10%	16mm ± 10%	4.0mm ± 10%		8.0mm ± 10%	16mm ± 10%	25mm ± 10%
	Thread size	ϕ6.5	M8	M12	M18	M30	ϕ6.5	M8	M12	M18	M30
	Sensing surface material	PBT									
	Detected objects	Metal									
	Indicator	Operation Status: LED									
	Sensing range adjustment	None									
Electrical data	Switching output	No:normally open,NC:normally closed									
	Output mode	NPN or PNP Open Collector									
	External input	None									
	Switching frequency	2.0kHz	1.0kHz	0.3kHz	0.5kHz	0.15kHz	1.0kHz	0.8kHz	0.5kHz	0.15kHz	0.1kHz
	Repeatability	1%		5%	1%		5%		1%		
	Hysteresis	≤15%									
	Operating Voltage	10~30V DC±10%									
	Current consumption	≤10mA									
	Residual Voltage	≤1.5V	≤2.0V				≤1.5V	≤2.0V			
	Load current	150mA									
	Leakage current	<0.01mA									
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure									
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure									<40V
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions									
	Circuit Protection	Short circuit protection									
Environmental conditions	Operating Temperature	–25~+75℃									
	Operating Humidity	35~85%									
	Enclosure rating	IP67									
Mechanical data	Connection type	2m/3-core Cable									
	Dimension	Ø6.5x45.5mm	M8x46.7mm	M12x49.7mm	M18x63.0mm	M30x55.6mm	Ø6.5x45.0mm	M8x50.7mm	M12x54.6mm	M18x63.1mm	M30x58.5mm
	Material	Stainless steel+PBT		Copper–nickel alloy+PBT			Stainless steel+PBT		Copper–nickel alloy+PBT		
	Weight	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TLF6.5-02[NO]	TLF08-02[NO]	TLF12-04[NO]	TLF18-08[NO]	TLF30-16[NO]	TLN6.5-04[NO]	TLN08-04[NO] HOT	TLN12-08[NO] HOT	TLN18-16[NO]	TLN30-25[NO]
	Others	[NO]:NPN Normally open [NC]:NPN Normally closed [PO]:PNP Normally open [PC]:PNP Normally closed									

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Connector Type





Basic Features	Working principle	Inductive sensor							
	Housing	Cylindrical							
	Installation type	Flush				Non-flush			
	Sensing distance	2.0mm ± 10%	4.0mm ± 10%	8.0mm ± 10%	16mm ± 10%	4.0mm ± 10%	8.0mm ± 10%	16mm ± 10%	25mm ± 10%
	Thread size	M8	M12	M18	M30	M8	M12	M18	M30
	Sensing surface material	PBT							
	Detected objects	Metal							
	Indicator	Operation Status: LED							
	Sensing range adjustment	None							
Electrical data	Switching output	No:normally open,NC:normally closed							
	Output mode	NPN or PNP Open Collector							
	External input	None							
	Switching frequency	1kHz		0.5kHz	0.15kHz	0.8kHz	0.5kHz	0.15kHz	0.1kHz
	Repeatability	1%							
	Hysteresis	≤15%							
	Operating Voltage	10~30V DC±10%							
	Current consumption	≤10mA							
	Residual Voltage	≤1.5V							
	Load current	150mA							
	Leakage current	<0.01mA							
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure							
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure						<40V	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions							
	Circuit Protection	Short circuit protection							
Environmental conditions	Operating Temperature	–25~+75℃							
	Operating Humidity	35~85%							
	Enclosure rating	IP67							
Mechanical data	Connection type	M8/3-pin Connector	M12/4-pin Connector			M8/3-pin Connector	M12/4-pin Connector		
	Dimension	M8x60.0mm	M12x68.0mm	M18x82.0mm	M30x78.0mm	M8x60.0mm	M12x71.0mm	M18x82.0mm	M30x81.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT			Stainless steel+PBT	Copper–nickel alloy+PBT		
	Weight	0.012kg	0.05kg	0.08kg	0.12kg	0.012kg	0.05kg	0.08kg	0.012kg
	Accessories	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TLF08-02NO-E1	TLF12-04NO-E2	TLF18-08NO-E2	TLF30-16NO-E2	TLN08-04NO-E1	TLN12-08NO-E2	TLN18-16NO-E2	TLN30-25NO-E2
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed							

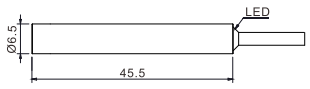
Extended Distance-TL Series

Dimensions-Pre-wired Type

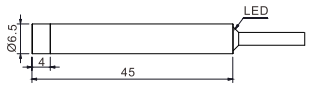
Unit:mm

ϕ6.5

TLF6.5-02□□

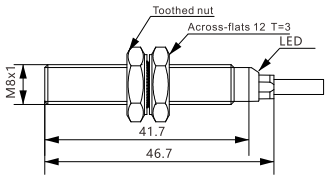


TLN6.5-04□□

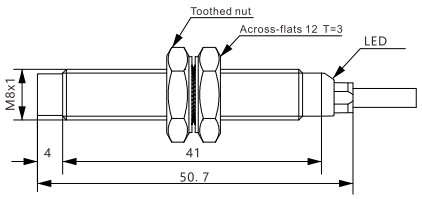


M8

TLF08-02□□

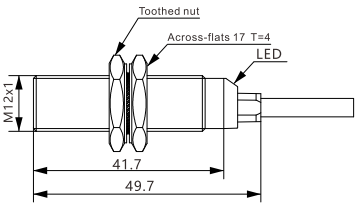


TLN08-04□□

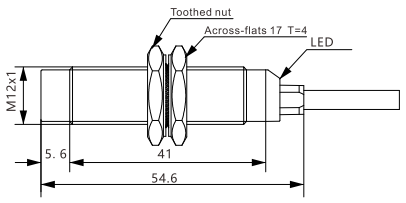


M12

TLF12-04□□

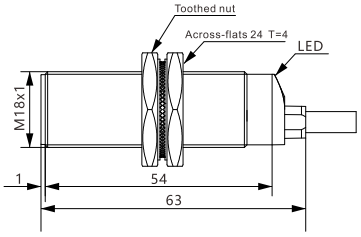


TLN12-08□□

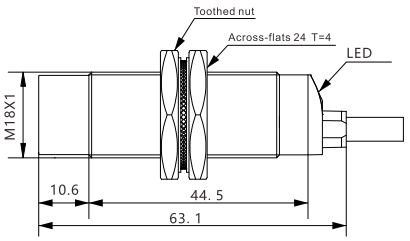


M18

TLF18-08□□

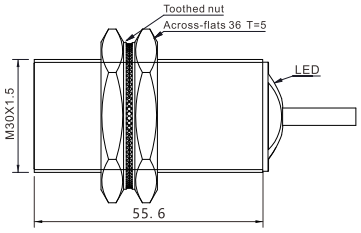


TLN18-16□□

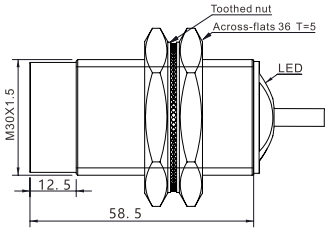


M30

TLF30-16□□



TLN30-25□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

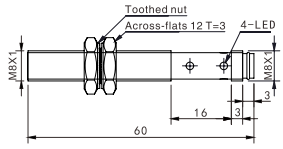
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Unit:mm

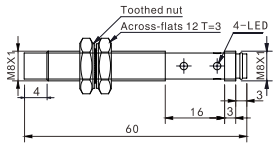
Dimensions- Connector Type

M8

TLF08-02□□-E1



TLN08-04□□-E1

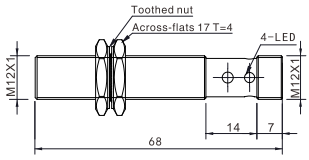




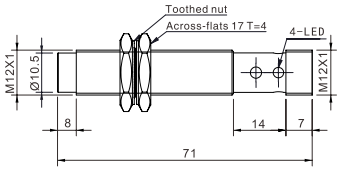
M8 3PIN

M12

TLF12-04□□-E2



TLN12-08□□-E2

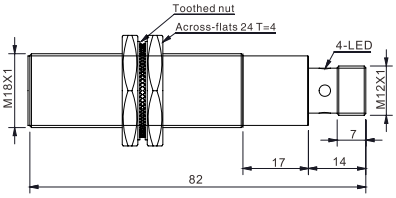




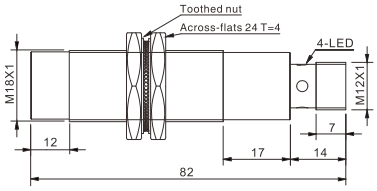
M12 4PIN

M18

TLF18-08□□-E2



TLN18-16□□-E2

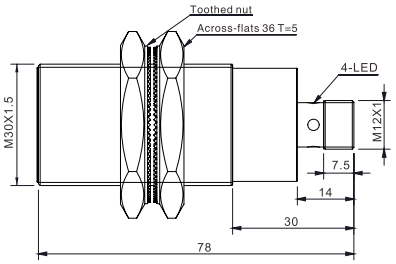




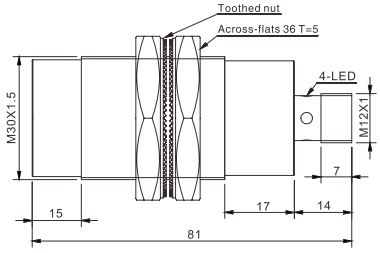
M12 4PIN

M30

TLF30-16□□-E2



TLN30-25□□-E2





M12 4PIN

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
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Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Long Distance-TY Series

Pre-wired






CE
RoHS

Basic Features	Working principle	Inductive sensor									
	Housing	Cylindrical									
	Installation type	Flush					Non-flush				
	Sensing distance	3.0mm ± 10%		6.0mm ± 10%	12mm ± 10%	22mm ± 10%	6.0mm ± 10%		10mm ± 10%	20mm ± 10%	40mm ± 10%
	Thread size	ϕ6.5	M8	M12	M18	M30	ϕ6.5	M8	M12	M18	M30
	Sensing surface material	PBT									
	Detected objects	Metal									
	Indicator	Operation Status: LED									
	Sensing range adjustment	None									
Electrical data	Switching output	No:normally open,NC:normally closed									
	Output mode	NPN or PNP Open Collector									
	External input	None									
	Switching frequency	1.0kHz		0.8kHz	0.3kHz	0.15kHz	0.5kHz		0.4kHz	0.1kHz	
	Repeatability	5%									
	Hysteresis	15%									
	Operating Voltage	10~30V DC±10%									
	Current consumption	≤10mA									
	Residual Voltage	≤1.5V									
	Load current	150mA									
	Leakage current	<0.01mA									
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure									
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure		<40V	1,000 VAC, 50/60Hz for 1 min between power terminals and enclosure	330VAC 0.26mA	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			<40V	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions									
	Circuit Protection	Short circuit protection									
Environmental conditions	Operating Temperature	–25~+75℃									
	Operating Humidity	35~85%									
	Enclosure rating	IP67									
Mechanical data	Connection type	2m/3-core Cable									
	Dimension	Ø6.5x45.0mm	M8x45.0mm	M12x45.0mm	M18x54.0mm	M30x54.0mm	Ø6.5x44.0mm	M8x44.0mm	M12x53.0mm	M18x58.0mm	M30x61.0mm
	Material	Stainless steel+PBT		Copper–nickel alloy+PBT			Stainless steel+PBT		Copper–nickel alloy+PBT		
	Weight	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	–	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TYF6.5-03NO	TYF08-03NO	TYF12-06NO	TYF18-12NO	TYF30-22NO	TYN6.5-06NO	TYN08-06NO	TYN12-10NO	TYN18-20NO	TYN30-40NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed									

Connector Type





Basic Features	Working principle	Inductive sensor							
	Housing	Cylindrical							
	Installation type	Flush				Non-flush			
	Sensing distance	3.0mm ± 10%	6.0mm ± 10%	12mm ± 10%	22mm ± 10%	6.0mm ± 10%	10mm ± 10%	20mm ± 10%	40mm ± 10%
	Thread size	M8	M12	M18	M30	M8	M12	M18	M30
	Sensing surface material	PBT							
	Detected objects	Metal							
	Indicator	Operation Status: LED							
	Sensing range adjustment	None							
Electrical data	Switching output	No:normally open,NC:normally closed							
	Output mode	NPN or PNP Open Collector							
	External input	None							
	Switching frequency	1kHz	0.8kHz	0.3kHz	0.15kHz	0.5kHz	0.4kHz	0.1kHz	
	Repeatability	5%							
	Hysteresis	15%							
	Operating Voltage	10~30V DC±10%							
	Current consumption	⩽10mA							
	Residual Voltage	⩽1.5V							
	Load current	150mA							
	Leakage current	<0.01mA							
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure							
	Dielectric strength	1,000 VAC, 50/60Hz for 1 min between power terminals and enclosure	<40V			1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	330VAC 0.11mA	<40V	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions							
	Circuit Protection	Short circuit protection							
Environmental conditions	Operating Temperature	–25~+75℃							
	Operating Humidity	35~85%							
	Enclosure rating	IP67							
Mechanical data	Connection type	M8/3-pin Connector	M12/4-pin Connector			M8/3-pin Connector	M12/4-pin Connector		
	Dimension	M8x60.0mm	M12x68.0mm	M18x82.0mm	M30x78.0mm	M8x60.0mm	M12x71.0mm	M18x82.0mm	M30x81.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT			Stainless steel+PBT	Copper–nickel alloy+PBT		
	Weight	0.012kg	0.05kg	0.08kg	0.12kg	0.012kg	0.05kg	0.08kg	0.012kg
	Accessories	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5	Nut M8x1	Nut M12x1	Nut M18x1	Nut M30x1.5
Model	NPN NO	TYF08-03NO-E1	TYF12-06NO-E2	TYF18-12NO-E2	TYF30-22NO-E2	TYN08-06NO-E1	TYN12-10NO-E2	TYN18-20NO-E2	TYN30-40NO-E2
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed							

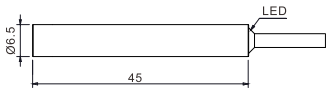
Long Distance-TY Series

Dimensions-Pre-wired

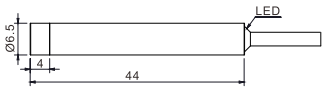
Unit:mm

φ6.5

TYF6.5-03□□

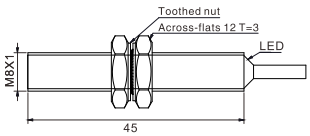


TYN6.5-06□□

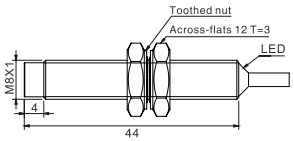


M8

TYF08-03□□

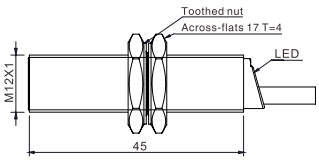


TYN08-06□□

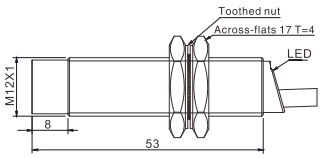


M12

TYF12-06□□

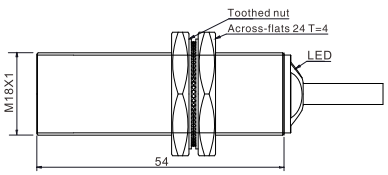


TYN12-10□□

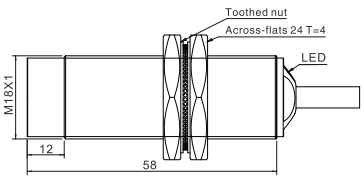


M18

TYF18-12□□

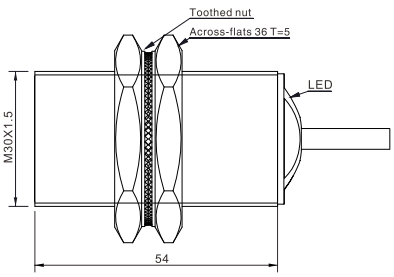


TYN18-20□□

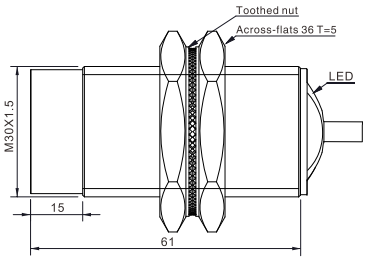


M30

TYF30-22□□



TYN30-40□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

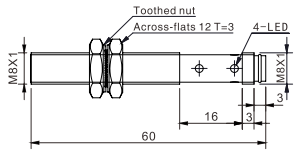
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Unit:mm

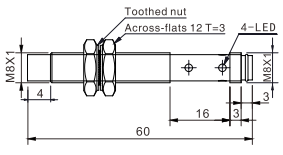
Dimensions-Connector Type

M8

TYF08-03□□-E1



TYN08-06□□-E1

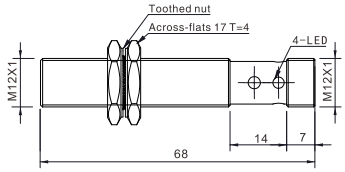




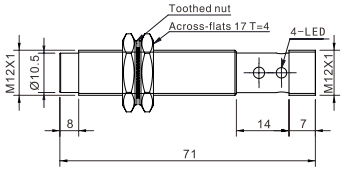
M8 3PIN

M12

TYF12-06□□-E2



TYN12-10□□-E2

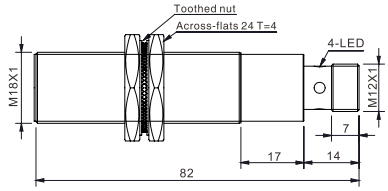




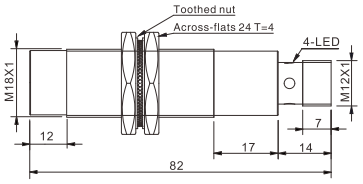
M12 4PIN

M18

TYF18-12□□-E2



TYN18-20□□-E2

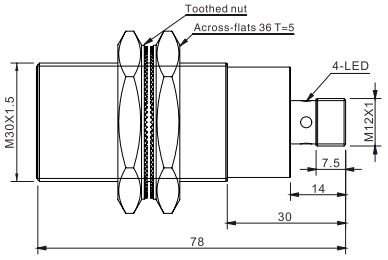




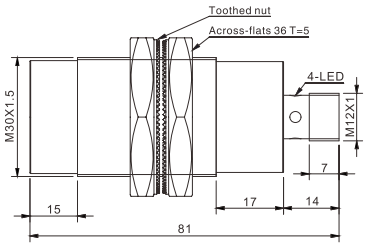
M12 4PIN

M30

TYF30-22□□-E2



TYN30-40□□-E2





M12 4PIN

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Square-TQ Series

Pre-wired





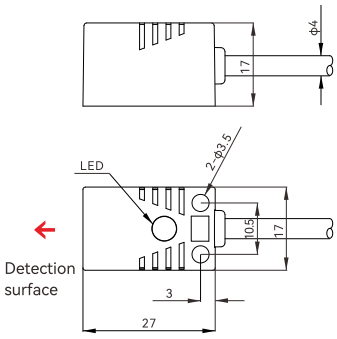
Basic Features	Working principle	Inductive sensor					
	Housing	Square					
	Installation type	Flush	Non-flush	Flush	Non-flush	Flush	Non-flush
	Sensing distance	5.0mm ± 10%	8.0mm ± 10%	5.0mm ± 10%	8.0mm ± 10%	5.0mm ± 10%	8.0mm ± 10%
	Thread size	–					
	Sensing surface material	ABS					
	Detected objects	Metal					
	Indicator	Operation Status: LED					
	Sensing range adjustment	None					
Electrical data	Switching output	No:normally open,NC:normally closed					
	Output mode	NPN or PNP Open Collector					
	External input	None					
	Switching frequency	1kHz	0.3kHz	1kHz	0.3kHz	1kHz	0.3kHz
	Repeatability	1%					
	Hysteresis	15%					
	Operating Voltage	10~30V DC					
	Current consumption	≤10mA					
	Residual Voltage	<1.5V					
	Load current	150mA					
	Leakage current	<0.01mA					
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure					
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure					
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Circuit Protection	Short circuit protection					
Environmental conditions	Operating Temperature	–25~+75℃					
	Operating Humidity	35~85%					
	Enclosure rating	IP67					
Mechanical data	Connection type	2m/3-core Cable					
	Dimension	27.0x17.0x17.0mm		34.0x18.0x18.0mm		30.5x18.0x10.0mm	
	Material	Plastic+ABS					
	Weight	0.05kg					
	Accessories	–					
Model	NPN NO	TQF17-05NO	TQN17-08NO	TQF18-05NO HOT	TQN18-08NO	TQF18C-05NO HOT	TQN18C-08NO
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed		

Unit:mm

Dimensions-Pre-wired

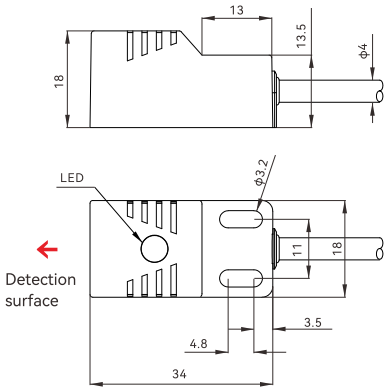
Q17

TQF17-05□□
TQN17-08□□



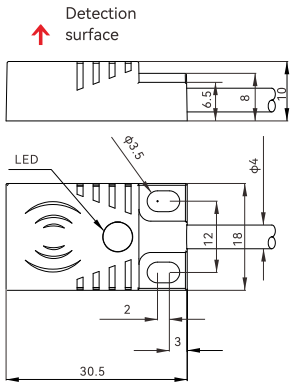
Q18

TQF18-05□□
TQN18-08□□



Q18C

TQF18C-05□□
TQN18C-08□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

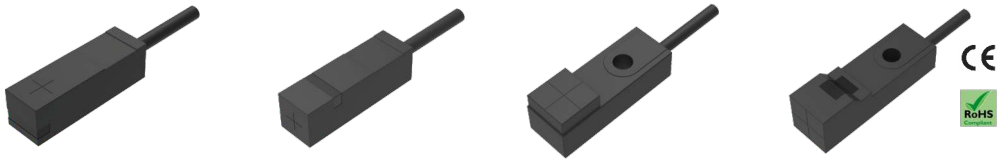
Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

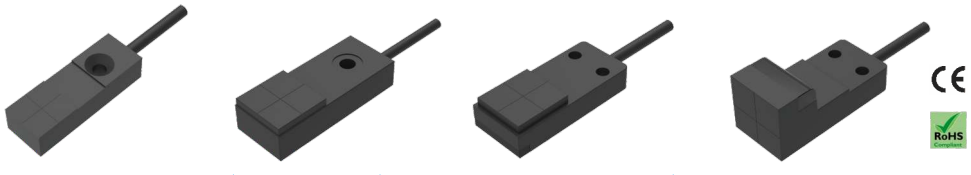
Mini-square-TE Series

Pre-wired



Basic Features	Working principle	Inductive sensor			
	Housing	Mini blocks			
	Installation type	Non-flush			
	Sensing distance	1.0mm ± 15%		2.5mm ± 10%	
	Thread size	–			
	Sensing surface material	PC			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	0.5kHz		0.8kHz	
	Repeatability	5%		1%	
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤10mA			
	Residual Voltage	≤1.5V			
	Load current	100mA		150mA	
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	–		Short circuit protection	
Environmental conditions	Operating Temperature	–25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	20.4x6.4x6.2mm	20.4x6.3x6.1mm	23.5x8.4x8.0mm	25.5x8.4x8.0mm
	Material	Plastic+PC			
	Weight	0.05kg			
	Accessories	–			
Model	NPN NO	TEN06-01NO	TEN07-01NO	TEN08-2.5NO HOT	TEN09-2.5NO HOT
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed

Pre-wired



Basic Features	Working principle	Inductive sensor					
	Housing	Mini blocks					
	Installation type	Non-flush					
	Sensing distance	2.5mm ± 10%	4.0mm ± 10%	5.0mm ± 10%	8.0mm ± 10%	5.0mm ± 10%	8.0mm ± 10%
	Thread size	–					
	Sensing surface material	PC					
	Detected objects	Metal					
	Indicator	Operation Status: LED					
	Sensing range adjustment	None					
Electrical data	Switching output	No:normally open,NC:normally closed					
	Output mode	NPN or PNP Open Collector					
	External input	None					
	Switching frequency	0.8kHz	0.2kHz	1kHz	0.5kHz		
	Repeatability	5%	1%				
	Hysteresis	15%					
	Operating Voltage	10~30V DC ± 10%					
	Current consumption	⩽10mA					
	Residual Voltage	⩽1.5V					
	Load current	150mA					
	Leakage current	<0.01mA					
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure					
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure					
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Circuit Protection	Short circuit protection					
Environmental conditions	Operating Temperature	–25~+75℃					
	Operating Humidity	35~85%					
	Enclosure rating	IP67					
Mechanical data	Connection type	2m/3-core Cable					
	Dimension	30.5x10.4x6.6mm	30.5x12.4x8mm	34.5x15.4x8.0mm	34.5x16.4x15.0mm		
	Material	Plastic+PC					
	Weight	0.05kg					
	Accessories	–					
Model	NPN NO	TEN10-2.5NO	TEN10-04NO	TEN12-04NO	TEN15-05NO	TEN15-08NO	TEN16-05NO	TEN16-08NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed					

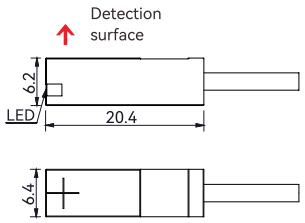
Mini-square-TE Series

Dimensions

Unit:mm

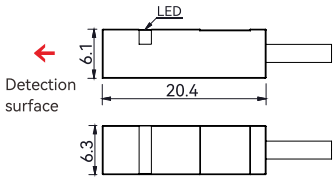
E06

TEN06-01□□



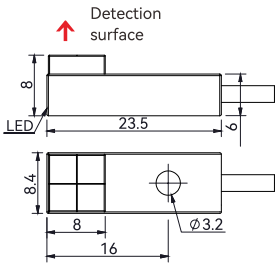
E07

TEN07-01□□



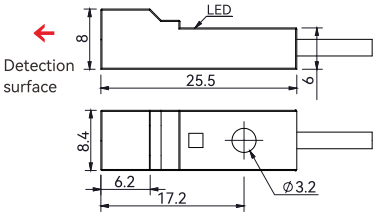
E08

TEN08-2.5/03□□



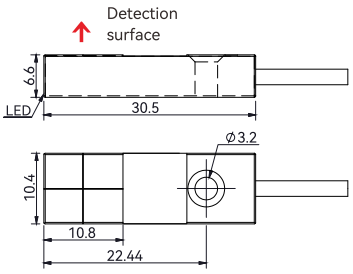
E09

TEN09-2.5/03□□



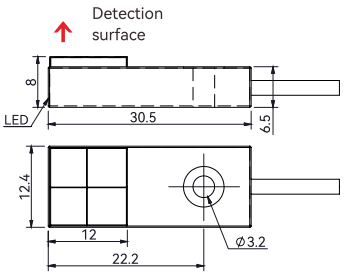
E10

TEN10-2.5/04□□



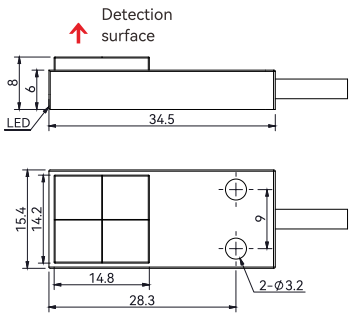
E12

TEN12-04□□



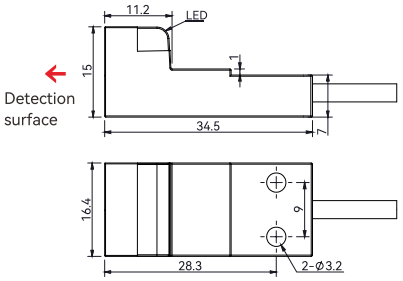
E15

TEN15-05/08□□



E16

TEN16-05/08□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Pre-wired



Basic Features	Working principle	Inductive sensor	
	Housing	Cylindrical	
	Installation type	Flush	
	Sensing distance	0.6mm/0.8mm/1.0mm±10%	0.8mm/1.0mm/1.2mm/1.5mm±10%
	Thread size	–	
	Sensing surface material	PA66	
	Detected objects	Metal	
	Indicator	Operation Status: LED	
	Sensing range adjustment	None	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	2kHz	
	Repeatability	1%	
	Hysteresis	15%	
	Operating Voltage	10~30V DC±10%	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	100mA	150mA
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	–	
Environmental conditions	Operating Temperature	–25~+75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m/3-core Cable	
	Dimension	Ø3.0x25.0mm	Ø4.0x25.0mm
	Material	Stainless steel+PA66	
	Weight	0.005kg	0.007kg
	Accessories	–	
Model	NPN NO	TXF03-0.6NO/TXF03-0.8NO/TXF03-01NO	TXF04-0.8NO/TXF04-01NO/TXF04-1.2NO /TXF04-1.5NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Mini-cylindrical-TX Series

Pre-wired



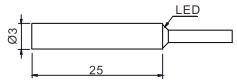
Basic Features	Working principle	Inductive sensor	
	Housing	Cylindrical	
	Installation type	Flush	
	Sensing distance	0.6mm/0.8mm/1.0mm ± 10%	0.8mm/1.0mm/1.2mm/1.5mm ± 10%
	Thread size	M4	M5
	Sensing surface material	PA66	
	Detected objects	Metal	
	Indicator	Operation Status: LED	
	Sensing range adjustment	None	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	2kHz	
	Repeatability	5%	
	Hysteresis	15%	
	Operating Voltage	10~30V DC ± 10%	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	100mA	
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	–	
Environmental conditions	Operating Temperature	–25~+75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m/3-core Cable	
	Dimension	M4x25.0mm	M5x25.0mm
	Material	Stainless steel+PA66	
	Weight	0.005kg	0.007kg
	Accessories	Nut M4x0.5	Nut M5x0.5
Model	NPN NO	TXFM4-0.6NO / TXFM4-0.8NO / TXFM4-01NO	TXF05-0.8NO / TXF05-01NO / TXF05-1.2NO / TXF05-1.5NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Unit:mm

Dimensions

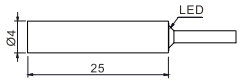
ϕ3

TXF03-0.6/0.8/01□□



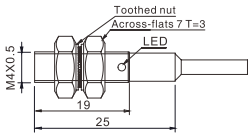
ϕ4

TXF04-0.8/01/1.2/1.5□□



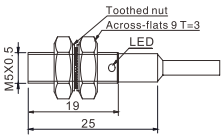
M4

TXFM4-0.6/0.8/01□□



M5

TXF05-0.8/01/1.2/1.5□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Short-body-TSS Series

Ultra Short Housing





Basic Features	Working principle	Inductive sensor	
	Housing	Cylindrical	
	Installation type	Flush	
	Sensing distance	1.0mm/2.0mm ± 10%	1.0mm/2.0mm ± 10%
	Thread size	–	
	Sensing surface material	PBT	
	Detected objects	Metal	
	Indicator	Operation Status: LED	
	Sensing range adjustment	None	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	2kHz	
	Repeatability	1%	
	Hysteresis	15%	
	Operating Voltage	10~30V DC ± 10%	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	150mA	
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	Short circuit protection	
Environmental conditions	Operating Temperature	–25~+75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m/3-core Cable	
	Dimension	Ø6.5x18.0mm	
	Material	Stainless steel+PBT	
	Weight	0.009kg	
	Accessories	–	
Model	NPN NO	TSSF6.5-01NO / TSSF6.5-02NO	TSSF6.5Y-01NO / TSSF6.5Y-02NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Ultra Short Housing



Basic Features	Working principle	Inductive sensor	
	Housing	Cylindrical	
	Installation type	Flush	
	Sensing distance	1.0mm/2.0mm ± 10%	2.0mm/4.0mm ± 10%
	Thread size	M8	M12
	Sensing surface material	PBT	
	Detected objects	Metal	
	Indicator	Operation Status: LED	
	Sensing range adjustment	None	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	2kHz	
	Repeatability	1%	
	Hysteresis	15%	
	Operating Voltage	10~30V DC ± 10%	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	150mA	
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	Short circuit protection, Except TSSF08-02NO	
Environmental conditions	Operating Temperature	–25~+75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m/3-core Cable	
	Dimension	M8x18.0mm	M12x22.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT
	Weight	0.012kg	0.05kg
	Accessories	Nut M8x1.0	Nut M12x1.0
Model	NPN NO	TSSF08-01NO / TSSF08-02NO HOT	TSSF12-02NO / TSSF12-04NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Short-body-TS Series

General Short Housing



Basic Features	Working principle	Inductive sensor			
	Housing	Mini blocks			
	Installation type	Flush			
	Sensing distance	1.0mm/2.0mm ± 10%	2.0mm/4.0mm ± 10%	5.0mm/8.0mm ± 10%	10mm/16mm ± 10%
	Thread size	M8	M12	M18	M30
	Sensing surface material	PBT			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz	2kHz/1kHz	1kHz/0.5kHz	0.3kHz/0.15kHz
	Repeatability	1%			
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤10mA			
	Residual Voltage	≤1.5V			
	Load current	150mA			
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	Short circuit protection			
Environmental conditions	Operating Temperature	–25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	M8x35.0mm	M12x35.0mm	M18x35.0mm	M30x35.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT		
	Weight	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TSF08-01NO / TSF08-02NO	TSF12-02NO / TSF12-04NO	TSF18-05NO / TSF18-08NO	TSF30-10NO / TSF30-16NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed			

General Short Housing



Basic Features	Working principle	Inductive sensor			
	Housing	Mini blocks			
	Installation type	Non-flush			
	Sensing distance	2.0mm/4.0mm ± 10%	4.0mm/8.0mm ± 10%	8.0mm/16mm ± 10%	15mm/25mm ± 10%
	Thread size	M8	M12	M18	M30
	Sensing surface material	PBT			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz/1kHz	1kHz/0.5kHz	0.5kHz/0.15kHz	0.15kHz/0.1kHz
	Repeatability	1%			
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤10mA			
	Residual Voltage	≤1.5V			
	Load current	150mA			
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure, TSN18-16NO			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	Short circuit protection			
Environmental conditions	Operating Temperature	–25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	M8x35.0mm	M12x35.0mm	M18x40.0mm	M30x47.0mm
	Material	Stainless steel+PBT	Copper–nickel alloy+PBT		
	Weight	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TSN08-02NO / TSN08-04NO	TSN12-04NO / TSN12-08NO	TSN18-08NO / TSN18-16NO	TSN30-15NO / TSN30-25NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed			

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

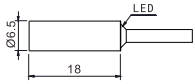
Short-body-TSS/TS Series

Super Short housing-Dimensions

Unit:mm

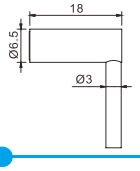
ϕ6.5

TSSF6.5-01/02□□



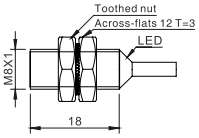
ϕ6.5Y

TSSF6.5Y-01/02□□



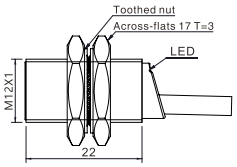
M8

TSSF08-01/02□□



M12

TSSF12-02/04□□

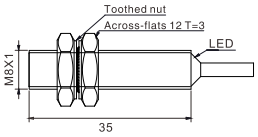


General-Dimensions

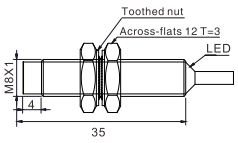
Unit:mm

M8

TSF08-01/02□□

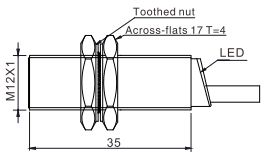


TSN08-02/04□□

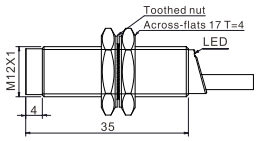


M12

TSF12-02/04□□

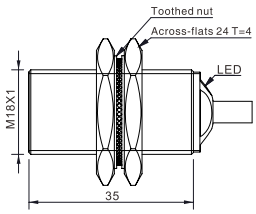


TSN12-04/08□□

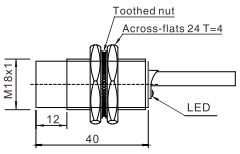


M18

TSF18-05/08□□

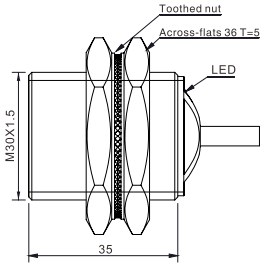


TSN18-08/16□□

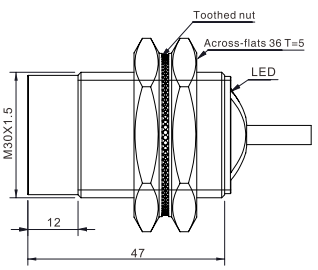


M30

TSF30-10/16□□



TSN30-15/25□□



Pre-wired



Basic Features	Working principle	Inductive sensor			
	Housing	Ring type			
	Installation type	–			
	Sensing distance	–			
	Thread size	–			
	Sensing surface material	PBT			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz	1.5kHz	1kHz	0.5kHz
	Repeatability	2%			
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤15mA			
	Residual Voltage	≤1.5V			
	Load current	150mA			
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	Reverse Polarity Protection/Short Circuit Protection			
Environmental conditions	Operating Temperature	-25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	50.0x30.0x20.0mm	60.0x35.0x20.0mm		90.0x61.0x20.0mm
	Material	ABS+PBT			
	Weight	0.2kg	0.04kg		0.06kg
	Accessories	–			
Model	NPN NO	TH10-20NO	TH15-20NO	TH21-20NO	TH43-20NO
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed

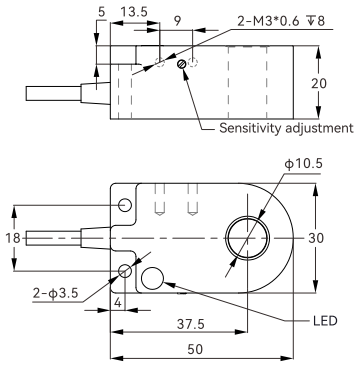
Ring-type-TH Series

Dimensions

Unit:mm

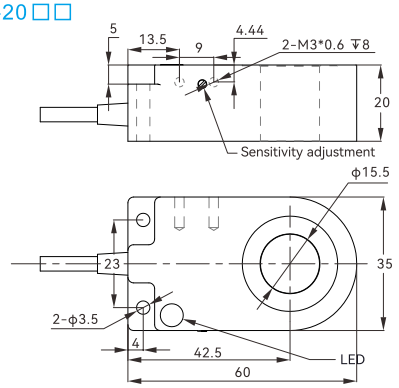
H10

TH10-20□□



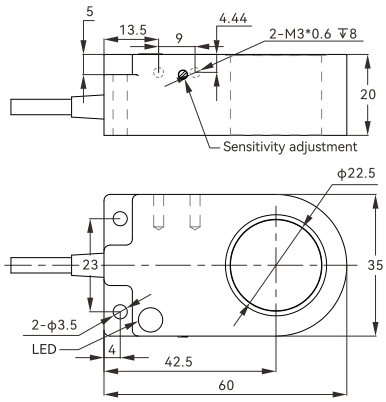
H15

TH15-20□□



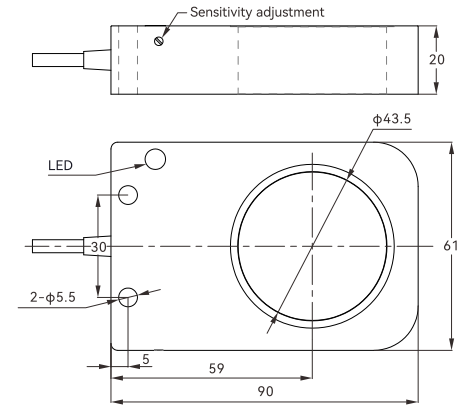
H21

TH21-20□□



H43

TH43-20□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
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Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Pre-wired



Basic Features	Working principle	Inductive sensor			
	Housing	Cylindrical			
	Installation type	Flush			
	Sensing distance	1.0mm/2.0mm ± 10%	2.0mm/4.0mm ± 10%	5.0mm/8.0mm ± 10%	10mm/16mm ± 10%
	Thread size	M8	M12	M18	M30
	Sensing surface material	Stainless Steel			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz	1kHz	1kHz/0.5kHz	0.3kHz/0.15kHz
	Repeatability	1%			
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤10mA			
	Residual Voltage	≤1.5V			
	Load current	150mA			
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	Short circuit protection			
Environmental conditions	Operating Temperature	–25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	M8x45.0mm	M12x45.0mm	M18x54.0mm	M30x54.0mm
	Material	Stainless Steel			
	Weight	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TMF08-01NO /TMF08-02NO	TMF12-02NO /TMF12-04NO	TMF18-05NO /TMF18-08NO	TMF30-10NO /TMF30-16NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed			

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Metal Face-TM Series

Pre-wired



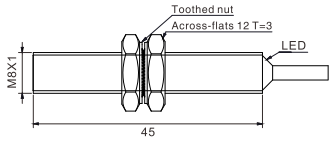
Basic Features	Working principle	Inductive sensor			
	Housing	Cylindrical			
	Installation type	Non-flush			
	Sensing distance	2.0mm/3.0mm ± 10%	4.0mm/8.0mm ± 10%	8.0mm/16mm ± 10%	15mm/25mm ± 10%
	Thread size	M8	M12	M18	M30
	Sensing surface material	Stainless Steel			
	Detected objects	Metal			
	Indicator	Operation Status: LED			
	Sensing range adjustment	None			
Electrical data	Switching output	No:normally open,NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz/1kHz	1kHz/0.5kHz	0.5kHz/0.15kHz	0.15kHz/0.1kHz
	Repeatability	1%			
	Hysteresis	15%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤10mA			
	Residual Voltage	≤1.5V			
	Load current	150mA			
	Leakage current	<0.01mA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	Short circuit protection			
Environmental conditions	Operating Temperature	-25~+75℃			
	Operating Humidity	35~85%			
	Enclosure rating	IP67			
Mechanical data	Connection type	2m/3-core Cable			
	Dimension	M8x49.0mm	M12x54.0mm	M18x62.0mm	M30x66.0mm
	Material	Stainless Steel			
	Weight	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TMN08-02NO /TMN08-03NO	TMN12-04NO /TMN12-08NO	TMN18-08NO /TMN18-16NO	TMN30-15NO /TMN30-25NO
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed

Unit:mm

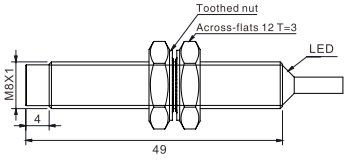
Dimensions

M8

TMF08-01/02□□

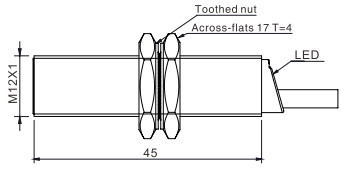


TMN08-02/03□□

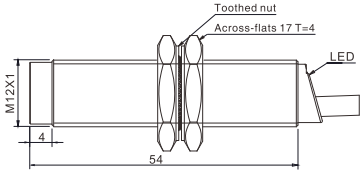


M12

TMF12-02/04□□

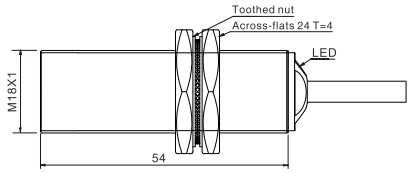


TMN12-04/08□□

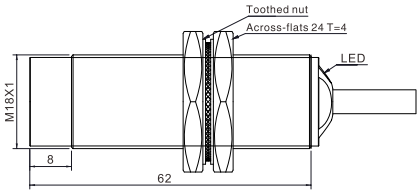


M18

TMF18-05/08□□

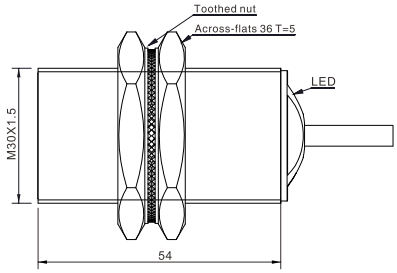


TMN18-08/16□□

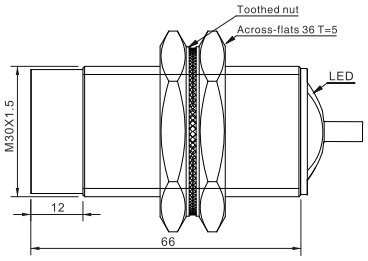


M30

TMF30-10/16□□



TMN30-15/25□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Temperature Resistance-TG Series

High Temperature (120℃) Resistance Pre-wired Type





Basic Features	Working principle	Inductive sensor					
	Housing	Cylindrical					
	Installation type	Flush			Non-flush		
	Sensing distance	2.0mm ± 10%	5.0mm ± 10%	10mm ± 10%	4.0mm ± 10%	8.0mm ± 10%	15mm ± 10%
	Thread size	M12	M18	M30	M12	M18	M30
	Sensing surface material	–					
	Detected objects	Metal					
	Indicator	Operation Status: LED					
	Sensing range adjustment	None					
Electrical data	Switching output	No:normally open,NC:normally closed					
	Output mode	NPN or PNP Open Collector					
	External input	None					
	Switching frequency	1.5kHz	1kHz	0.5kHz	1kHz	0.8kHz	0.3kHz
	Repeatability	5%					
	Hysteresis	1~20%					
	Operating Voltage	10~30V DC ± 10%					
	Current consumption	≤15mA					
	Residual Voltage	≤2.5V					
	Load current	100mA					
	Leakage current	<0.1mA					
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure					
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure					
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Circuit Protection	Reverse Polarity Protection/Surge Protection					
Environmental conditions	Operating Temperature	–25~+120℃					
	Operating Humidity	35~95%RH					
	Enclosure rating	IP67					
Mechanical data	Connection type	2m/3-core Cable					
	Dimension	M12x51.0mm	M18x52.5mm	M30x51.5mm	M12x51.0mm	M18x52.5mm	M30x51.5mm
	Material	Copper–nickel alloy					
	Weight	0.05kg	0.08kg	0.12kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TGF12-02NO	TGF18-05NO	TGF30-10NO	TGN12-04NO	TGN18-08NO HOT	TGN30-15NO
	Others	NO:NPN Normally open		NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed	

High Temperature (120℃) Resistance Pre-wired Type



Basic Features	Working principle	Inductive sensor		
	Housing	Cylindrical		
	Installation type	Flush		
	Sensing distance	2.0mm ± 10%	5.0mm ± 10%	10mm ± 10%
	Thread size	M12	M18	M30
	Sensing surface material	PEEK		
	Detected objects	Metal		
	Indicator	Operation Status: LED		
	Sensing range adjustment	None		
Electrical data	Switching output	No:normally open,NC:normally closed		
	Output mode	NPN or PNP Open Collector		
	External input	None		
	Switching frequency	0.5kHz/220℃	0.5kHz/230℃	0.2kHz/230℃
	Repeatability	3%		
	Hysteresis	3~15%		
	Operating Voltage	10~30V DC ± 10%		
	Current consumption	≤25mA(24VDC)		
	Residual Voltage	≤1.8V		
	Load current	150mA		
	Leakage current	<0.1mA		
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure		
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure		<420V
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions		
	Circuit Protection	Reverse Polarity Protection/Surge Protection		
Environmental conditions	Operating Temperature	–25~+230℃		
	Operating Humidity	35~85%		
	Enclosure rating	IP66		
Mechanical data	Connection type	3M teflon shielded cable/S12 Connector		
	Dimension	M12x54.0mm	M18x55.0mm	M30x54.0mm
	Material	Stainless Steel+PEEK		
	Weight	0.05kg	0.08kg	0.12kg
	Accessories	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	TGF12-02NO2	TGF18-05NO2	TGF30-10NO2
	PNP NO	TGF12-02PO2	TGF18-05PO2	TGF30-10PO2

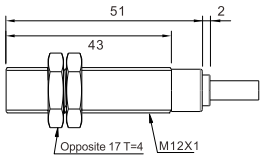
Temperature Resistance-TG Series

Dimensions

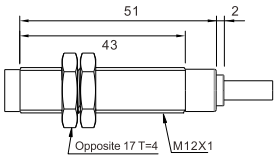
Unit:mm

M12

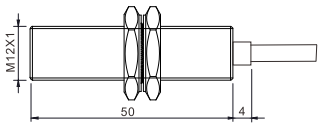
TGF12-02□□



TGN12-04□□

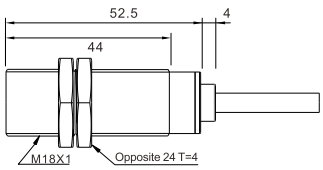


TGF12-02□□2

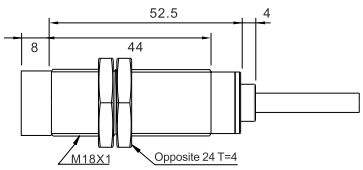


M18

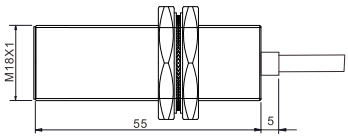
TGF18-05□□



TGN18-08□□

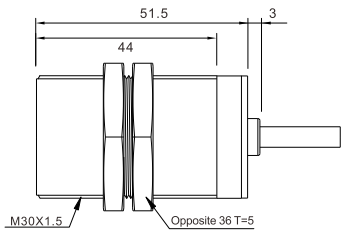


TGF18-05□□2

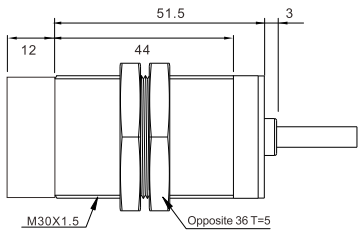


M30

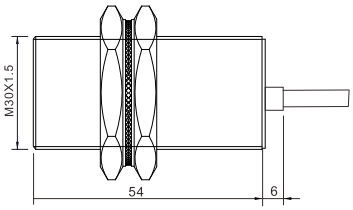
TGF30-10□□



TGN30-15□□



TGF30-10□□2



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
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Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection





Basic Features	Working principle	Inductive sensor			
	Housing	Cylindrical			
	Installation type	Flush		Non-flush	
	Sensing distance	2.0mm ± 10%	4.0mm ± 10%		8.0mm ± 10%
	Thread size	M12			
	Sensing surface material	PPS (FDA certified)			
	Detected objects	Metal			
	Indicator	Operating status: LED (only for NC)			
	Sensing range adjustment	Available			
Electrical data	Switching output	No:normally open/NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	2kHz			
	Repeatability	5%			
	Hysteresis	1~20%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	⩽15mA			
	Residual Voltage	⩽2V			
	Load current	200mA			
	Leakage current	<15μA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	–			
Environmental conditions	Operating Temperature	-40 to 80°C (up to 100°C for ≤15s, ≤10% duty cycle), -25 to 110°C for NC			
	Operating Humidity	35~85%			
	Enclosure rating	IP67, IP68 (1m for 7 days); IP69K (compliant with DIN 40050-9 standard)			
Mechanical data	Connection type	M12/4-pin Connector			
	Dimension	M12x64.6mm			
	Material	Stainless steel + PPS (FDA certified)			
	Weight	0.03kg			
	Accessories	Nut M12x1.0			
Model	NPN	TPF12-02NR-E2	TPF12-04NR-E2	TPN12-04NR-E2	TPN12-08NR-E2
	PNP	TPF12-02PR-E2	TPF12-04PR-E2	TPN12-04PR-E2	TPN12-08PR-E2

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Inductive sensors
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Long distance
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Mini square
Mini-cylindrical
Short-body
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Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

IP69K High Protection-TP Series





Basic Features	Working principle	Inductive sensor			
	Housing	Cylindrical			
	Installation type	Flush		Non-flush	
	Sensing distance	5.0mm ± 10%	8.0mm ± 10%		12.0mm ± 10%
	Thread size	M18			
	Sensing surface material	PPS (FDA certified)			
	Detected objects	Metal			
	Indicator	Operating status: LED (only for NC)			
	Sensing range adjustment	Available			
Electrical data	Switching output	No:normally open/NC:normally closed			
	Output mode	NPN or PNP Open Collector			
	External input	None			
	Switching frequency	15kHz			
	Repeatability	5%			
	Hysteresis	1~20%			
	Operating Voltage	10~30V DC ± 10%			
	Current consumption	≤15mA			
	Residual Voltage	≤2V			
	Load current	200mA			
	Leakage current	<10μA			
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure			
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
	Circuit Protection	–			
Environmental conditions	Operating Temperature	−40 to 80°C (up to 100°C for ≤15s, ≤10% duty cycle), -25 to 110°C for NC			
	Operating Humidity	35~85%			
	Enclosure rating	IP67, IP68 (1m for 7 days); IP69K (compliant with DIN 40050-9 standard)			
Mechanical data	Connection type	M12/4-pin Connector			
	Dimension	M18x63.1mm			
	Material	Stainless steel + PPS (FDA certified)			
	Weight	0.03kg			
	Accessories	Nut M18x1.0			
Model	NPN	TPF18-05NR-E2	TPF18-08NR-E2	TPN18-08NR-E2	TPN18-12NR-E2
	PNP	TPF18-05PR-E2	TPF18-08PR-E2	TPN18-08PR-E2	TPN18-12PR-E2

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Safety door lock
Pressure Switch
Communication
Accessories

Guidance

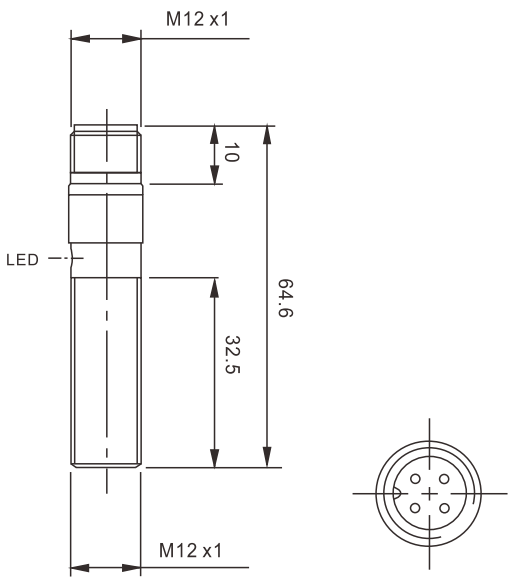
Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

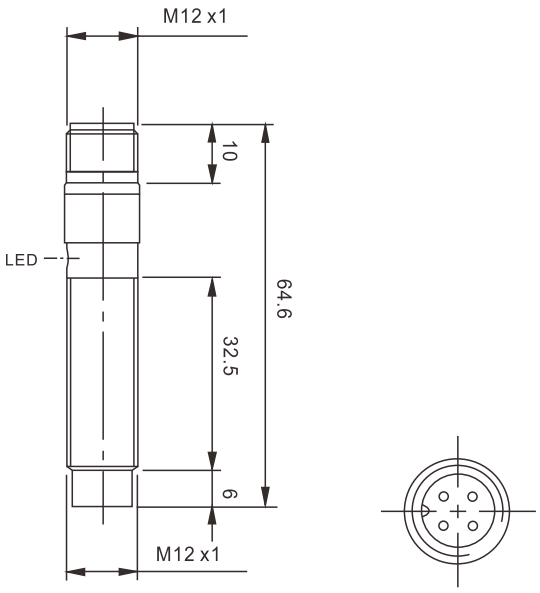
Unit:mm

Dimensions

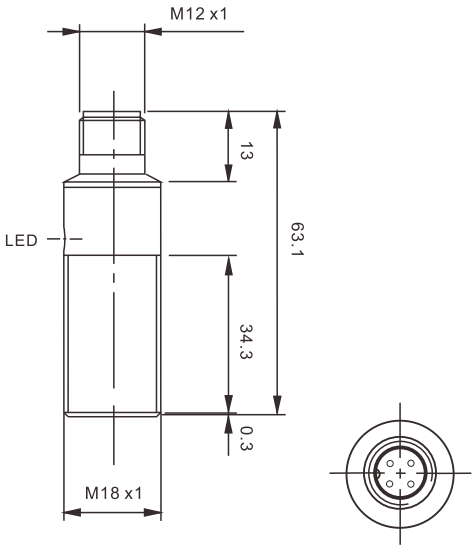
TPF12-02NR-E2(PR)
TPF12-04NR-E2(PR)



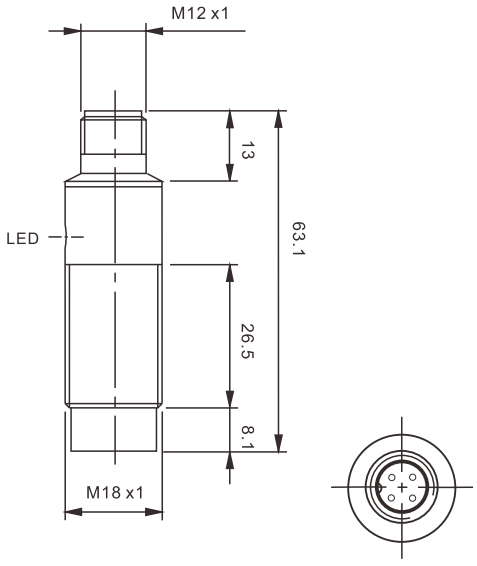
TPN12-04NR-E2(PR)
TPN12-08NR-E2(PR)



TPF18-05NR-E2(PR)
TPF18-08NR-E2(PR)



TPN18-08NR-E2(PR)
TPN18-12NR-E2(PR)



Fiber Optic
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Displacement
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Analog output
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Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Anti-welding Slag-TW Series

NEW!





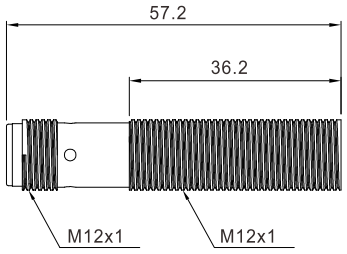
Basic Features	Working principle	Inductive sensor		
	Housing	Cylindrical		
	Installation type	Flush		
	Sensing distance	4mm	8mm	15mm
	Thread size	M12	M18	M30
	Sensing surface material	Teflon coating		
	Detected objects	Metal		
	Indicator	Action Indicator: Yellow LED		
	Sensing range adjustment	None		
Electrical data	Switching output	No:normally open, NC:normally closed		
	Output mode	NPN or PNP Open Collector		
	External input	None		
	Switching frequency	1kHz		
	Repeatability	≤2% rated distance		
	Hysteresis	3~10% rated distance		
	Operating Voltage	10~30V DC		
	Current consumption	25mA		
	Residual Voltage	–		
	Load current	≤50mA		
	Leakage current	–		
	Insulation resistance	≥50MΩ with 500V DC between the whole charging section and enclosure		
	Dielectric strength	AC500V, 50/60Hz for 60s, between the whole charging section and enclosure		
	Vibration resistance	55 Hz, 1.5 mm amplitude, 240 minutes for each X, Y, and Z directions. Sweep cycle time: 5 minutes		
	Circuit Protection	Reverse polarity protection/output overload protection/output short circuit protection		
Environmental conditions	Operating Temperature	–30~+70%		
	Operating Humidity	35%~95%RH		
	Enclosure rating	IP67		
Mechanical data	Connection type	M12 4 pin connector		
	Dimension	M12X57.2mm	M18X57.2mm	M30X57.2mm
	Material	Copper + Teflon coating		
	Weight	0.05kg		
	Accessories	None		
Model	NPN NO	TWF12-04NOE	TWF18-08NOE	TWF30-16NOE
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed

Unit:mm

Dimensions

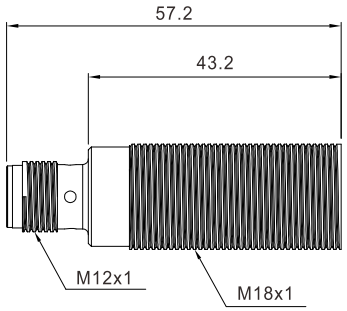
M12

TWF12-04□□



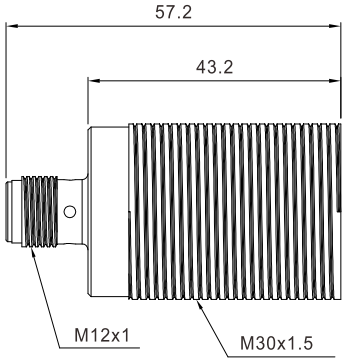
M18

TWF18-08□□



M30

TWF30-16□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Analog Output-TA Series

Pre-wired





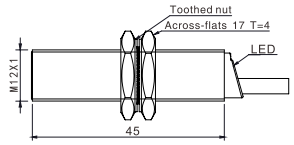
Basic Features	Working principle	Inductive sensor					
	Housing	Cylindrical					
	Installation type	Flush			Non-flush		
	Sensing distance	0.1~3mm ± 10%	1~4mm ± 10%	5~10mm ± 10%	0.1~4mm ± 10%	1~7mm ± 10%	7~14mm ± 10%
	Thread size	M12	M18	M30	M12	M18	M30
	Sensing surface material	PBT					
	Detected objects	Metal					
	Indicator	Operation Status: LED					
	Sensing range adjustment	Available					
Electrical data	Switching output	–					
	Output mode	PNP-Analog					
	External input	None					
	Switching frequency	0.1kHz					
	Repeatability	2%					
	Hysteresis	20%					
	Operating Voltage	18~30V DC ± 10%					
	Current consumption	≤15mA					
	Residual Voltage	–					
	Load current	–					
	Leakage current	–					
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure					
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure					
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Circuit Protection	Reverse Polarity Protection					
Environmental conditions	Operating Temperature	–25~75℃					
	Operating Humidity	35~85%					
	Enclosure rating	IP67					
Mechanical data	Connection type	2m/3-core Cable					
	Dimension	M12x45.0mm	M18x54.0mm	M30x54.0mm	M12x44.0mm	M18x54.0mm	M30x58.0mm
	Material	Copper–nickel alloy+PBT					
	Weight	0.05kg	0.08kg	0.12kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	Current output (normally open)	TAF12-03PA	TAF18-04PA	TAF30-10PA	TAN12-04PA	TAN18-07PA	TAN30-14PA
	Voltage output (normally open)	TAF12-03PV	TAF18-04PV	TAF30-10PV	TAN12-04PV	TAN18-07PV	TAN30-14PV

Unit:mm

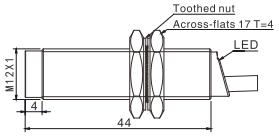
Dimensions

M12

TAF12-03□□

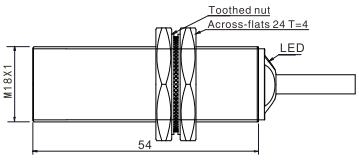


TAN12-04□□

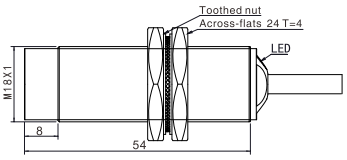


M18

TAF18-04□□

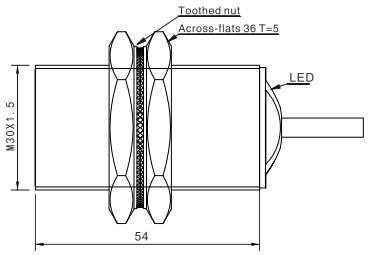


TAN18-07□□

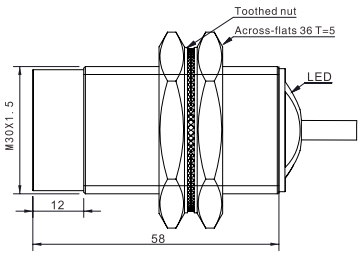


M30

TAF30-10□□



TAN30-14□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
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Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

DC 2-wire-TD Series

Pre-wired





Basic Features	Working principle	Inductive sensor				
	Housing	Cylindrical				
	Installation type	Flush				
	Sensing distance	1.0mm/2.0mm ± 10%	1.0mm/2.0mm ± 10%	2.0mm/4.0mm ± 10%	5.0mm/8.0mm ± 10%	10mm/16mm ± 10%
	Thread size	ϕ6.5	M8	M12	M18	M30
	Sensing surface material	PBT				
	Detected objects	Metal				
	Indicator	Operation Status: LED				
	Sensing range adjustment	None				
Electrical data	Switching output	No:normally open,NC:normally closed				
	Output mode	Reed switch				
	External input	None				
	Switching frequency	2kHz		1kHz		0.5kHz
	Repeatability	2%				
	Hysteresis	15%				
	Operating Voltage	10~30V DC ± 10%		10~60V DC ± 10%		
	Current consumption	3~100mA				
	Residual Voltage	<4.0V		<6.0V		
	Load current	≤120mA				
	Leakage current	<0.8mA				
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure				
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure				
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions				
	Circuit Protection	Short circuit protection				
Environmental conditions	Operating Temperature	–25~75℃				
	Operating Humidity	35~85%				
	Enclosure rating	IP67				
Mechanical data	Connection type	2m/2-core Cable				
	Dimension	Ø6.5x45.0mm	M8x45.0mm	M12x45.0mm	M18x54.0mm	M30x54.0mm
	Material	Stainless steel+PBT		Copper–nickel alloy+PBT		
	Weight	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	–	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	Normally closed	TDF6.5-01HO/TDF6.5-02HO	TDF08-01HO/TDF08-02HO	TDF12-02HO/TDF12-04HO	TDF18-05HO/TDF18-08HO	TDF30-10HO/TDF30-16HO
	Normally open	TDF6.5-01HC/TDF6.5-02HC	TDF08-01HC/TDF08-02HC	TDF12-02HC/TDF12-04HC	TDF18-05HC/TDF18-08HC	TDF30-10HC/TDF30-16HC

Pre-wired





Basic Features	Working principle	Inductive sensor				
	Housing	Cylindrical				
	Installation type	Non-flush				
	Sensing distance	2.0mm/4.0mm ± 10%		4.0mm/8.0mm ± 10%	8.0mm/16mm ± 10%	15mm/25mm ± 10%
	Thread size	ϕ6.5	M8	M12	M18	M30
	Sensing surface material	PBT				
	Detected objects	Metal				
	Indicator	Operation Status: LED				
	Sensing range adjustment	None				
Electrical data	Switching output	No:normally open,NC:normally closed				
	Output mode	Reed switch				
	External input	None				
	Switching frequency	2kHz		1kHz	0.5kHz	0.2kHz
	Repeatability	2%				
	Hysteresis	15%				
	Operating Voltage	10~30V DC ± 10%		10~60V DC ± 10%		
	Current consumption	3~100mA				
	Residual Voltage	<4.0V		<6.0V		
	Load current	≤120mA				
	Leakage current	<0.8mA				
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure				
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure				
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions				
	Circuit Protection	Short circuit protection				
Environmental conditions	Operating Temperature	–25~75℃				
	Operating Humidity	35~85%				
	Enclosure rating	IP67				
Mechanical data	Connection type	2m/2-core Cable				
	Dimension	Ø6.5x44.0mm	M8x44.0mm	M12x44.0mm	M18x54.0/M18x59.0mm	M30x58.0/M30x61.0mm
	Material	Stainless steel+PBT		Copper–nickel alloy+PBT		
	Weight	0.009kg	0.012kg	0.05kg	0.08kg	0.12kg
	Accessories	–	Nut M8x1.0	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	Normally closed	TDN6.5-02HO/TDN6.5-04HO	TDN08-02HO/TDN08-04HO	TDN12-04HO/TDN12-08HO	TDN18-08HO/TDN18-16HO	TDN30-15HO/TDN30-25HO
	Normally open	TDN6.5-02HC/TDN6.5-04HC	TDN08-02HC/TDN08-04HC	TDN12-04HC/TDN12-08HC	TDN18-08HC/TDN18-16HC	TDN30-15HC/TDN30-25HC

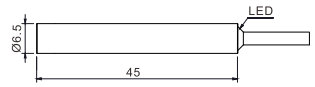
DC 2-wire-TD Series

Dimensions

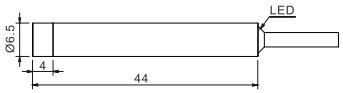
Unit:mm

φ6.5

TDF6.5-01/02□□

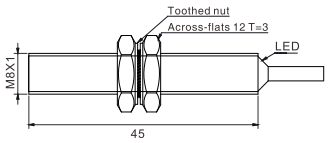


TDN6.5-02/04□□

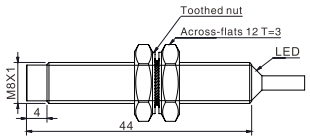


M8

TDF08-01/02□□

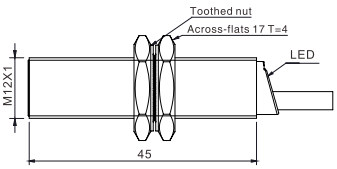


TDN08-02/04□□

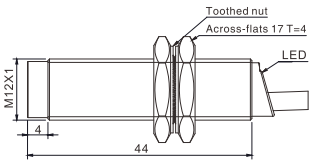


M12

TDF12-02/04□□

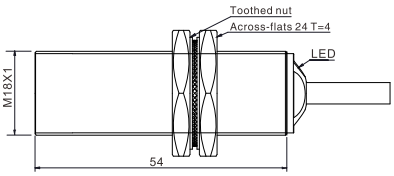


TDN12-04/08□□

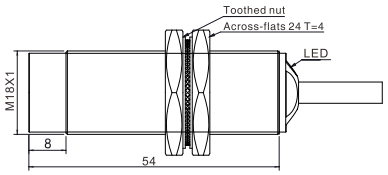


M18

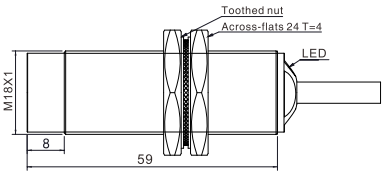
TDF18-05/08□□



TDN18-08□□

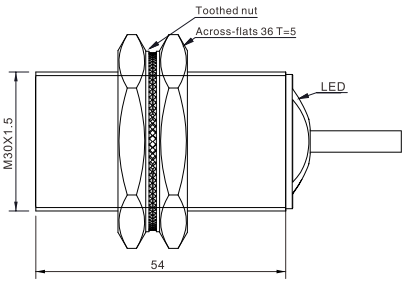


TDN18-16□□

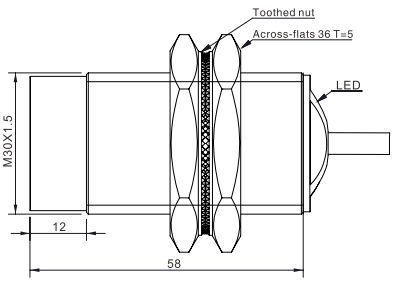


M30

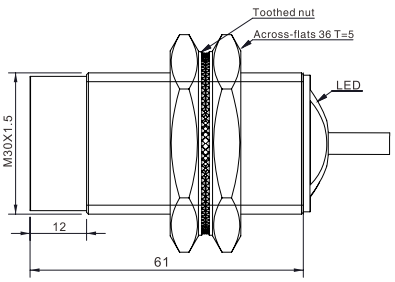
TDF30-10/16□□



TDN30-15□□



TDN30-25□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
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Contact
Area
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AI Image
Code Readers
Vibration
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Safety door lock
Pressure Switch
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Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Plastic Housing





Basic Features	Working principle	Capacitive sensor					
	Housing	Cylindrical					
	Installation type	Flush			Non-flush		
	Sensing distance	3.0mm	8.0mm	20mm	6.0mm	15mm	30mm
	Thread size	M12	M18	M30	M12	M18	M30
	Sensing surface material	PBT					
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials					
	Indicator	Operation Status: LED					
	Sensing range adjustment	Available					
Electrical data	Switching output	No:normally open,NC:normally closed					
	Output mode	NPN or PNP Open Collector					
	External input	None					
	Switching frequency	0.1kHz					
	Repeatability	5%					
	Hysteresis	15%					
	Operating Voltage	10~30V DC ± 10%					
	Current consumption	⩽10mA					
	Residual Voltage	⩽2V					
	Load current	150mA	300mA		150mA	300mA	
	Leakage current	<0.01mA					
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure					
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure					
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Circuit Protection	Short circuit protection					
Environmental conditions	Operating Temperature	–25~75℃					
	Operating Humidity	35~85%					
	Enclosure rating	IP67					
Mechanical data	Connection type	2m/3-core Cable					
	Dimension	M12x56.9mm	M18x72.5mm	M30x87.0mm	M12x61.4mm	M18x76.0mm	M30x85.0mm
	Material	PBT					
	Weight	0.05kg	0.08kg	0.12kg	0.05kg	0.08kg	0.12kg
	Accessories	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5	Nut M12x1.0	Nut M18x1.0	Nut M30x1.5
Model	NPN NO	CKF12-03NO	CKF18-08NO	CKF30-20NO	CKN12-06NO	CKN18-15NO	CKN30-30NO
	Others	NO:NPN Normally open	NC:NPN Normally closed	PO:PNP Normally open	PC:PNP Normally closed		

Fiber Optic
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Capacitive sensors
Cylinderical
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Flat type
Level detection

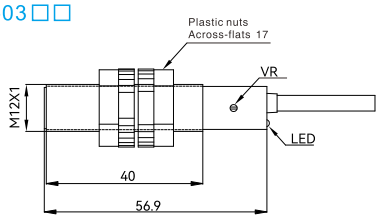
Cylinderical-CK Series

Dimensions

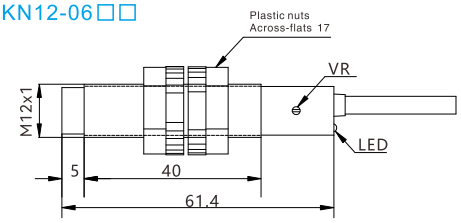
Unit:mm

M12

CKF12-03□□

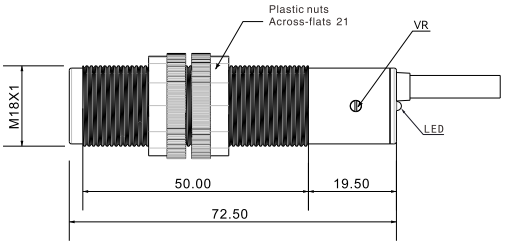


CKN12-06□□

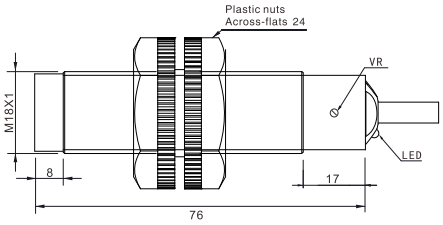


M18

CKF18-08□□

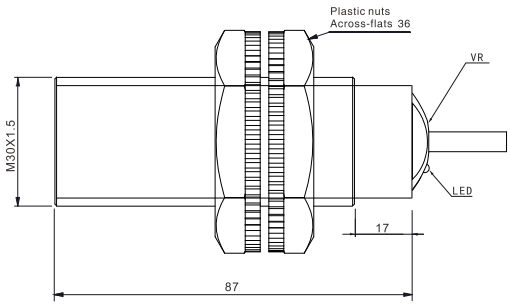


CKN18-15□□

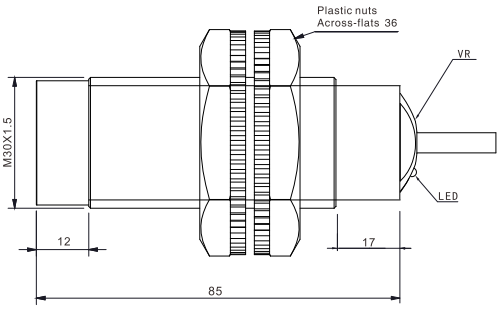


M30

CKF30-20□□



CKN30-30□□





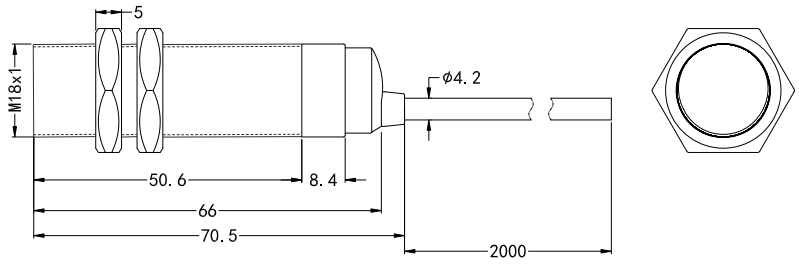
Corrosion Resistance

Basic Features	Working principle	Capacitive sensor
	Housing	Cylindrical
	Installation type	Flush
	Sensing distance	–
	Thread size	M18
	Sensing surface material	PBT
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials
	Indicator	–
	Sensing range adjustment	Available
Electrical data	Switching output	No:normally open/NC:normally closed
	Output mode	NPN/PNP
	External input	None
	Switching frequency	0.035kHz
	Repeatability	–
	Hysteresis	10%
	Operating Voltage	12~24V DC ± 10%
	Current consumption	<22mA
	Residual Voltage	<1.5V
	Load current	≤100mA
	Leakage current	<1.1mA
	Insulation resistance	≥20MΩ with 500V DC between power terminals and enclosure
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions
	Circuit Protection	–
Environmental conditions	Operating Temperature	–20~60℃
	Operating Humidity	35~85%
	Enclosure rating	IP66
Mechanical data	Connection type	2m/4-core Cable
	Dimension	M18x70.5mm
	Material	Plastic
	Weight	0.08kg
	Accessories	Nut M18x1.0
	Model	CWF18-10NP (NPN NO/NC PNP PC/PO)

Corrosion Resistance-CWF Series

Dimensions

Unit:mm



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

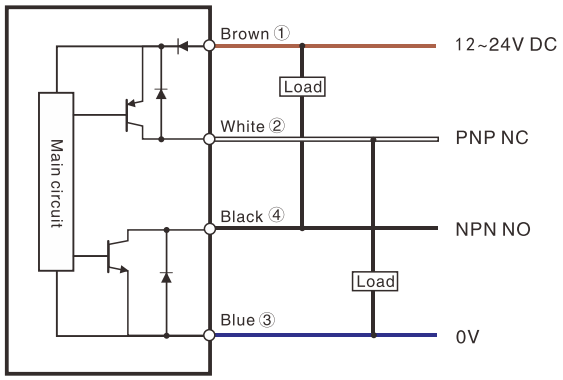
Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

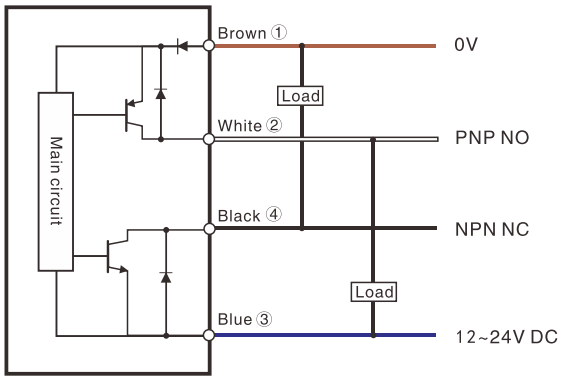
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Circuit diagram

Method 1:



Method 2:



Pre-wired



NEW!

Basic Features	Working principle	Capacitive sensor	
	Housing	Flat block	
	Installation type	Flush	
	Sensing distance	4mm	8mm
	Thread size	–	
	Sensing surface material	–	
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials	
	Indicator	Operation Status: LED	
	Sensing range adjustment	–	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	200Hz	
	Repeatability	<5%sr	
	Hysteresis	<15%sr	
	Operating Voltage	10~30V DC	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	≤150mA	
	Leakage current	<0.01mA	
	Insulation resistance	–	
	Dielectric strength	–	
	Vibration resistance	–	
	Circuit Protection	Short circuit protection	
Environmental conditions	Operating Temperature	–10~55℃	
	Operating Humidity	–	
	Enclosure rating	IP67	
Mechanical data	Connection type	2M 3 pin PVC cable	
	Dimension	6.0x25.0x52.5mm	
	Material	PBT	
	Weight	–	
	Accessories	–	
Model	NPN NO	CQ06-04NO	CQ06-08NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

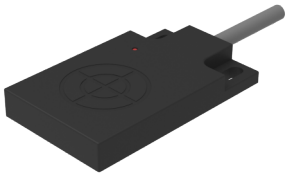
Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Flat Type-CQ Series

Pre-wired



Basic Features	Working principle	Capacitive sensor	
	Housing	Flat block	
	Installation type	–	
	Sensing distance	5mm	10mm
	Thread size	–	
	Sensing surface material	–	
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials	
	Indicator	Operation Status: LED	
	Sensing range adjustment	Available	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	0.1kHz	
	Repeatability	5%	
	Hysteresis	–	
	Operating Voltage	24V DC ± 10%	
	Current consumption	≤10mA	
	Residual Voltage	≤1.5V	
	Load current	≤50mA	
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	Reverse polarity protection/short circuit protection/pulse overvoltage protection	
Environmental conditions	Operating Temperature	–30~75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m/3-core Cable	
	Dimension	50.6x30.3x7.0mm	
	Material	Plastic	
	Weight	0.05kg	
	Accessories	–	
Model	NPN NO	CQ07-05NO	CQ07-10NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed	

Pre-wired



Basic Features	Working principle	Capacitive sensor
	Housing	Flat block
	Installation type	Flush
	Sensing distance	8mm
	Thread size	–
	Sensing surface material	–
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials
	Indicator	Operation Status: LED
	Sensing range adjustment	Available
Electrical data	Switching output	No:normally open,NC:normally closed
	Output mode	NPN or PNP Open Collector
	External input	None
	Switching frequency	0.035kHz
	Repeatability	1%
	Hysteresis	10%
	Operating Voltage	10~30V DC ± 10%
	Current consumption	≤10mA
	Residual Voltage	≤1.5V
	Load current	≤150mA
	Leakage current	<0.01mA
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions
	Circuit Protection	Reverse Polarity Protection/Short Circuit Protection/surge protection
Environmental conditions	Operating Temperature	–10~55℃
	Operating Humidity	35~85%RH
	Enclosure rating	IP66
Mechanical data	Connection type	2m/3-core Cable
	Dimension	48.8x20.0x7.0mm
	Material	Plastic
	Weight	0.05kg
	Accessories	–
Model	NPN NO	CQ07-08NO
	Others	NO:NPN Normally open NC:NPN Normally closed PO:PNP Normally open PC:PNP Normally closed

Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

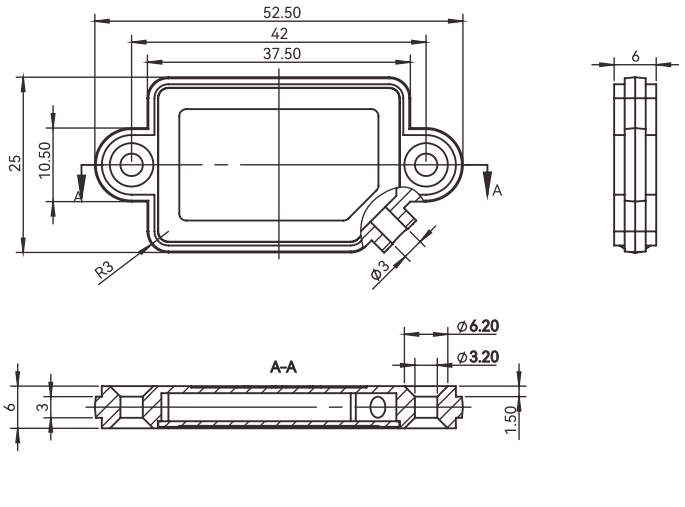
Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Flat Type-CQ Series

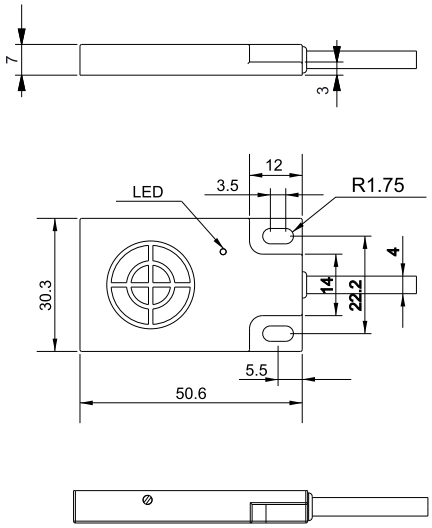
Dimensions

Unit:mm

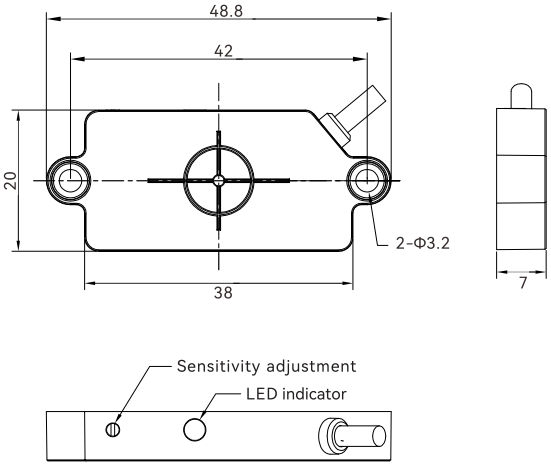
CQ06-04NO CQ06-08NO



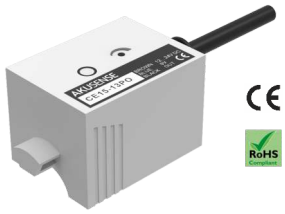
CQ07-05NO CQ07-10NO



CQ07-08NO



Pre-wired





Basic Features	Working principle	Capacitive sensor	
	Housing	Square	
	Installation type	Non-flush	
	Sensing distance	13mm	26mm
	Thread size	–	
	Sensing surface material	–	
	Detected objects	Metal, liquid, powder, wood, paper, plastic and other materials	
	Indicator	Action Indicator: Yellow LED	
	Sensing range adjustment	Available	
Electrical data	Switching output	No:normally open,NC:normally closed	
	Output mode	NPN or PNP Open Collector	
	External input	None	
	Switching frequency	0.02kHz	
	Repeatability	3%	
	Hysteresis	20%	
	Operating Voltage	10~30V DC ± 10%	
	Current consumption	<15mA	
	Residual Voltage	≤2.5V	
	Load current	≤150mA	
	Leakage current	<0.01mA	
	Insulation resistance	≥50MΩ with 500V DC between power terminals and enclosure	
	Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between power terminals and enclosure	
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Circuit Protection	Reverse Polarity Protection/Short Circuit Protection	
Environmental conditions	Operating Temperature	–25~75℃	
	Operating Humidity	35~85%	
	Enclosure rating	IP67	
Mechanical data	Connection type	2m PVC cable	
	Dimension	44.2x24.4x22.6mm	35.0x33.4x22.4mm
	Material	PBT	
	Weight	0.05kg	
	Accessories	–	
Model	NPN NO	CE15-13NO	CE30-26NO HOT
	Others	NO:NPN Normally open NC:NPN Normally closed	PO:PNP Normally open PC:PNP Normally closed

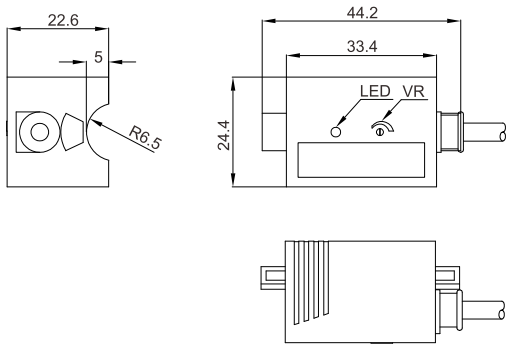
Liquid Level Detection-CE Series

Dimensions

Unit:mm

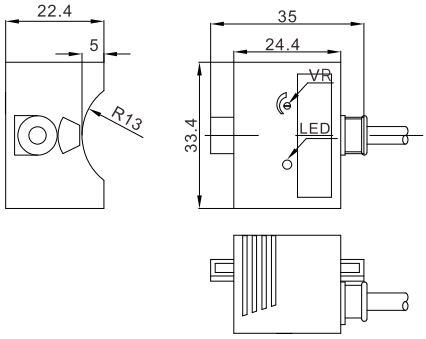
CE15

CE15-13□□



CE30

CE30-26□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
AI Image
Code Readers
Vibration
Temperature
RFID
Safety door lock
Pressure Switch
Communication
Accessories

Guidance

Inductive sensors
Standard distance
Extended distance
Long distance
Square
Mini square
Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature resistance type
IP69K high protection
Anti-Slag
Analog output
DC 2 wires

Capacitive sensors
Cylinderical
Correctsion resistanct type
Flat type
Level detection

Proximity Sensors

Fiber Optic
Slot Sensors
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Level detection