

Long Distance

Pre-wired

Proximity



Appearance											
Mounting	Shielded		Shielded			Unshielded		Unshielded			
Housing size	φ 6.5	M8	M12	M18	M30	φ 6.5	M8	M12	M18	M30	
Sensing distance	3mm ± 10%	3mm ± 10%	6mm ± 10%	12mm ± 10%	22mm ± 10%	6mm ± 10%	6mm ± 10%	10mm ± 10%	20mm ± 10%	40mm ± 10%	
Housing material	Stainless steel		Nickel copper alloy			Stainless steel		Nickel copper alloy			
Operating voltage	10~30V DC(Ripple < 10%)										
Voltage drop	< 1.5V										
Load Current, Max	150mA										
Current consumption	< 10mA										
Leakage current	< 0.01mA										
Switch frequency	1KHz	800Hz	300Hz	150Hz		500Hz	400Hz	100Hz			
Repeat accuracy	< 5.0% (Sr)										
Hysteresis	< 15% (Sr)										
Sensing surface material	PBT										
Operating Temperature	-25°C~+75°C										
Protective circuit	Short circuit										
Degree of protection	IP67										
Model No.	NPN Normally open	TYF6.5-03NIO	TYF08-03NIO	TYF12-06NIO	TYF18-12NIO	TYF30-22NIO	TYN6.5-06NIO	TYN08-06NIO	TYN12-10NIO	TYN18-20NIO	TYN30-40NIO
	Others	NIO:NPN Normally open NIC:NPN Normally closed PIO:PNP Normally open PIC:PNP Normally closed									

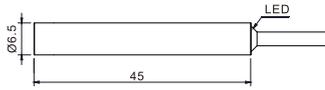
Connector Type



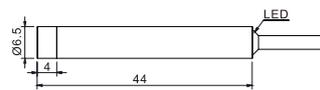
Appearance									
Mounting	Shielded				Unshielded				
Housing size	M8	M12	M18	M30	M8	M12	M18	M30	
Sensing distance	3mm ± 10%	6mm ± 10%	12mm ± 10%	22mm ± 10%	6mm ± 10%	10mm ± 10%	20mm ± 10%	40mm ± 10%	
Housing material	Stainless steel	Nickel copper alloy			Stainless steel	Nickel copper alloy			
Operating voltage	10~30V DC(Ripple < 10%)								
Voltage drop	< 1.5V								
Load Current , Max	150mA								
Current consumption	< 10mA								
Leakage current	< 0.01mA								
Switch frequency	1KHz	800Hz	300Hz	150Hz	500Hz	400Hz	100Hz		
Repeat accuracy	< 5.0% (Sr)								
Hysteresis	< 15% (Sr)								
Sensing surface material	PBT								
Operating Temperature	-25°C~+75°C								
Protective circuit	Short circuit								
Degree of protection	IP67								
Model No.	NPN Normally open	TYF08-03NIO-E1	TYF12-06NIO-E2	TYF18-12NIO-E2	TYF30-22NIO-E2	TYN08-06NIO-E1	TYN12-10NIO-E2	TYN18-20NIO-E2	TYN30-40NIO-E2
	Others	NIO:NPN Normally open NIC:NPN Normally closed PIO:PNP Normally open PIC:PNP Normally closed							

φ6.5

TYF6.5-03□□

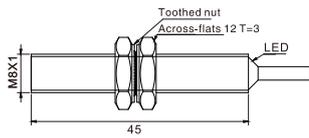


TYN6.5-06□□

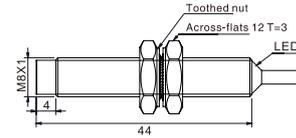


M8

TYF08-03□□

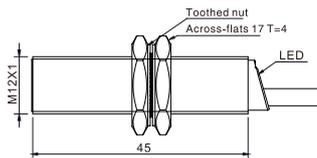


TYN08-06□□

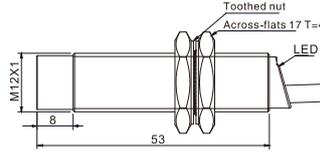


M12

TYF12-06□□

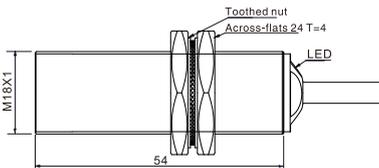


TYN12-10□□

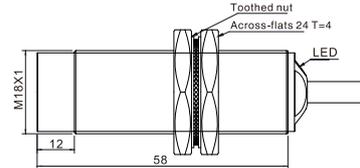


M18

TYF18-12□□

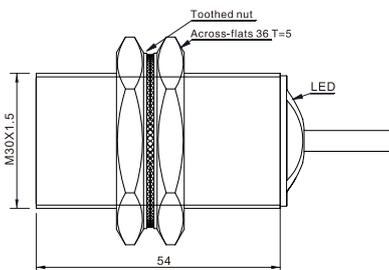


TYN18-20□□

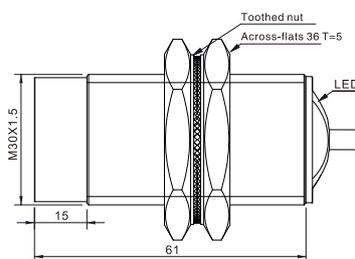


M30

TYF30-22□□



TYN30-40□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
Vision
Vibration
Temperature
Annexes

Guidance

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

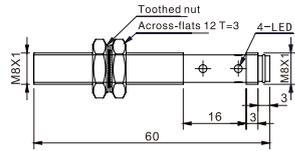
Capacitive sensors
Cylindrical
Correction resistanc type
Flat type
Level detection

Long Distance

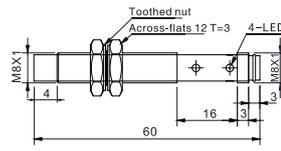
Dimensions-Connector Type (Unit:mm)

M8

TYF08-03□□-E1

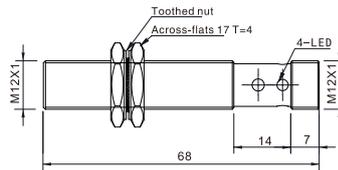


TYN08-06□□-E1

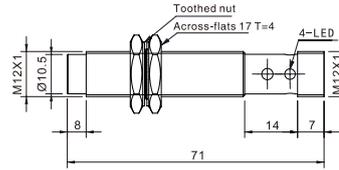


M12

TYF12-06□□-E2

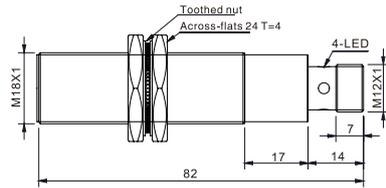


TYN12-10□□-E2

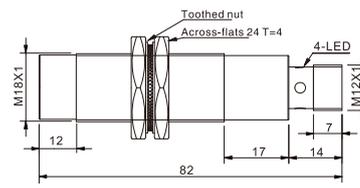


M18

TYF18-12□□-E2

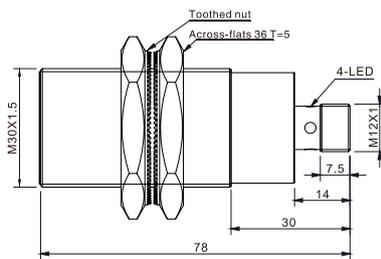


TYN18-20□□-E2

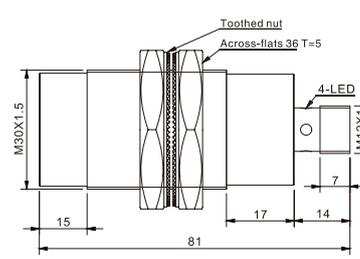


M30

TYF30-22□□-E2



TYN30-40□□-E2



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
Vision
Vibration
Temperature
Annexes

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

Capacitive sensors
Cylindrical
Correction resistanc type
Flat type
Level detection

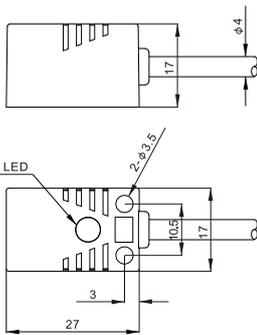


Appearance							
Mounting	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded	
Housing size	Q17		Q18		Q18C		
Sensing distance	5mm ± 10%	8mm ± 10%	5mm ± 10%	8mm ± 10%	5mm ± 10%	8mm ± 10%	
Housing material	Plastic						
Operating voltage	10~30V DC						
Voltage drop	< 1.5V						
Load Current, Max	150mA						
Current consumption	< 10mA						
Leakage current	< 0.01mA						
Switch frequency	1KHz	300Hz	1KHz	300Hz	1KHz	300Hz	
Repeat accuracy	< 1.0%(Sr)						
Hysteresis	< 15%(Sr)						
Sensing surface material	ABS						
Operating Temperature	-25°C~+75°C						
Protective circuit	Short circuit						
Degree of protection	IP67						
Model No.	NPN Normally open	TQF17-05[N]O	TQN17-08[N]O	TQF18-05[N]O	TQN18-08[N]O	TQF18C-05[N]O	TQN18C-08[N]O
	Others	[N]O:NPN Normally open	[N]C:NPN Normally closed	[P]O:PNP Normally open	[P]C:PNP Normally closed		

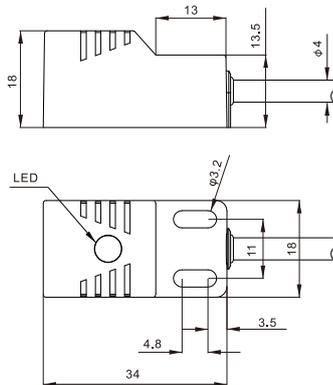
- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Dimensions (Unit:mm)

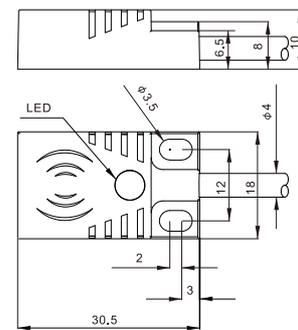
Q17
 TQF17-05□□
 TQN17-08□□



Q18
 TQF18-05□□
 TQN18-08□□



Q18C
 TQF18C-05□□
 TQN18C-08□□



Guidance

- Inductive sensors**
 - Standard distance
 - Extended distance
 - Long distance
- Square**
 - Mini square
 - Mini-cylindrical
 - Short-body
 - Ring-type
 - Metal face
 - Temperature
 - Analog output
 - DC 2 wires
 - IP69K high protection
- Capacitive sensors**
 - Cylindrical
 - Correction resistanc type
 - Flat type
 - Level detection

Mini-square

Pre-wired

Proximity



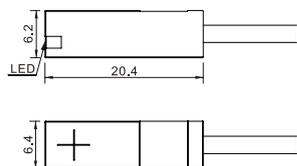
Appearance				
Mounting	Unshielded			
Housing size	E06	E07	E08	E09
Sensing distance	1mm ± 15%	1mm ± 15%	2.5mm ± 10%	2.5mm ± 10%
Housing material	Plastic			
Operating voltage	10~30V DC(Ripple < 10%)			
Voltage drop	< 1.5V			
Load Current , Max	100mA		150mA	
Current consumption	< 10mA			
Leakage current	< 0.01mA			
Switch frequency	500Hz		800Hz	
Repeat accuracy	< 5% (Sr)		< 1% (Sr)	
Hysteresis	< 15% (Sr)			
Sensing surface material	PC			
Operating Temperature	-25°C~+75°C			
Protective circuit	-		Short circuit	
Degree of protection	IP67			
Model No.	NPN Normally open TEN06-01[N _{NO}]	NPN Normally open TEN07-01[N _{NO}]	NPN Normally open TEN08-2.5[N _{NO}] (HOT)	NPN Normally open TEN09-2.5[N _{NO}] (HOT)
Others	[N _{NO}]:NPN Normally open	[N _{NC}]:NPN Normally closed	[P _{NO}]:PNP Normally open	[P _{NC}]:PNP Normally closed



Appearance				
Mounting	Unshielded			
Housing size	E10	E12	E15	E16
Sensing distance	2.5mm/4mm ± 10%	4mm ± 10%	5mm/8mm ± 10%	5mm/8mm ± 10%
Housing material	Plastic			
Operating voltage	10~30V DC(Ripple < 10%)			
Voltage drop	< 1.5V			
Load Current, Max	150mA			
Current consumption	< 10mA			
Leakage current	< 0.01mA			
Switch frequency	800Hz/200Hz		1KHz/500Hz	
Repeat accuracy	< 5% (Sr)		< 1% (Sr)	
Hysteresis	< 15% (Sr)			
Sensing surface material	PC			
Operating Temperature	-25°C~+75°C			
Protective circuit	Short circuit			
Degree of protection	IP67			
Model No.	NPN Normally open TEN10-2.5[N _{NO}]/TEN10-04[N _{NO}]	NPN Normally open TEN12-04[N _{NO}]	NPN Normally open TEN15-05[N _{NO}]/TEN15-08[N _{NO}]	NPN Normally open TEN16-05[N _{NO}]/TEN16-08[N _{NO}]
Others	[N _{NO}]:NPN Normally open	[N _{NC}]:NPN Normally closed	[P _{NO}]:PNP Normally open	[P _{NC}]:PNP Normally closed

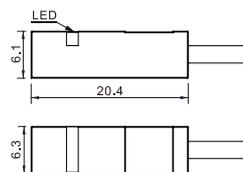
E06

TEN06-01□□



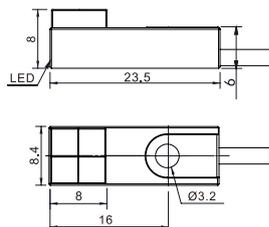
E07

TEN07-01□□



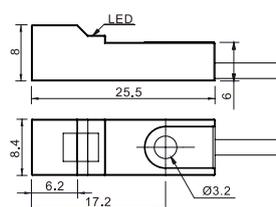
E08

TEN08-2.5/03□□



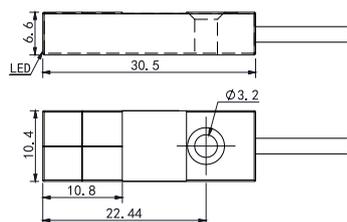
E09

TEN09-2.5/03□□



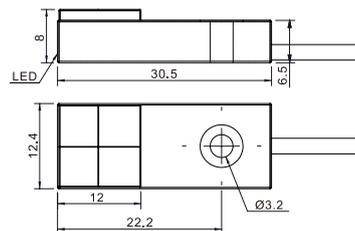
E10

TEN10-2.5/04□□



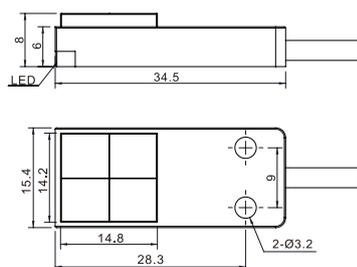
E12

TEN12-04□□



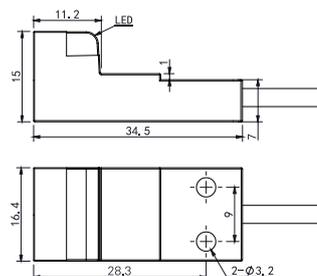
E15

TEN15-05/08□□



E16

TEN16-05/08□□



Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
Vision
Vibration
Temperature
Annexes

Guidance

Inductive sensors

Standard distance
Extended distance
Long distance
Square

Mini square

Mini-cylindrical
Short-body
Ring-type
Metal face
Temperature
Analog output
DC 2 wires
IP69K high protection

Capacitive sensors

Cylindrical
Correction resistanc type
Flat type
Level detection

Mini-cylindrical

Pre-wired

Proximity



Appearance		
Mounting	Shielded	
Housing size	φ3	φ4
Sensing distance	0.6mm/0.8mm/1.0mm ± 10%	0.8mm/1.0mm/1.2mm/1.5mm ± 10%
Housing material	Stainless steel	
Operating voltage	10~30V DC(Ripple < 10%)	
Voltage drop	< 1.5V	
Load Current, Max	100mA	150mA
Current consumption	< 10mA	
Leakage current	< 0.01mA	
Switch frequency	2KHz	
Repeat accuracy	< 1.0%(Sr)	
Hysteresis	< 15%(Sr)	
Sensing surface material	PA66	
Operating Temperature	-25°C~+75°C	
Degree of protection	IP67	
Model No.	NPN Normally open: TXFM4-0.6[NO] / TXFM4-0.8[NO] / TXFM4-01[NO] TXF05-0.8[NO] / TXF05-01[NO] / XF05-1.2[NO] / TXF05-1.5[NO] Others: [NO]:NPN Normally open [NC]:NPN Normally closed [PO]:PNP Normally open [PC]:PNP Normally closed	



Appearance		
Mounting	Shielded	
Housing size	M4	M5
Sensing distance	0.6mm/0.8mm/1.0mm ± 10%	0.8mm/1.0mm/1.2mm/1.5mm ± 10%
Housing material	Stainless steel	
Operating voltage	10~30V DC(Ripple < 10%)	
Voltage drop	< 1.5V	
Load Current,Max	100mA	
Current consumption	< 10mA	
Leakage current	< 0.01mA	
Switch frequency	2KHz	
Repeat accuracy	< 5.0%(Sr)	
Hysteresis	< 15%(Sr)	
Sensing surface material	PA66	
Operating Temperature	-25°C~+75°C	
Degree of protection	IP67	
Model No.	NPN Normally open: TXFM4-0.6[NO] / TXFM4-0.8[NO] / TXFM4-01[NO] TXF05-0.8[NO] / TXF05-01[NO] / XF05-1.2[NO] / TXF05-1.5[NO] Others: [NO]:NPN Normally open [NC]:NPN Normally closed [PO]:PNP Normally open [PC]:PNP Normally closed	

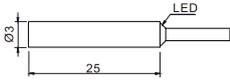
- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

- Inductive sensors**
- Standard distance
- Extended distance
- Long distance
- Square
- Mini square
- Mini-cylindrical**
- Short-body
- Ring-type
- Metal face
- Temperature
- Analog output
- DC 2 wires
- IP69K high protection
- Capacitive sensors**
- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

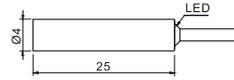
φ 3

TXF03-0.6/0.8/01□□



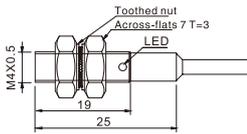
φ 4

TXF04-0.8/01/1.2/1.5□□



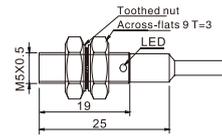
M4

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

Vision

Vibration

Temperature

Annexes

Guidance

Inductive sensors

Standard distance

Extended distance

Long distance

Square

Mini square

Mini-cylindrical

Short-body

Ring-type

Metal face

Temperature

Analog output

DC 2 wires

IP69K high protection

Capacitive sensors

Cylindrical

Correction

resistance type

Flat type

Level detection

Short-body

Ultra Short Housing

Proximity



Appearance		
Mounting	Shielded	
Housing size	φ 6.5	φ 6.5Y
Sensing distance	1mm/2mm ± 10%	
Housing material	Stainless steel	
Operating voltage	10~30V DC(Ripple < 10%)	
Voltage drop	< 1.5V	
Load Current , Max	150mA	
Current consumption	< 10mA	
Leakage current	< 0.01mA	
Switch frequency	2KHz	
Repeat accuracy	< 1.0%(Sr)	
Hysteresis	< 15%(Sr)	
Sensing surface material	PBT	
Operating Temperature	-25°C~+75°C	
Protective circuit	Short circuit	
Degree of protection	IP67	
Model No.	TSSF6.5-01 / TSSF6.5-02	TSSF6.5Y-01 / TSSF6.5-02
	:NPN Normally open :NPN Normally closed	:PNP Normally open :PNP Normally closed

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

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

- Capacitive sensors**
- Cylindrical
- Correction resistanc type
- Flat type
- Level detection



Appearance		
Mounting	Shielded	
Housing size	M8	M12
Sensing distance	1mm/2mm ± 10%	2mm/4mm ± 10%
Housing material	Stainless steel	
Operating voltage	10~30V DC(Ripple < 10%)	
Voltage drop	< 1.5V	
Load Current , Max	150mA	
Current consumption	< 10mA	
Leakage current	< 0.01mA	
Switch frequency	2KHz	
Repeat accuracy	< 1.0%(Sr)	
Hysteresis	< 15%(Sr)	
Sensing surface material	PBT	
Operating Temperature	-25°C~+75°C	
Protective circuit	Short circuit, except TSSF08-02	
Degree of protection	IP67	
Model No.	TSSF08-01 / TSSF08-02	TSSF12-02 / TSSF12-04
	:NPN Normally open :NPN Normally closed	:PNP Normally open :PNP Normally closed

(HOT)



Appearance					
Mounting	Shielded				
Housing size	M8	M12	M18	M30	
Sensing distance	1mm/2mm ± 10%	2mm/4mm ± 10%	5mm/8mm ± 10%	10mm/16mm ± 10%	
Housing material	Stainless steel				
Operating voltage	10~30V DC(Ripple < 10%)				
Voltage drop	< 1.5V				
Load Current, Max	150mA				
Current consumption	< 10mA				
Leakage current	< 0.01mA				
Switch frequency	2KHz	2KHz/1Hz	1KHz/500Hz	300Hz/150Hz	
Repeat accuracy	< 1.0%(Sr)				
Hysteresis	< 15%(Sr)				
Sensing surface material	PBT				
Operating Temperature	-25°C~+75°C				
Protective circuit	Short circuit				
Degree of protection	IP67				
Model No.	NPN Normally open	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



Appearance					
Mounting	Unshielded				
Housing size	M8	M12	M18	M30	
Sensing distance	2mm/4mm ± 10%	4mm/8mm ± 10%	8mm/16mm ± 10%	15mm/25mm ± 10%	
Housing material	Stainless steel	Nickle plated brass			
Operating voltage	10~30V DC(Ripple < 10%)				
Voltage drop	< 1.5V				
Load Current, Max	150mA				
Current consumption	< 10mA	< 20mA			
Leakage current	< 0.01mA				
Switch frequency	2KHz/1KHz	1KHz/500Hz	500Hz/150Hz	150Hz/100Hz	
Repeat accuracy	< 1.0%(Sr)				
Hysteresis	< 15%(Sr)				
Sensing surface material	PBT				
Operating Temperature	-25°C~+75°C				
Protective circuit	Short circuit				
Degree of protection	IP67				
Model No.	NPN Normally open	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
- Vision
- Vibration
- Temperature
- Annexes

Guidance

Inductive sensors

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

Capacitive sensors

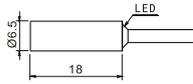
- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

Short-body

Extra Shot Outer Casing-Dimensions (Unit:mm)

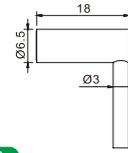
M6.5

TSSF6.5-01/02/03 □ □



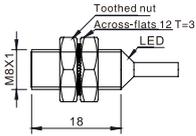
M6.5Y

TSSF6.5Y-01/02/03 □ □



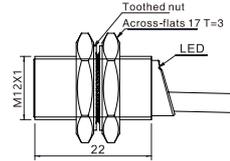
M8

TSSF08-01/02/03 □ □



M12

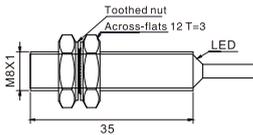
TSSF12-02/04/06 □ □



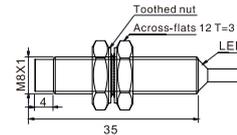
General-Dimensions (Unit:mm)

M8

TSF08-01/02 □ □

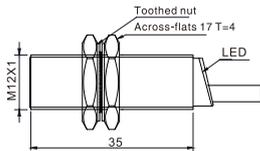


TSN08-02/04 □ □

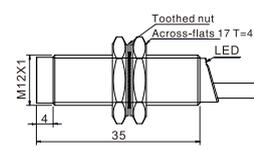


M12

TSF12-02/04 □ □

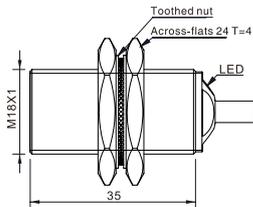


TSN12-04/08 □ □

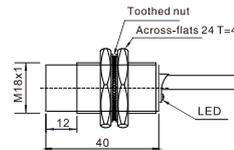


M18

TSF18-05/08 □ □

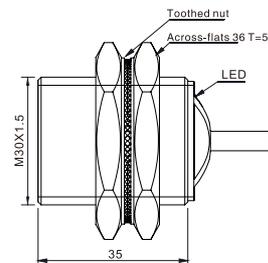


TSN18-08/16 □ □

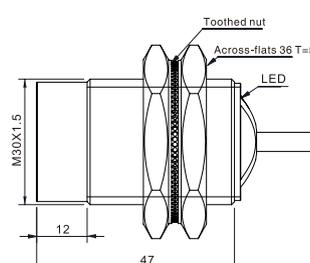


M30

TSF30-10/16 □ □



TSN30-15/25 □ □



- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

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

- Capacitive sensors
 - Cylindrical
 - Correction resistanc type
 - Flat type
 - Level detection

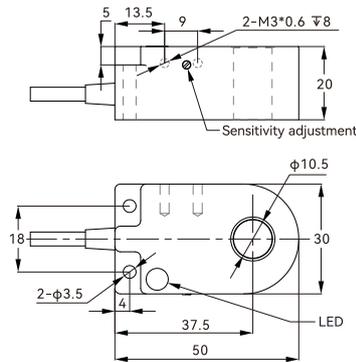
Appearance				
Housing size	H10	H15	H21	H43
Hole diameter	10.5mm	15.5mm	22.5mm	43.5mm
Hole height	20mm			
Housing material	ABS			
Operating voltage	10~30V DC(Ripple < 10%)			
Voltage drop	< 1.5V			
Load Current, Max	150mA			
Current consumption	< 15mA			
Leakage current	< 10mA			
Switch frequency	2KHz	1.5KHz	1KHz	500Hz
Min.detectable object	D=2.5mm; L=4mm	D=3mm; L=6mm	D=6mm; L=12mm	D=9mm; L=18mm
Repeat accuracy	< 2.0% (Sr)			
Hysteresis	< 15% (Sr)			
Sensing surface material	PBT			
Operating Temperature	-25°C~+75°C			
Protective circuit	Short circuit; Reverse polarity			
Degree of protection	IP67			
Model No.	TH10-20 	TH15-20 	TH21-20 	TH43-20 
	 :NPN Normally open	 :NPN Normally closed	 :PNP Normally open	 :PNP Normally closed

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Dimensions (Unit:mm)

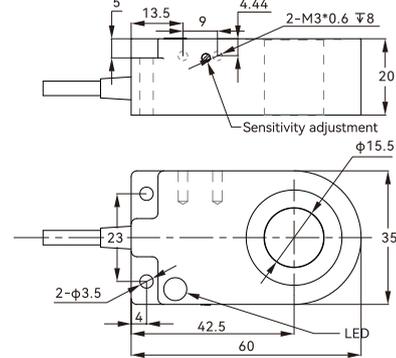
H10

TH10-20 □□



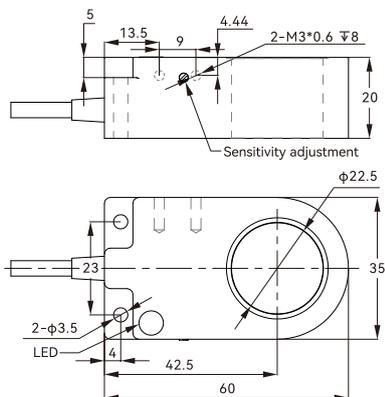
H15

TH15-20 □□



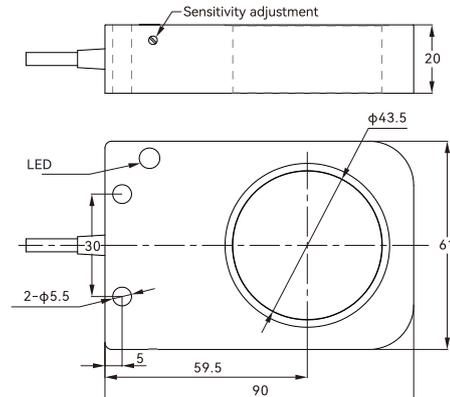
H21

TH21-20 □□



H43

TH43-20 □□



Guidance

Inductive sensors

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

Capacitive sensors

- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

Metal Face

Pre-wired



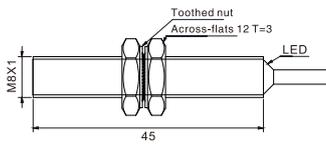
Appearance					
Mounting	Shielded				
Housing size	M8	M12	M18	M30	
Sensing distance	1mm/2mm ± 10%	2mm/4mm ± 10%	5mm/8mm ± 10%	10mm/16mm ± 10%	
Housing material	Stainless steel				
Operating voltage	10~30V DC(Ripple < 10%)				
Voltage drop	< 1.5V				
Load Current, Max	150mA				
Current consumption	< 10mA				
Leakage current	< 0.01mA				
Switch frequency	2KHz/1KHz		1KHz/500Hz	300Hz/150Hz	
Repeat accuracy	< 1.0%(Sr)				
Hysteresis	< 15%(Sr)				
Sensing surface material	Stainless steel				
Operating Temperature	-25°C~+75°C				
Protective circuit	Short circuit				
Degree of protection	IP67				
Model No.	NPN Normally open	TMF08-01 N/O /TMF08-02 N/O	TMF12-02 N/O /TMF12-04 N/O	TMF18-05 N/O /TMF18-08 N/O	TMF30-10 N/O /TMF30-16 N/O
	Others	N/C :NPN Normally open	N/C :NPN Normally closed	P/O :PNP Normally open	P/C :PNP Normally closed



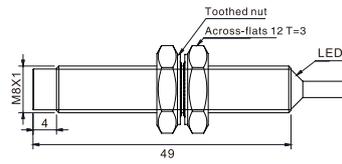
Appearance					
Mounting	Unshielded				
Housing size	M8	M12	M18	M30	
Sensing distance	2mm/3mm ± 10%	4mm/8mm ± 10%	8mm/16mm ± 10%	15mm/25mm ± 10%	
Housing material	Stainless steel				
Operating voltage	10~30V DC(Ripple < 10%)				
Voltage drop	< 1.5V				
Load Current, Max	150mA				
Current consumption	< 10mA				
Leakage current	< 0.01mA				
Switch frequency	2KHz/1KHz	1KHz/500Hz	500Hz/150Hz	150Hz/100Hz	
Repeat accuracy	< 1.0%(Sr)				
Hysteresis	< 15%(Sr)				
Sensing surface material	Stainless steel				
Operating Temperature	-25°C~+75°C				
Protective circuit	Short circuit				
Degree of protection	IP67				
Model No.	NPN Normally open	TMN08-02 N/O /TMN08-03 N/O	TMN12-04 N/O /TMN12-08 N/O	TMN18-08 N/O /TMN18-16 N/O	TMN30-15 N/O /TMN30-25 N/O
	Others	N/O :NPN Normally open	N/C :NPN Normally closed	P/O :PNP Normally open	P/C :PNP Normally closed

M8

TMF08-01/02□□

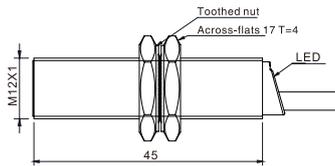


TMN08-02/03□□

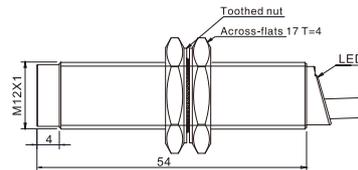


M12

TMF12-02/04□□

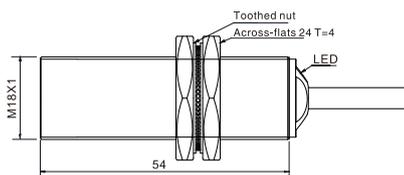


TMN12-04/08□□

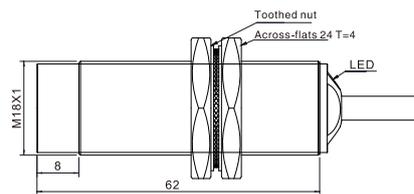


M18

TMF18-05/08□□

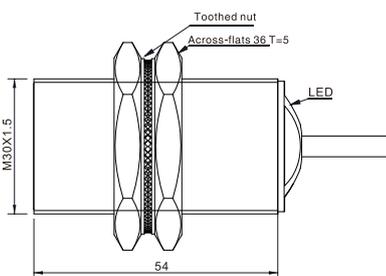


TMN18-08/16□□

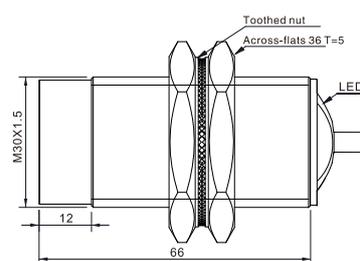


M30

TMF30-10/16□□



TMN30-15/25□□



- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

Inductive sensors

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

Capacitive sensors

- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

Temperature Resistance

High Temperature (120°C) Resistance Pre-wired Type



Appearance							
Mounting	Shielded			Unshielded			
Housing size	M12	M18	M30	M12	M18	M30	
Sensing distance	2mm ± 10%	5mm ± 10%	10mm ± 10%	4mm ± 10%	8mm ± 10%	15mm ± 10%	
Housing material	Nickel copper alloy						
Operating voltage	10~30V DC(Ripple < 10%)						
Voltage drop	< 2.5V						
Load Current, Max	100mA						
Current consumption	< 15mA						
Hysteresis	1~20%						
Repeat accuracy	< 5%						
Response frequency	1500Hz	1000Hz	500Hz	1000Hz	800Hz	300Hz	
Indicator	Yellow LED						
Ambient temperature	-25°C~+120°C						
Ambient humidity	35~95% RH						
Protective circuit	Reverse polarity; Surge protection						
Degree of protection	IP67						
Model No.	NPN Normally open	TGF12-02[NO]	TGF18-05[NO]	TGF30-10[NO]	TGN12-04[NO]	TGN18-08[NO]	TGN30-15[NO]
	Others	[NC]:NPN Normally open	[NC]:NPN Normally closed	[PC]:PNP Normally open	[PC]:PNP Normally closed		

HOT

High Temperature (220°C) Resistance Pre-wired Type



Appearance				
Mounting	Shielded			
Housing size	M12	M18	M30	
Sensing distance	2mm ± 10%	5mm ± 10%	10mm ± 10%	
Housing material	Nickel copper alloy			
Operating voltage	10~30V DC			
Voltage drop	< 1.8V			
Load current	External			
Current consumption	< 3mA(24V)			
Switch frequency	500Hz/220°C	500Hz/220°C	200Hz/220°C	
Repeat accuracy	< 3.0% (Sr)			
Hysteresis	3~15% (Sr)			
Sensing surface material	PBT			
Ambient temperature	-25~+220°C			
Degree of protection	IP66			
Interface	PTFE Cable/2m; 3*0.34mm ²			
Model No.	NPN Normally open	TGF12-02NO2	TGF18-05NO2	TGF30-10NO2
	NPN Normally open	TGF12-02PO2	TGF18-05PO2	TGF30-10PO2

Proximity

Fiber Optic

Slot Sensors

Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

Area

Ultrasonic

Vision

Vibration

Temperature

Annexes

Guidance

Inductive sensors

Standard distance

Extended distance

Long distance

Square

Mini square

Mini-cylindrical

Short-body

Ring-type

Metal face

Temperature

Analog output

DC 2 wires

IP69K high protection

Capacitive sensors

Cylindrical

Correction

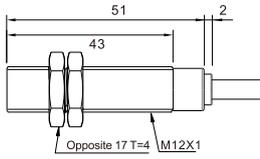
resistance type

Flat type

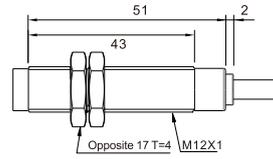
Level detection

M12

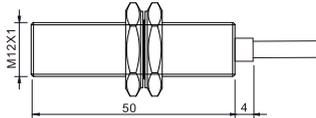
TGF12-02□□



TGN12-04□□

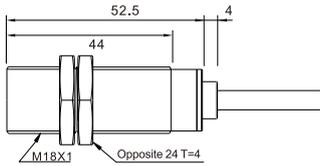


TGF12-02□□2

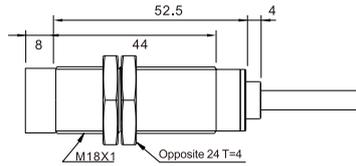


M18

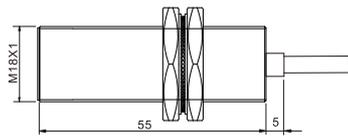
TGF18-05□□



TGN18-08□□

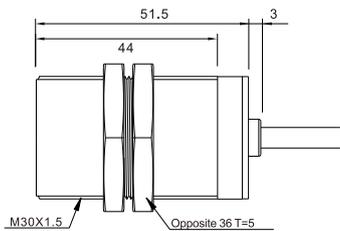


TGF18-05□□2

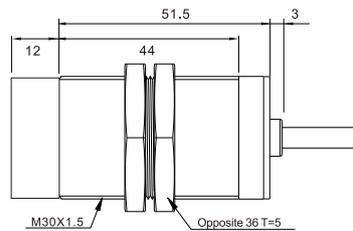


M30

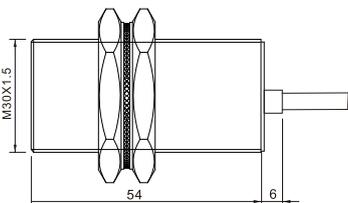
TGF30-10□□



TGN30-15□□



TGF30-10□□2



- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
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- Area
- Ultrasonic
- Vision
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- Temperature
- Annexes

Guidance

Inductive sensors

- Standard distance
- Extended distance
- Long distance
- Square

Mini square

Mini-cylindrical

Short-body

Ring-type

Metal face

Temperature

Analog output

DC 2 wires

IP69K high protection

Capacitive sensors

Cylindrical

Correction resistanc type

Flat type

Level detection

IP69K High Protection

Proximity



NEW!



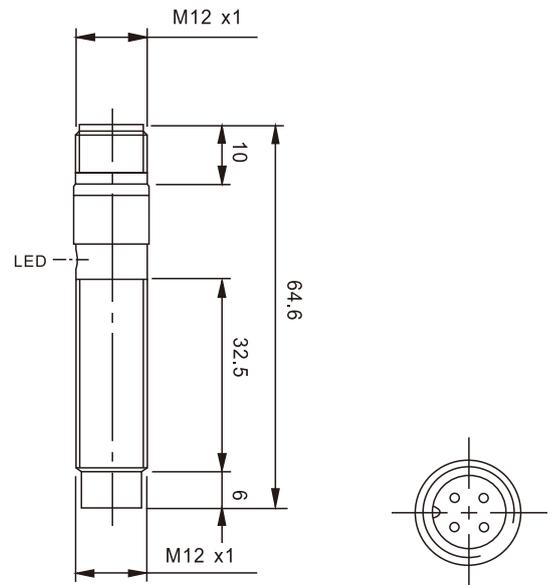
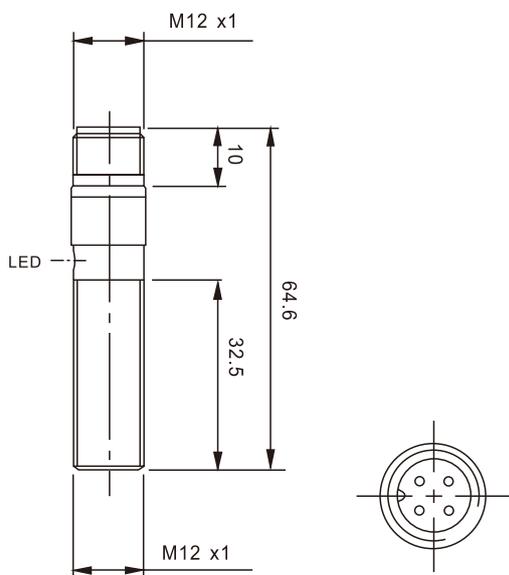
NEW!

Appearance					
Mounting	Shielded		Unshielded		
Sensing distance	2mm	4mm	4mm	8mm	
Working distance	0~1.62mm		0~3.24mm	0~6.5mm	
Hysteresis	1~20%				
Standard target	12 x 12mm FE360		24 x 24mm FE360		
Repeatability	5%				
Operating Voltage	10~30V DC				
Output type	NPNorPNP-NO+NCorNO				
Maximum ripple content	≤10%				
Output current	≤200mA				
Output voltage drop	≤2V				
No-load current	≤15mA				
Leakage current	≤15uA				
operating frequency	2kHz				
Start delay	50ms				
Ambient temperature range	-40°C~+80°C in a short time (within 15 seconds) up to 100°C 10%				
Thermal drift	10%				
Shock and vibration	IEC 60947-5-5/7.4				
Weight	30g				
LEDs	NO output status/without led-25°C~+110°C				
Protection level	IP67,IP68(1m,7days);IP69K (in line with DIN 40050-9 standard)				
Electromagnetic compatibility/EMC	Comply with EMC directive requirements and comply with IEC 60947-5-2 specification				
Housing material	Stainless steel				
Sensor head material	PPS (FDA certification)				
Connection method	M12 connector with gold-plated pins				
Tightening torque	25Nm				
Model No	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

Dimensions (Unit:mm)

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

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





NEW!



NEW!

Appearance	Shielded		Unshielded		
Mounting	5mm		8mm		
Sensing distance	0~4mm		0~6.5mm		
Working distance			0~9.72mm		
Hysteresis	1~20%				
Standard target	18 × 18mm FE360		36 × 36mm FE360		
Repeatability	5%				
Operating Voltage	10~30V DC				
Output type	NPN or PNP-NO+NO or NO				
Maximum ripple content	≤ 10%				
Output current	≤ 200mA				
Output voltage drop	≤ 2V				
No-load current	≤ 15mA				
Leakage current	≤ 10uA				
operating frequency	15kHz				
Start delay	50ms				
Ambient temperature range	-40°C~+80°C in a short time (within 15 seconds) up to 100°C				
Thermal drift	10%				
Shock and vibration	IEC 60947-5-5/7.4				
Weight	30g				
LEDs	NO output status / without led -25°C~+110°C				
Protection level	IP67, IP68 (1m, 7 days); IP69K (in accordance with DIN 40050-9 standard)				
Electromagnetic compatibility/EMC	Comply with EMC directive requirements and comply with IEC 60947-5-2 specification				
Housing material	Stainless steel				
Sensor head material	PPS (FDA certification)				
Connection method	M12 connector with gold-plated pins				
Tightening torque	25Nm				
Model No	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

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

Inductive sensors

- Standard distance
- Extended distance
- Long distance
- Square
- Mini square
- Mini-cylindrical
- Short-body
- Ring-type
- Metal face
- Temperature
- Analog output
- DC 2 wires

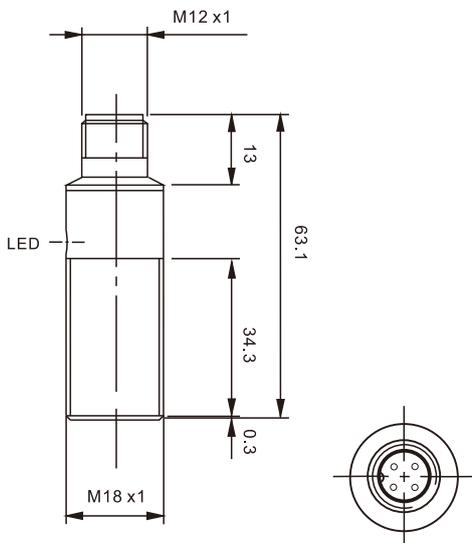
IP69K high protection

Capacitive sensors

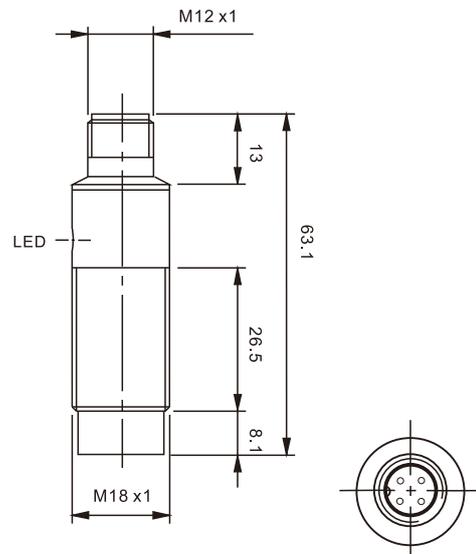
- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

Dimensions (Unit:mm)

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



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



Analog Output

Pre-wired

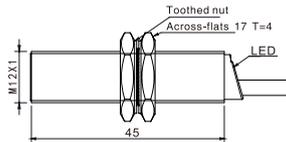


Appearance	Shielded			Unshielded		
Mounting	M12	M18	M30	M12	M18	M30
Housing size	M12	M18	M30	M12	M18	M30
Sensing distance	0.1~3mm ± 10%	1~4mm ± 10%	5~10mm ± 10%	0.1~4mm ± 10%	1~7mm ± 10%	7~14mm ± 10%
Housing material	Nickel copper alloy					
Operating voltage	18~30V DC(Ripple < 10%)					
Current consumption	< 15mA					
Linear	< 5%					
Switch frequency	100Hz					
Repeat accuracy	0.02mm					
Current output	4~20mA/≤200Ω	0~20mA/≤200Ω	4~20mA/≤400Ω	4~20mA/≤400Ω	0~20mA/≤200Ω	0~20mA/≤200Ω
Volage output	0~10VDC≥4.7KΩ					
Output type	PNP-Analog					
Sensing surface material	PBT					
Ambient temperature	-25°C~+75°C					
Protective circuit	Reverse polarity					
Degree of protection	IP67					
Model No.	Current output TAF12-03PA	TAF18-04PA	TAF30-10PA	TAN12-04PA	TAN18-07PA	TAN30-14PA
	Volage output TAF12-03PV	TAF18-04PV	TAF30-10PV	TAN12-04PV	TAN18-07PV	TAN30-14PV

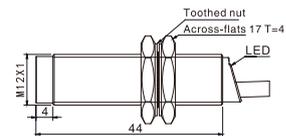
Dimensions (Unit:mm)

M12

TAF12-03 □□

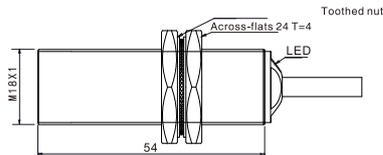


TAN12-04 □□

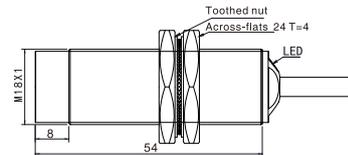


M18

TAF18-04 □□

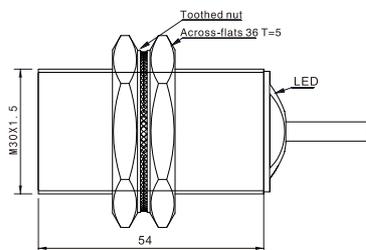


TAN18-07 □□

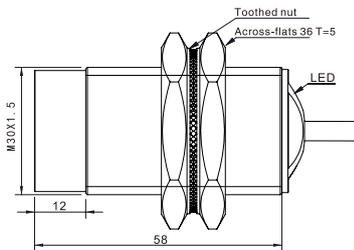


M30

TAF30-10 □□



TAN30-14 □□





Appearance						
Mounting	Shielded					
Housing size	φ 6.5	M8	M12	M18	M30	
Sensing distance	1mm/2mm ± 10%	1mm/2mm ± 10%	2mm/4mm ± 10%	5mm/8mm ± 10%	10mm/16mm ± 10%	
Housing material	Stainless steel		Nickel copper alloy			
Operating voltage	10~30V DC(Ripple < 10%)		10~60V DC(Ripple < 10%)			
Operating current	3~100mA					
Leakage current	< 0.8mA					
Voltage drop	< 6V/ < 4V					
Protective circuit	Short circuit					
Over-load current	> 120mA					
Switch frequency	2KHz		1KHz	500Hz		
Hysteresis	15%					
Temperature drift	10%					
Repeat accuracy	< 2%					
Operating Temperature	-25°C~+75°C					
Sensing surface material	PBT					
Model No.	Normally open	TDF6.5-01HO/TDF6.5-02HO	TDF08-01HO/TDF08-02HO	TDF12-02HO/TDF12-04HO	TDF18-05HO/TDF18-08HO	TDF30-10HO/TDF30-16HO
	Normally close	TDF6.5-01HC/TDF6.5-02HC	TDF08-01HC/TDF08-02HC	TDF12-02HC/TDF12-04HC	TDF18-05HC/TDF18-08HC	TDF30-10HC/TDF30-16HC



Appearance						
Mounting	Unshielded					
Housing size	φ 6.5	M8	M12	M18	M30	
Sensing distance	2mm/4mm ± 10%	2mm/4mm ± 10%	4mm/8mm ± 10%	8mm/16mm ± 10%	15mm/25mm ± 10%	
Housing material	Stainless steel		Nickel plated brass			
Operating voltage	10~30V DC(Ripple < 10%)		10~60V DC(Ripple < 10%)			
Operating current	3~100mA					
Leakage current	< 0.8mA					
Voltage drop	< 6V/ < 4V					
Protective circuit	Short circuit					
Over-load current	> 120mA					
Switch frequency	2KHz		1KHz	500Hz	200Hz	
Hysteresis	15%					
Temperature drift	10%					
Repeat accuracy	< 2%					
Operating Temperature	-25°C~+75°C					
Sensing surface material	PBT					
Model No.	Normally open	TDN6.5-02HO/TDN6.5-04HO	TDN08-02HO/TDN08-04HO	TDN12-04HO/TDN12-08HO	TDN18-08HO/TDN18-16HO	TDN30-15HO/TDN30-25HO
	Normally close	TDN6.5-02HC/TDN6.5-04HC	TDN08-02HC/TDN08-04HC	TDN12-04HC/TDN12-08HC	TDN18-08HC/TDN18-16HC	TDN30-15HC/TDN30-25HC

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

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

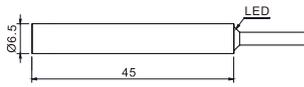
- Capacitive sensors**
- Cylindrical
- Correction resistanc type
- Flat type
- Level detection

DC 2-wire

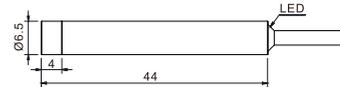
Dimensions (Unit:mm)

φ 6.5

TDF6.5-01/02 □ □

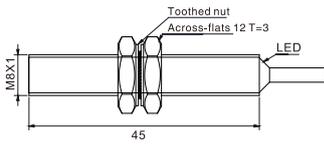


TDN6.5-02/04 □ □

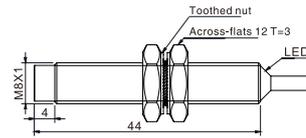


M8

TDF08-01/02 □ □

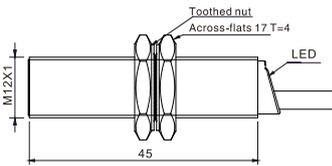


TDN08-02/04 □ □

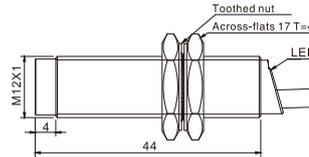


M12

TDF12-02/04 □ □

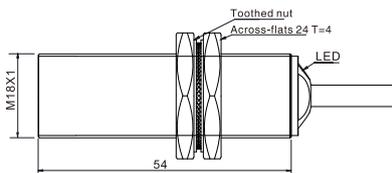


TDN12-04/08 □ □

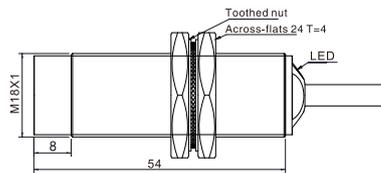


M18

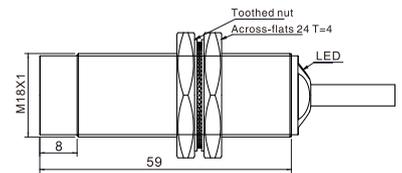
TDF18-05/08 □ □



TDN18-08 □ □

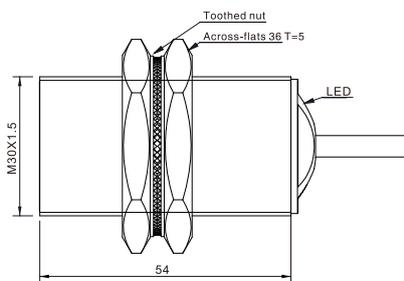


TDN18-16 □ □

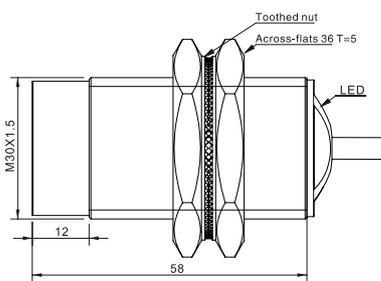


M30

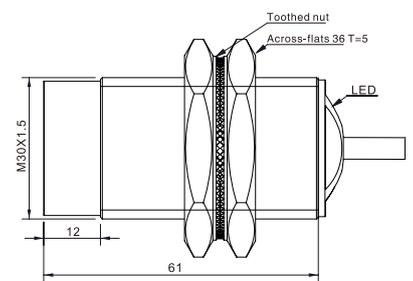
TDF30-10/16 □ □



TDN30-15 □ □



TDN30-25 □ □



- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

Guidance

- Inductive sensors**
- Standard distance
 - Extended distance
 - Long distance
 - Square
 - Mini square
 - Mini-cylindrical
 - Short-body
 - Ring-type
 - Metal face
 - Temperature
 - Analog output

- DC 2-wires**
- IP69K high protection

- Capacitive sensors**
- Cylindrical
 - Correction resistanc type
 - Flat type
 - Level detection

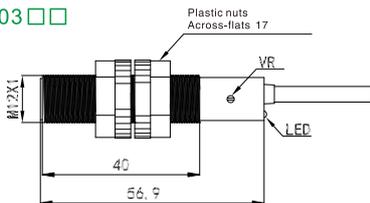
Appearance							
Mounting	Shielded			Unshielded			
Housing size	M12	M18	M30	M12	M18	M30	
Sensing distance	1~3mm adjustable	2~8mm adjustable	2~20mm adjustable	1~6mm adjustable	2~15mm adjustable	2~30mm adjustable	
Housing material	PBT						
Operating voltage	10~30V DC(Ripple < 10%)						
Voltage drop	< 2V						
Load Current, Max	150mA	300mA		150mA	300mA		
Current consumption	< 10mA						
Leakage current	< 0.01mA						
Switch frequency	100Hz						
Repeat accuracy	< 5% (Sr)						
Hysteresis	< 15% (Sr)						
Sensing surface material	PBT						
Operating Temperature	-25°C~+75°C						
Protective circuit	Short circuit						
Degree of protection	IP67						
Model No.	NPN Normally open	CKF12-03□□	CKF18-08□□	CKF30-20□□	CKN12-06□□	CKN18-15□□	CKN30-30□□
Others	□□: NPN Normally open □□: NPN Normally closed □□: PNP Normally open □□: PNP Normally closed						

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
- Proximity**
- Displacement
- Magnetic
- Contact
- Area
- Ultrasonic
- Vision
- Vibration
- Temperature
- Annexes

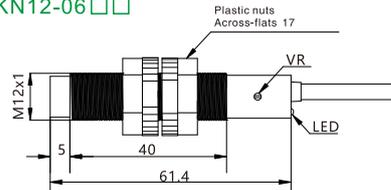
Dimensions-Plastic Shells (Unit:mm)

M12

CKF12-03□□

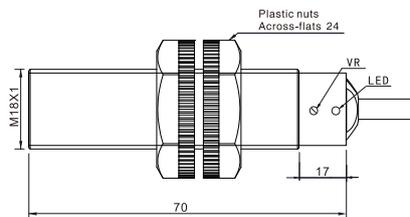


CKN12-06□□

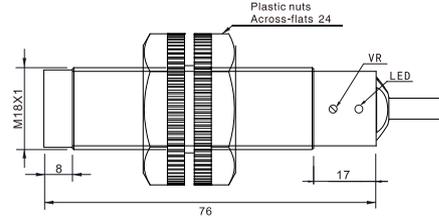


M18

CKF18-08□□

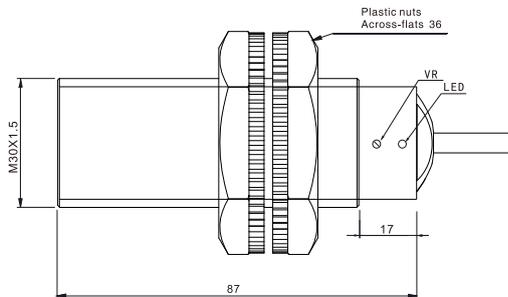


CKN18-15□□

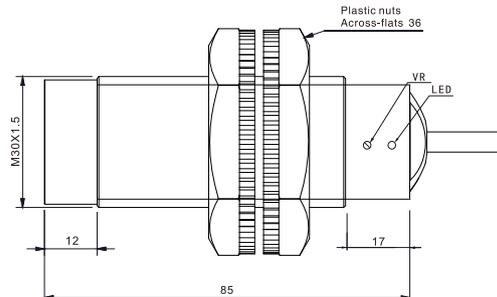


M30

CKF30-20□□



CKN30-30□□



Guidance

Inductive sensors

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

Capacitive sensors

- Cylindrical**
- Correction resistanc type
- Flat type
- Level detection

Corrosion Resistance



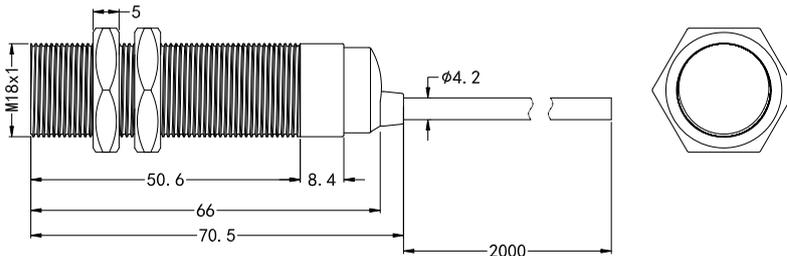
Corrosion resistance

Appearance

Mounting	Shielded
Housing size	M18
Sensing distance	1~10mm adjustable
Detectable objects	Metal、Water、Oil、Glass、Plastic、Paper
Operating voltage	12~24V DC(Ripple < 10%)
Voltage drop	< 1.5V
Load Current, Max	100mA
Current consumption	< 22mA
Leakage current	< 1.1mA
Response time	≤ 14ms
Isolation impedance	≥ 20M Ω (500V DC)
Hysteresis	< 10% (Sr)
Insulation withstand voltage	AC 1000V 60Hz lasts 60 Sec
Operating temperature	-20°C~+60°C
Degree of protection	IP66
Connection	φ 4.2X2m 4 core cable
Weight	≈ 78g
Model No.	CWF18-10NP (NPN NO/NC PNP NC/NO)

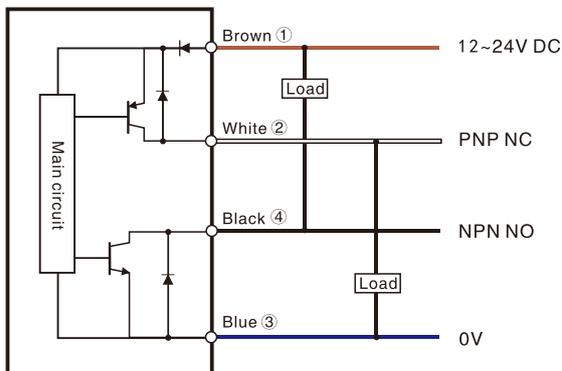
Dimensions

Unit:mm

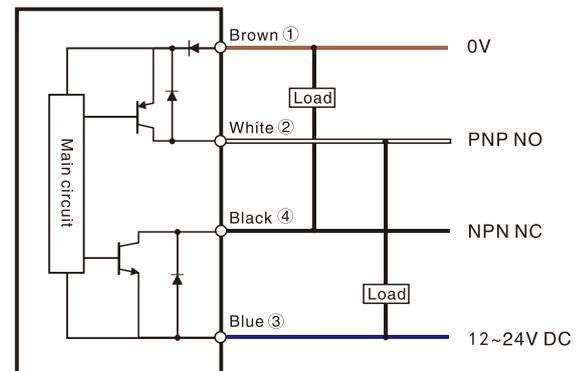


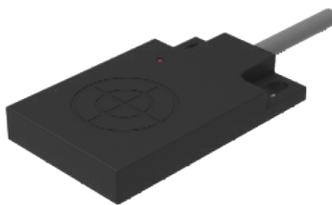
Circuit diagram

Method 1:



Method 2:





Appearance

Sensing distance	5mm(adjustable)	10mm(adjustable)
Housing material	Plastic, black/blue	
Operating voltage	24V DC(Ripple < 10%)	
Voltage drop	≤15V@1L=50mA	
Output type	NPN or PNP –NO/NC	
Load Current, Max	≤50mA	
Current consumption	≤100mA	
Switch frequency	10Hz	
Repeat accuracy	< 5%	
Operating Temperature	0°C~+60°C	
Storage temperature	-30°C~+75°C	
Temperature drift	≤20%	
Protective circuit	Reverse polarity, Over voltage pulse protection, Short circuit	
Degree of protection	IP67	
Model No.	NPN Normally open	CQ07-05 NO
	NPN Normally closed	CQ07-10 NC
	PNP Normally open	
	PNP Normally closed	

Legend: **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

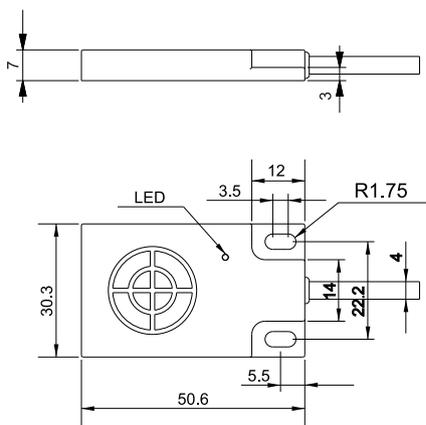
Vision

Vibration

Temperature

Annexes

Dimensions (Unit:mm)



Guidance

Inductive sensors

Standard distance

Extended distance

Long distance

Square

Mini square

Mini-cylindrical

Short-body

Ring-type

Metal face

Temperature

Analog output

DC 2 wires

IP69K high protection

Capacitive sensors

Cylindrical

Correction resistanc type

Flat type

Level detection

Liquid Level Detection

Pre-wired



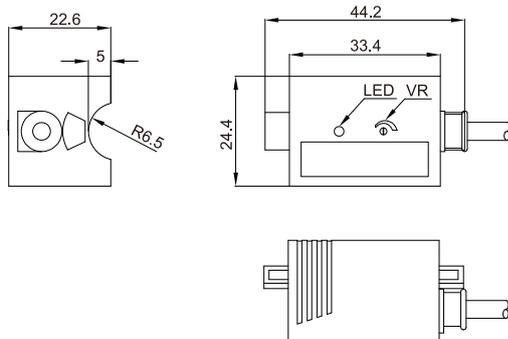
Appearance		
Mounting		Unshielded
Operating voltage		10~30V DC
Load Current, Max		150mA
Voltage drop		< 2.5V
Current consumption		< 15mA
Hysteresis		3~20%
Repeat accuracy		< 3%
Switch frequency		20Hz
Indicator		Yellow LED
Material		Nonmetal
Pipeline	External diameter	$\phi 8 \sim \phi 11$
	Wall thickness	$\phi 12 \sim \phi 26$
		< 1mm
Protective circuit		Reverse polarity/Short circuit
Ambient temperature		-25°C~+75°C
Degree of protection		IP67
Housing material		PBT
Connection		2mPVC Cable
Model No.	NPN Normally open	CE15-13 N□□
	Others	CE30-26 N□□ (HOT)

NO:NPN Normally open
 NC:NPN Normally closed
 PO:PNP Normally open
 PC:PNP Normally closed

Dimensions (Unit:mm)

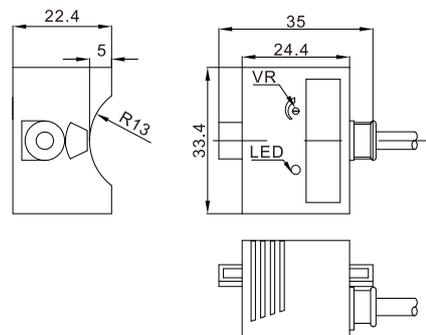
CE15

CE15-13□□



CE30

CE30-26□□



Proximity

- Fiber Optic
- Slot Sensors
- Photoelectric
- Laser
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- Capacitive sensors**
- Cylindrical
 - Correction resistanc type
 - Flat type

Level detection

- Fiber Optic
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- Laser
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Capacitive sensors

- Cylindrical
- Correction resistanc type
- Flat type
- Level detection