

Индуктивные датчики TE, TSS, TS, TX

Технические характеристики

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Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: auh@nt-rt.ru || сайт: <https://akusense.nt-rt.ru>

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	Normally Open or 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			
Environmental conditions	Circuit Protection	—		Short circuit protection	
	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	TEN07-01NC	TEN08-2.5NOHOT	TEN09-2.5NCHOT
	Others	NO: NPN Normally open	NC: NPN Normally closed	NO: PNP Normally open	NC: PNP Normally closed



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	Normally Open or 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							
Environmental conditions	Circuit Protection	Short circuit protection						
	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	TEN10-2.5	TEN10-04	TEN12-04	TEN15-05	TEN15-08	TEN16-05	TEN16-08
	Others	NPN Normally open NPN Normally closed PNP Normally open PNP Normally closed						

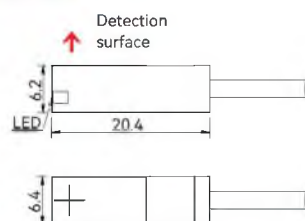
Mini-square-TE Series

Dimensions

Unit:mm

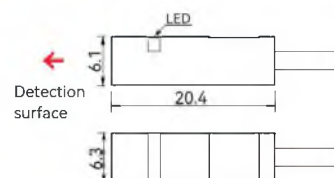
E06

TEN06-01□□



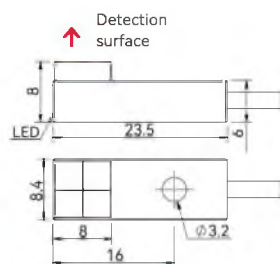
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TEN07-01□□



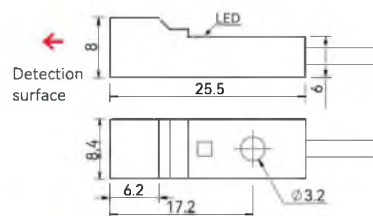
E08

TEN08-2.5/03□□



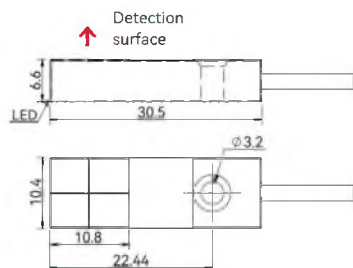
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TEN09-2.5/03□□



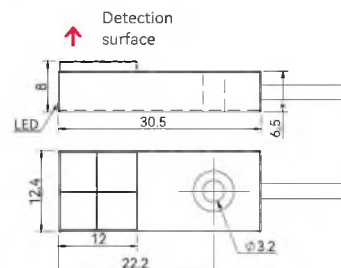
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TEN10-2.5/04□□



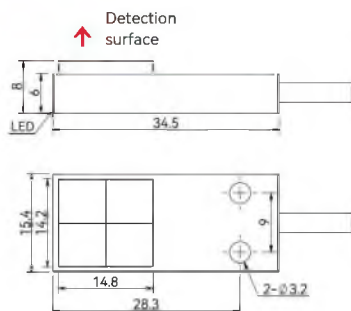
E12

TEN12-04□□



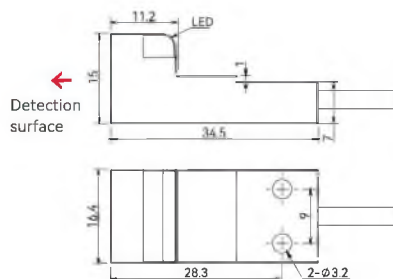
E15

TEN15-05/08□□



E16

TEN16-05/08□□



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	Normally Open or 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	
Environmental conditions	Circuit Protection	Short circuit protection	
	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	TSSF6.5-01[NO] / TSSF6.5-02[NO]	TSSF6.5Y-01[NO] / TSSF6.5Y-02[NO]
	Others	[NO]:NPN Normally open [NC]:NPN Normally closed [PN]:PNP Normally open [PC]:PNP Normally closed	



CE



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	
	Switching output	Normally Open or Normally Closed	
Electrical data	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 TSSF08-02	
Environmental conditions	Operating Temperature	-25~+75°C	
	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	TSSF08-01 / TSSF08-02	TSSF12-02 / TSSF12-04
	Others	:NPN Normally open :NPN Normally closed :PNP Normally open :PNP Normally closed	

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	Normally Open or 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°C			
	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			
	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	TSF08-01[NIO] / TSF08-02[NIO]	TSF12-02[NIO] / TSF12-04[NIO]	TSF18-05[NIO] / TSF18-06[NIO]	TSF30-10[NIO] / TSF30-16[NIO]
	Others	[NIO]:NPN Normally open [NIC]:NPN Normally closed [PIO]:PNP Normally open [PIC]:PNP Normally closed			



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	Normally Open or 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, TSN18-16 [N/C]			
	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°C			
	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			
	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	TSN06-02[N/O] / TSN08-04[N/O]	TSN12-04[N/O] / TSN12-08[N/O]	TSN18-08[N/O] / TSN18-16[N/O]	TSN30-15[N/O] / TSN30-25[N/O]
	Others	[N/O]:NPN Normally open	[N/C]:NPN Normally closed	[P/O]:PNP Normally open	[P/C]:PNP Normally closed

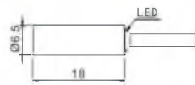
Short-body-TSS/TS Series

Super Short housing-Dimensions

Unit:mm

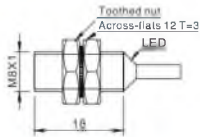
±0.5

TSSF6.5-01/02 □ □



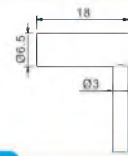
M8

TSSF08-01/02 □ □



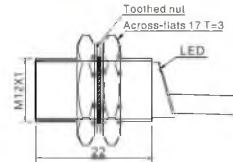
±0.5Y

TSSF6.5Y-01/02 □ □



M12

TSSF12-02/04 □ □

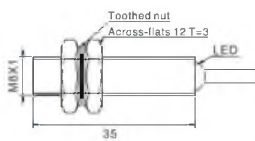


General-Dimensions

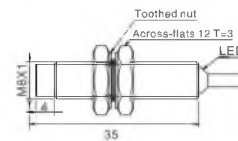
Unit:mm

M8

TSF08-01/02 □ □

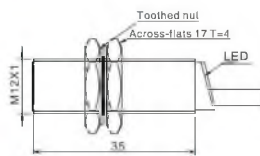


TSN08-02/04 □ □

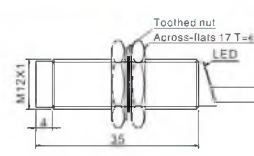


M12

TSF12-02/04 □ □

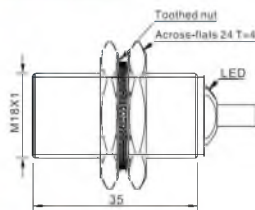


TSN12-04/08 □ □

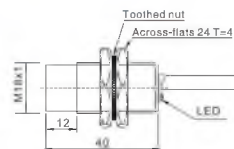


M18

TSF18-05/08 □ □

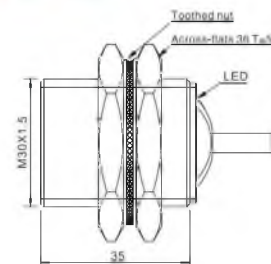


TSN18-08/16 □ □

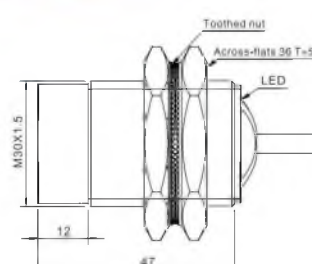


M30

TSF30-10/16 □ □



TSN30-15/25 □ □





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	Normally Open or 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°C	
	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	TXF03-0.6[NIO]/TXF03-0.8[NIO]/TXF03-0.1[NIO] TXF04-0.8[NIO]/TXF04-0.1[NIO]/TXF04-1.2[NIO]/TXF04-1.5[NIO]	
	Others	[NIO]:NPN Normally open [NIC]:NPN Normally closed [PIO]:PNP Normally open [PIC]: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

King-type

Metal face

Temperature resistance type

IP69K high protection

Anti-Slag

Analog output

DC 2-wire

Capacitive sensors

Cylindrical

Correction resistance type

Flat type

Level detection

Mini-cylindrical-TX Series

Pre-wired



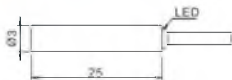
Basic Features	Working principle	Inductive sensor	
	Housing	Cylindrical	
	Installation type	Flush	
	Sensing distance	0.6mm/0.8mm/1.0mm ± 10%	0.8mm/1.0mm/1.2mm/1.5mm ± 10%
	Thread size	M4	M5
	Sensing surface material	PA66	
	Detected objects	Metal	
	Indicator	Operation Status: LED	
	Sensing range adjustment	None	
Electrical data	Switching output	Normally Open or 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°C	
	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	TXFM4-0.6[NIO] / TXFM4-0.8[NIO] / TXFM4-01[NIO]	
	Others	[NIO]:NPN Normally open [NIO]:NPN Normally closed [PIO]:PNP Normally open [PIC]:PNP Normally closed	

Unit:mm

Dimensions

φ3

TXF03-0.6/0.8/01□□



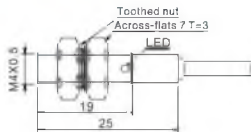
φ4

TXF04-0.8/01/1.2/1.5□□



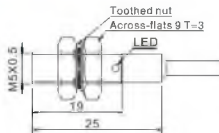
M4

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

Cylindrical

Correction

resistance type

Flat type

Level detection

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Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: auh@nt-rt.ru || сайт: <https://akusense.nt-rt.ru>