

High-Precision Ultrasonic Sensor TU-N Series



Ask SENPUM

+86-755-83330055

Fast Delivery Standard Models



Most products are in stock. Upon receiving your order, we will arrange prompt shipment to minimize your downtime-related costs and losses.



WeChat



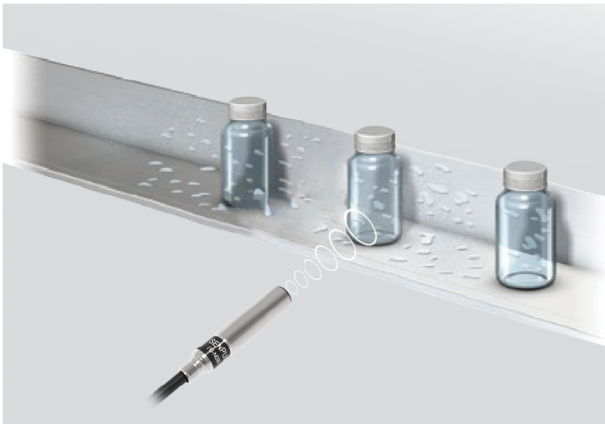
WhatsApp



LINE

Ultra-stable detection of transparent and semi-transparent objects

Detection of transparent bottles in the cleaning process.



Suitable for detecting liquid level, material level, distance, etc.

Control of the level of cleaning agents.



Protection class IP67

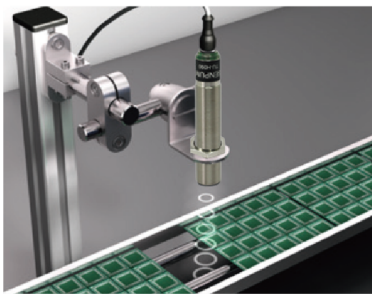
High protection class IP67, can be used in humid environments, anti-fog and dustproof.



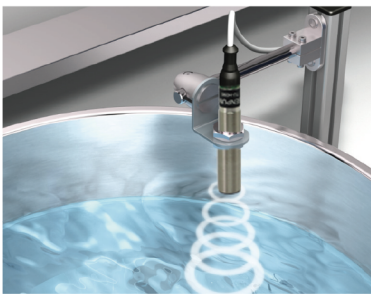
- Maximum resolution ± 1 mm.
- Maximum detection distance up to 6 m.
- Maximum accuracy up to $\pm 1\%$ of full scale.
- Excellent impact resistance of the metal housing.
- High-quality ICs ensure excellent product quality.
- Maximum repeatability up to $\pm 0.5\%$ of full scale.

More
Features

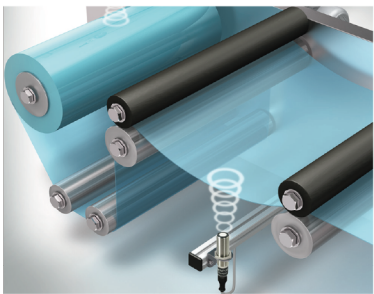
Applications



Conveyor belt PCB presence detection



Tank level detection



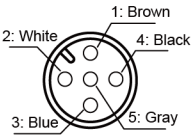
Transparent tape roll diameter measurement and presence detection

Product List

Sensor Head

Appearance	Detection distance	Output method	Model
	50–400 mm	Analog current 4–20 mA	TU-N040A
		Analog voltage 0–10 V	TU-N040V
	100–900 mm	Analog current 4–20 mA	TU-N090A
		Analog voltage 0–10 V	TU-N090V
	150–1600 mm	Analog current 4–20 mA	TU-N160A
		Analog voltage 0–10 V	TU-N160V
	200–2200 mm	Analog current 4–20 mA	TU-N220A
		Analog voltage 0–10 V	TU-N220V
	350–3500 mm	Analog current 4–20 mA	TU-N350A
		Analog voltage 0–10 V	TU-N350V
	350–6000 mm	Analog current 4–20 mA	TU-N600A
		Analog voltage 0–10 V	TU-N600V

Connection Cable (sold separately)

Type		Cable length	Model	Connector pins
Connector	M12 connector	2 m	OW-20001	
		5 m	OW-20002	
		10 m	OW-20003	
	M12 L-type connector	2 m	OW-20011	
		5 m	OW-20012	
		10 m	OW-20013	

Fiber Optic Sensors

Photoelectric Sensors

Color Sensors

Laser Sensors

Proximity Sensors

Precision Contact Sensors

Area Sensors/
Safety Light Curtains

Laser Scanners

Digital Contact Sensors

Laser Displacement
Sensors

Laser Micrometers

Confocal Displacement
Sensors

Barcode Readers

AI Vision Sensors

RFID

Infrared Temperature
Sensors

Pressure Sensors

Flow Sensors

Magnetic Sensors

Ultrasonic Sensors

Magnetic Scales

Static Eliminators



TU-N
TU-H

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Static Eliminators

TU-N

High-Precision Ultrasonic Sensor

Specifications							
Type		Diffuse reflective					
Main unit model	Analog current	TU-N040A	TU-N090A	TU-N160A	TU-N220A	TU-N350A	TU-N600A
	Analog voltage	TU-N040V	TU-N090V	TU-N160V	TU-N220V	TU-N350V	TU-N600V
Maximum sensing distance		400 mm ⁽¹⁾	900 mm ⁽²⁾	1600 mm ⁽²⁾	2200 mm ⁽²⁾	3500 mm	6000 mm ⁽²⁾
Minimum sensing distance		50 mm	100 mm	150 mm	200 mm	350 mm	350 mm
Sensing range		50–400 mm	100–900 mm	150–1600 mm	200–2200 mm	350–3500 mm	350–6000 mm
Beam angle		10°±2°		15°±2°	14°±2°	±7°	±9°
Hysteresis		1%					
Repeatability		0.5%				1%	0.5%
Resolution		±1 mm	±2 mm	±3 mm		±4 mm	±6 mm
Linearity error		1%					
Operating temperature range		-20 to +70 °C					
Temperature compensation		Available					
Thermal drift		±2%					
Ripple coefficient		5%					
Operating voltage		12 to 24 VDC					
Leakage current		10 µA @ 30 VDC					
Output voltage drop		2.2 V max. (I = 100 mA)					
No-load current		≤ 50 mA					
Minimum load resistance (analog voltage output)		3 k Ω					
Adjustable switching point		Teach-In button					
Start-up delay		≤300 ms					
Indicator		Green: reflective; Yellow: output					
Circuit protection		Short-circuit protection (automatic reset), inductive protection, reverse voltage protection					
Electromagnetic compatibility/EMC		Conforms to the requirements of the EMC directive, in accordance with EN60947-5-2 specifications					
Protection class		IP67 (EN 60529) (4)					
Connection cable		Sold separately					
Housing material		Stainless steel 316L					PBT
Vibrating head material		Glass epoxy resin					
Torsional torque		Metal housing: 50 N·m					Plastic housing: 1 N·m
Storage temperature		-35 to +70 °C (no freezing)					
Weight		100 g					70 g

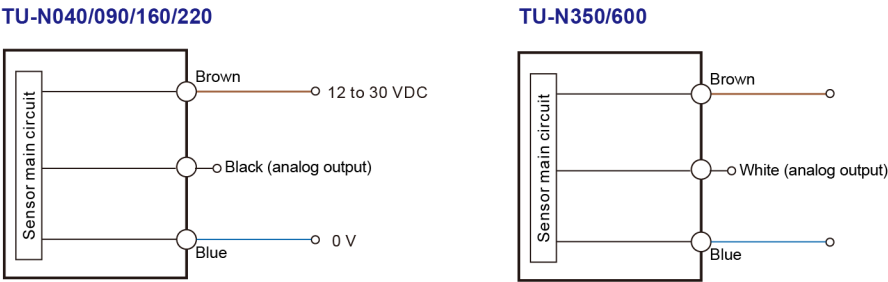
(1) Metal target plate 100 x 100 mm (2) Metal target plate 200 x 200 mm



SENPUM
2367

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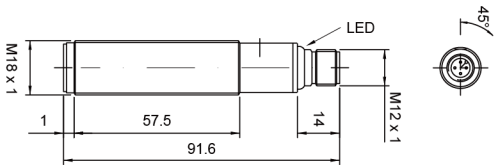
I/O Circuit Diagrams



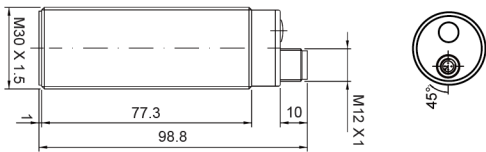
Dimensions

Unit: mm

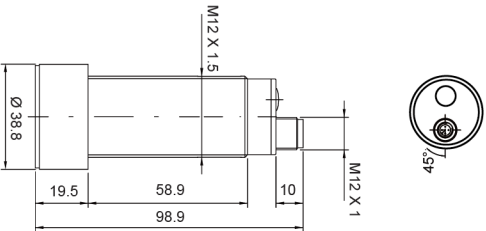
TU-N040A / N040AV / N090A / N090V / N160A / N160V / N220A / N220V



TU-N350A / N350V



TU-N600A / N600V



Ultrasonic Sensors

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- Laser Sensors
- Proximity Sensors
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