

Sensors

Comprehensive Sample





01

APPLICATIONS CHAPTER

APPLICATIONS

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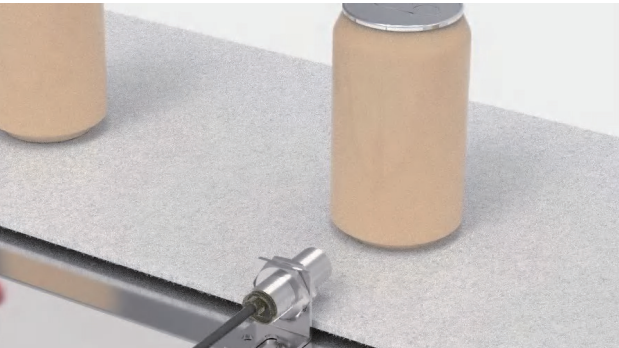
Sensors play an important role in many key fields with their high accuracy and reliability.

Our products are widely used in industrial automation, automotive manufacturing, semiconductor, photovoltaic, medical, security and surveillance, equipment and mechanical engineering, transportation, utilities, and communications, among other key areas.

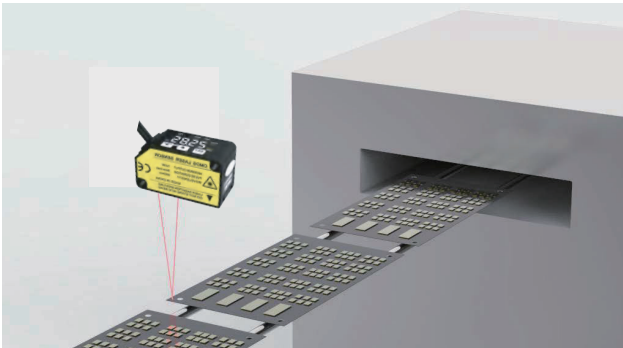
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APPLICATIONS INTRODUCTION

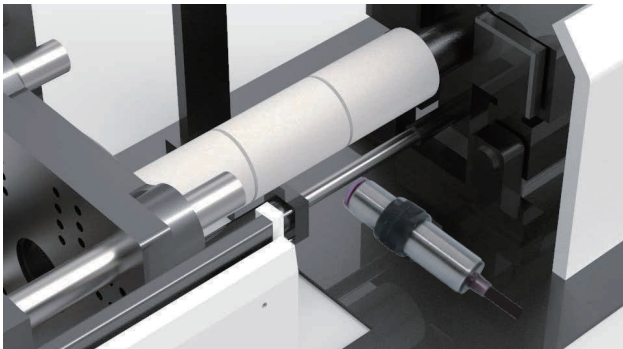
Applications



Detecting cans or counting on the assembly line



Semiconductor PCB Inspection



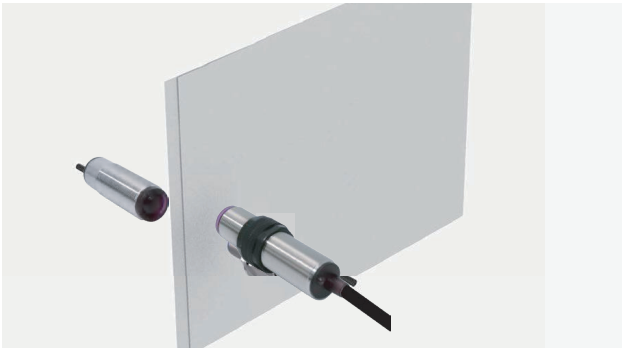
Photoelectric switch detects the presence or absence of an object



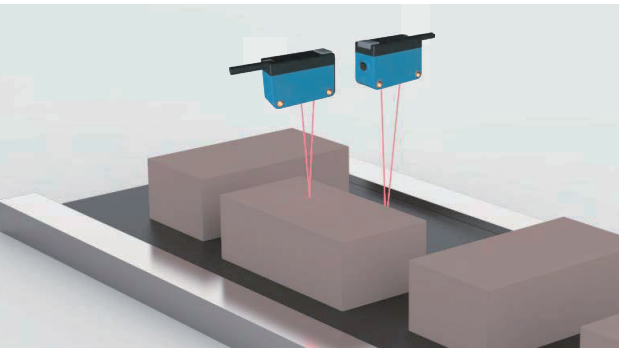
Remote detection of material in containers



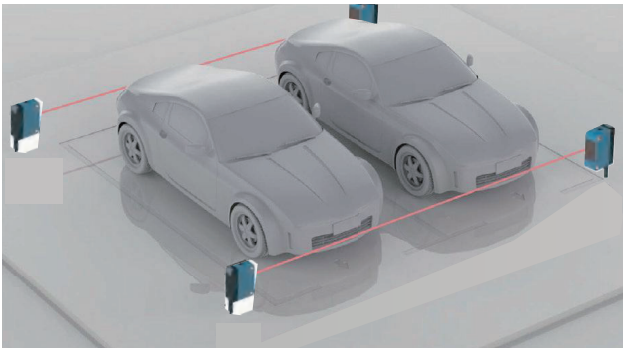
Optical switch detection counting



Convective sensors detect opaque objects



Detecting the orientation of the carton



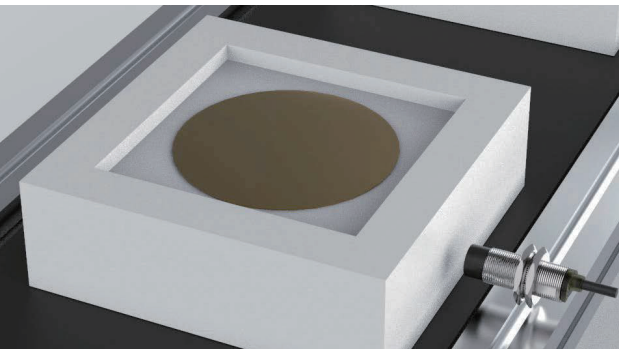
Vehicle position detection by laser alignment



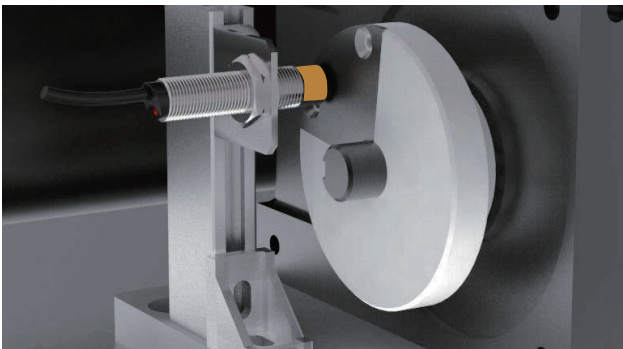
Alignment confirmation of connector pins



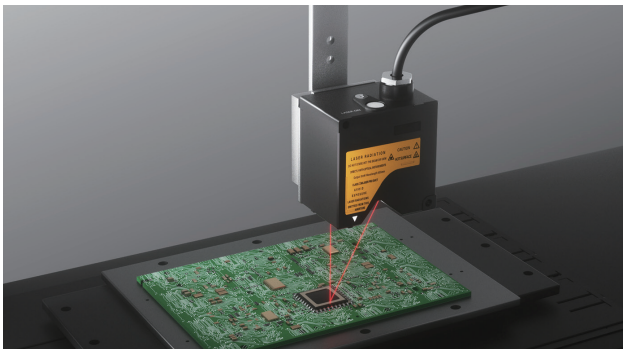
Analog signal output to detect object flatness



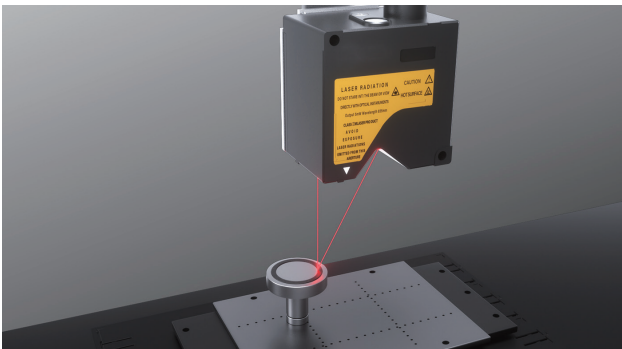
Proximity Sensor Detection Package



Detection of rotating mechanism home position

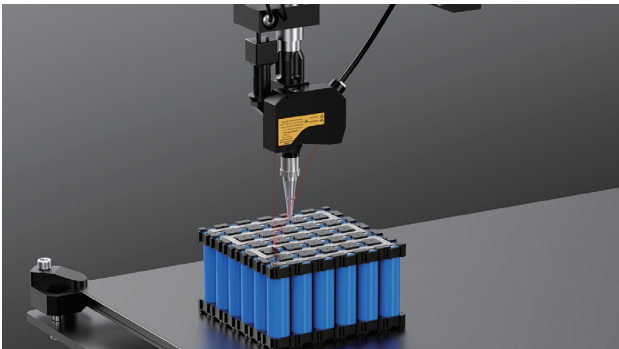


Board height and deformation

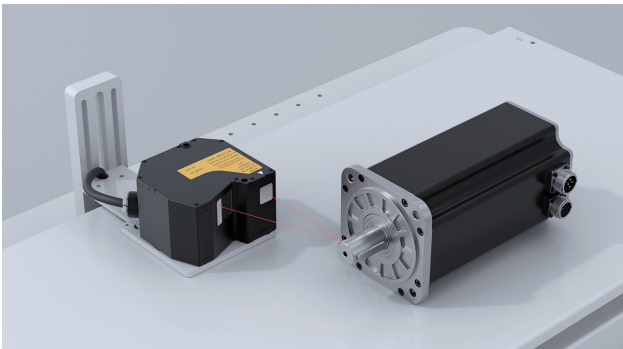


Seal position detection

▪ Building the world's leading sensor company



Welding Ranging



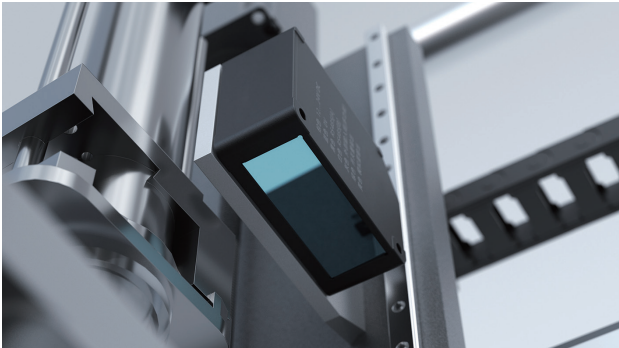
Ultra-fast sampling frequency



Touch switches in equipment



Application of touch switch in high speed rail



Glass lens



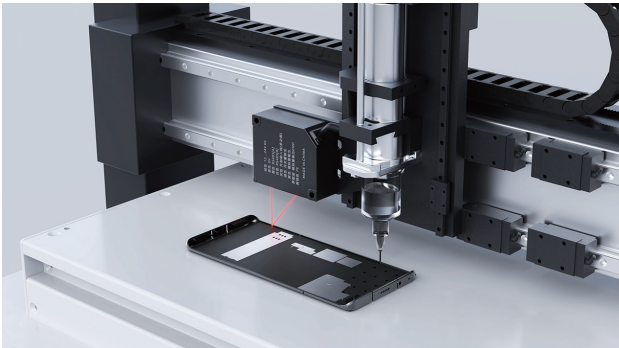
Screen display



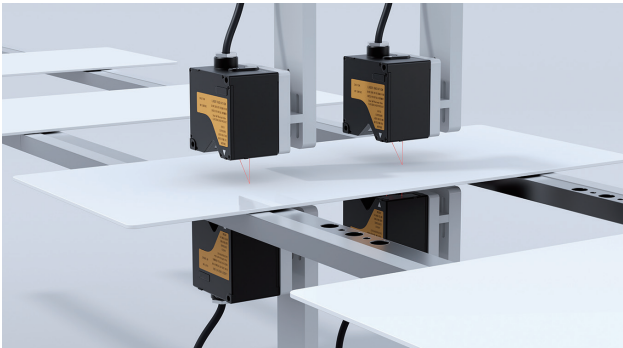
Touch switches in equipment



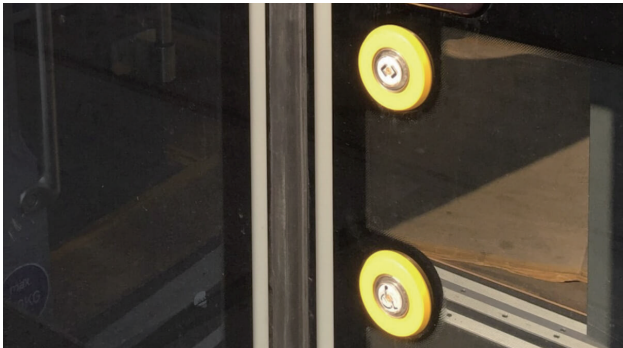
Touch switches in equipment



Glue guide



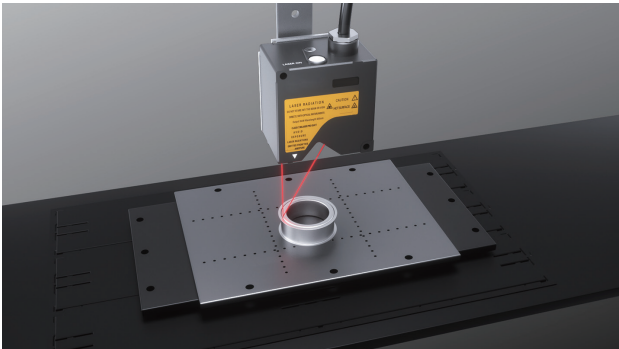
Ceramic Thickness Measurement



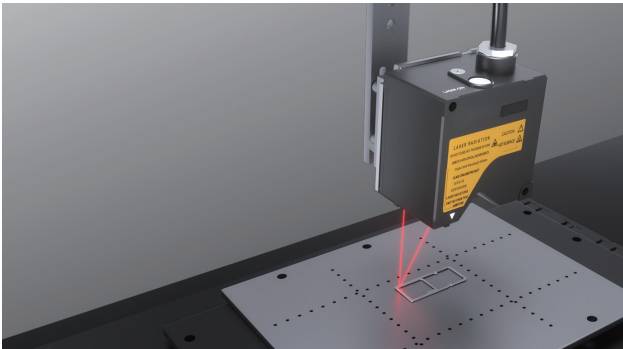
Touch switches on buses



Touch switches on buses



Measuring O-Ring Insertion Depth



Measuring the thickness of metal parts



Touch switches on doors



Touch switches on doors



02

PRODUCTS CHAPTER

PRODUCTS

“

We specializes in the development and production of sensor technology, with core products covering touch switches, RF conductive sensors, laser displacement sensors, photoelectric sensors, radar level sensors, ultrasonic sensors, ultrasonic flowmeters, encoders, laser ranging sensors, proximity sensors, pressure sensors, and CCD vision, etc. ELE's products have been developed and designed to operate stably in extreme industrial environments.

Our products are developed and designed to operate stably in extreme industrial environments.

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PRODUCTS INTRODUCTION

Products



A

Touch switch



B

Radio Frequency
Conductive Sensors



C

Laser Displacement
Sensor



D

Photoelectric sensors



E

Radar Level Sensor



F

Ultrasonic sensors



G

Ultrasonic flowmeter



H

Encoders



I

Laser distance sensors



J

Proximity sensors



K

Pressure sensors



L

CCD vision

CLT series

Touch switch

ELE touch switch provides easy operation and durability for a long service life. Its rugged construction and 100% water and oil resistance make it capable of withstanding extremely harsh operating environments, including all types of severe weather conditions.

The CLT series offers a wide range of models, materials, connections, fittings, mounting depths, and options to meet specific standards and requirements for an extremely wide range of applications in virtually all industries. In particular, the high hygienic standards of the products, with their stainless steel and toughened glass housings, make them ideal for use in industries such as healthcare and food and beverage.



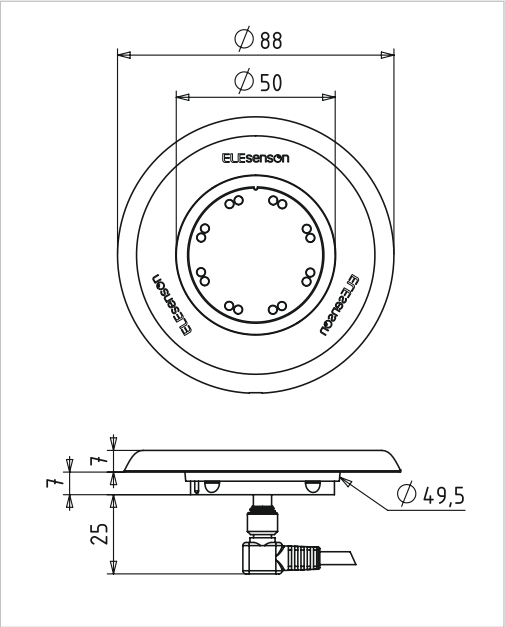
— Specificities

- Touch operation
 - Easy to operate, no pressure required
- Durable
 - Hundreds of millions of switching cycles
- Variety of options
 - Covering a wide range of contact surface sizes, housing materials and designs.
- Water and oil resistant to IP69K
 - The product adopts advanced technology and high-quality materials to achieve integrated moulding design.
- Impact resistance
 - Effectively resisting damage caused by flames and impacts.
- Multiple feedback methods
 - Including light (16 LEDs), sound (signal tone) and tactile (vibration) feedback.
- Personalisation
 - Provides a wide range of graphic marking options and supports a full range of customisation requirements.

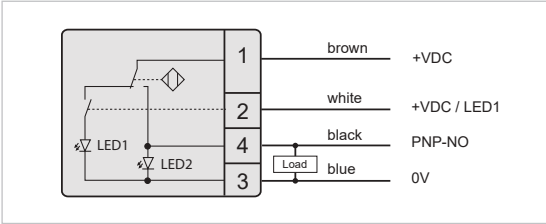
— Technical parameters

Name	Technical parameters
Operating voltage	DC 24 V (16.8... .32 V)
Withstand current	Max.200 mA
Exports	PNP-NO
Output signal	Continuous output when triggered
Led 1	8 green LEDs
Led 2	8 red LEDs
Reverse polarity protection	Misconnection protection for all wires
Short circuit protection	Short circuit and overload protection
Pressure drop	Maximum 2.5V when current is 200mA
Current consumption	Max. 30mA at 24V
Operating temperature	-30... +80°C
Protection class	Operating area IP69K
Operating method	Capacitive
Operating pressure	No pressure required
Sensitivity	Customisable
Brightness	Customisable
Pattern	Customisable

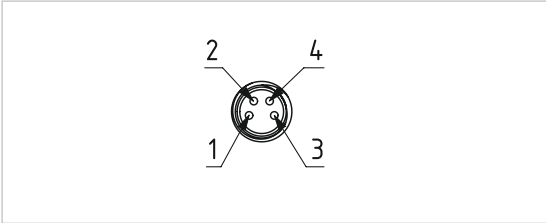
— Dimension drawing



— Wiring diagram



— Connectors



— Areas of application



Industrial automation



Automotive



Plant and mechanical engineering



Transport

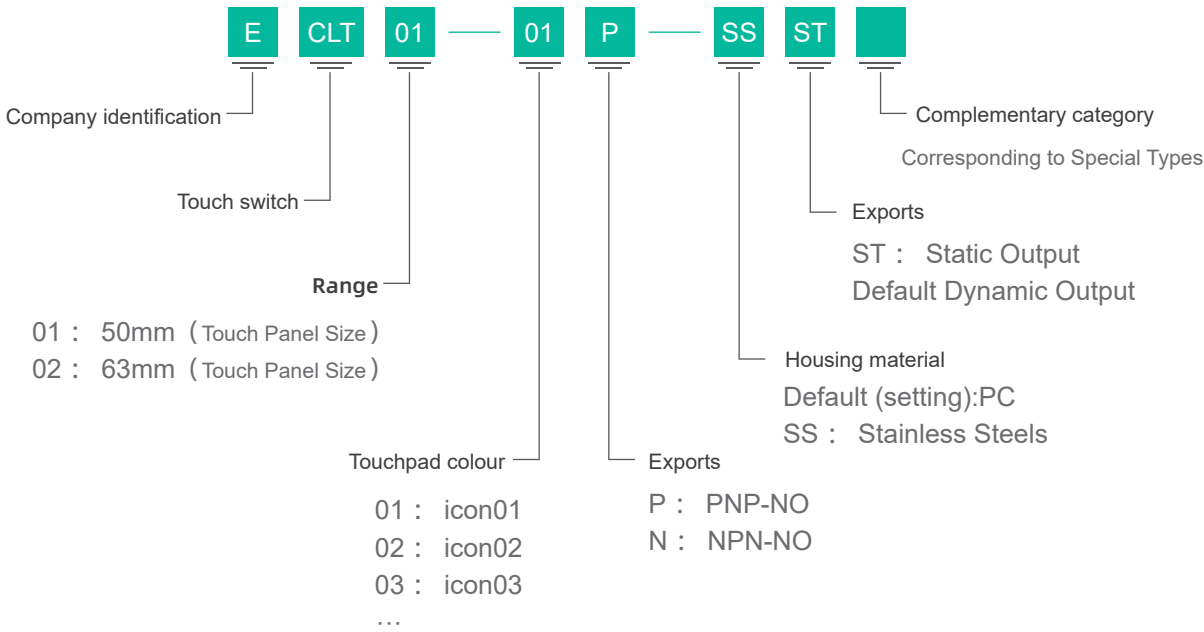


Public domain



Communications

— Product selection chart



— Customised patterns

01	07	61	62	72
98	52	43	48	141
51	103	157	111	112
64	67	71	110	167
156	159	160	173	161
Can be customised with more patterns...				

ERF series

Radio Frequency Conductive Sensors

ELE RF conductivity sensor is an advanced level measurement sensor, its measurement principle is based on RF conductivity technology, when working, the probe and the tank wall and the measured medium form a conductivity value, when the level changes, the conductivity value will also change accordingly. The circuit unit inside the sensor converts the measured conductivity value into a level signal output, thus realising level measurement. This series of sensors have the characteristics of high measurement accuracy, good stability, wide range of applications and so on.



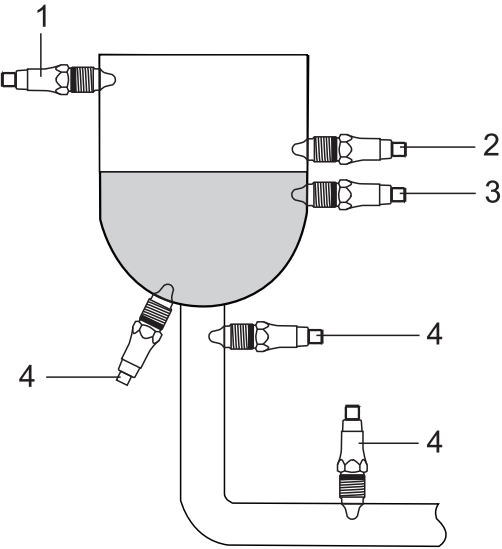
specificities

- High measurement accuracy
Sweep sensors are not affected by the installation position in the tank.
- Good stability
The sensor has no mechanical measuring principle and is based on intelligent RF capacitance technology, which can effectively avoid the sensitivity, measurement accuracy susceptibility and instability of parasitic capacitance and distributed capacitance of traditional capacitive sensors.
- Wide range of applications
Every medium from liquids to powders and solids, quartz sand, iron powder, etc... can be detected regardless of its density.

Technical parameters

Name	Technical parameters
operating voltage	12V...30VDC
Reverse polarity protection	Yes
Current consumption	Typical 25mA Maximum 50mA
Start-up time	<2S
Output logic	PNP or NPN
Current load	20mA MAX.
Short circuit protection	Yes
Voltage drop	PNP : (+Vs-1.5V)±0.5V , Rload=10KΩ NPN : (+1.5V)±0.5V , Rload=10KΩ
leakage	±100 μA MAX.
Switching state	Normally open contact + Normally closed contact NO+NC
Repeatability	±1mm
Hysteresis	±1mm
Response time	0.1s
Keep putting sth off	0.0... .10.0 seconds (adjustable)
Ambient temperature	-40...+85°C
Air humidity	<98% RH, condensation
Storage temperature	-40...+85°C
Protection class	IP67, IP69K (with suitable cable)
Vibration (sinusoidal)	1.6mm P-P (2.... .25Hz), 4g (25... .100Hz), 1 octave/minute

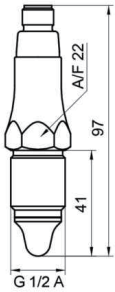
Mounting position



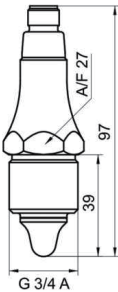
- 1 Overflow alarm
- 2 High Alarm
- 3 Low alarm
- 4 Idle protection

The sensor can be mounted anywhere on the container. A sensor (1) mounted above the vessel prevents spillage. A sensor mounted below detects the highest (2) or lowest (3) level. A sensor (4) mounted on the bottom of the vessel or on the discharge pipe prevents the pump from idling.

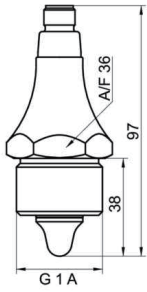
— Dimension drawing



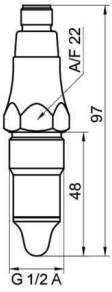
G1/2 A ISO 228-1 BSC
(SLBFS:G07)



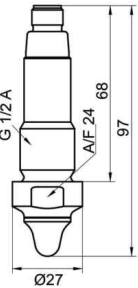
G3/4 A ISO 228-1
(SLBFS:G10)



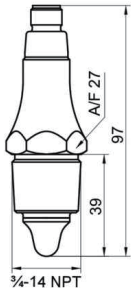
G1 A ISO 228-1
(SLBFS: G11)



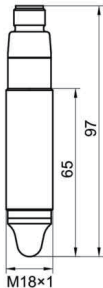
G1/2 A hygienic
(SLBFS: A03)



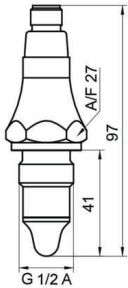
G1/2 A ISO 228-1
for reverse assembly
(inshellthread)(SLBFS:T10)



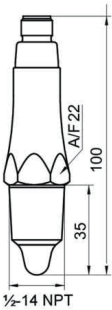
3/4-14 NPT
(SLBFS:N03)



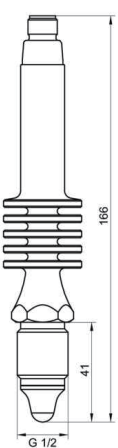
M18 x1 ISO 261/ISO 965
(SLBFS:M11)



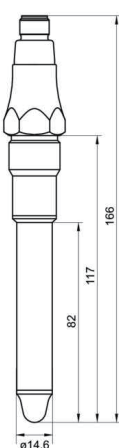
G1/2 A DIN 3852-E
(SLBFS:G51)



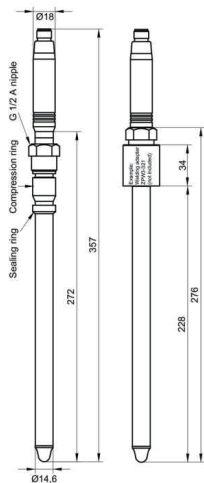
1/2-14 NPT
(SLBFS:N02)



G1/2 A ISO 228-1
BSC with cooling neck
(SLBFS:A03/SR)

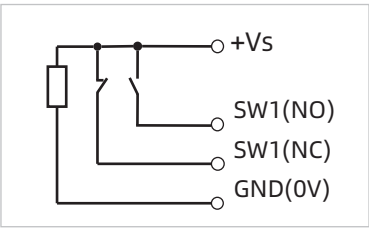


G1/2 A hygienic,
82mm length
(SLBFS:A03/82)

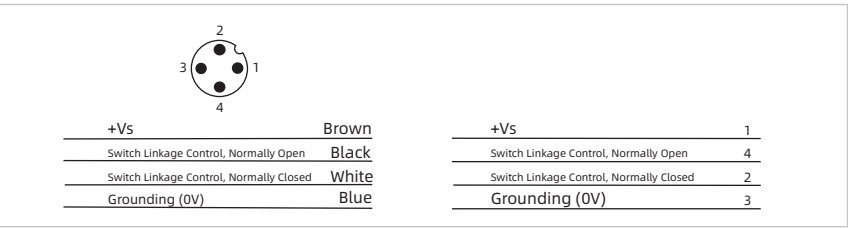


G1/2 A hygienic,sliding connection,
250mm length
(SLBFS:A03/WS)

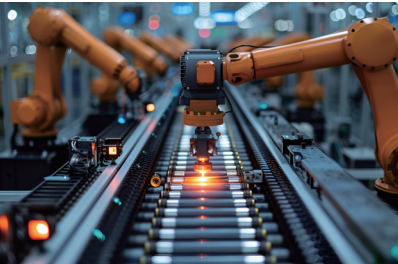
— Wiring diagram



— Connectors



— Areas of application



Industrial automation



Automotive



Plant and mechanical engineering



Energy industry

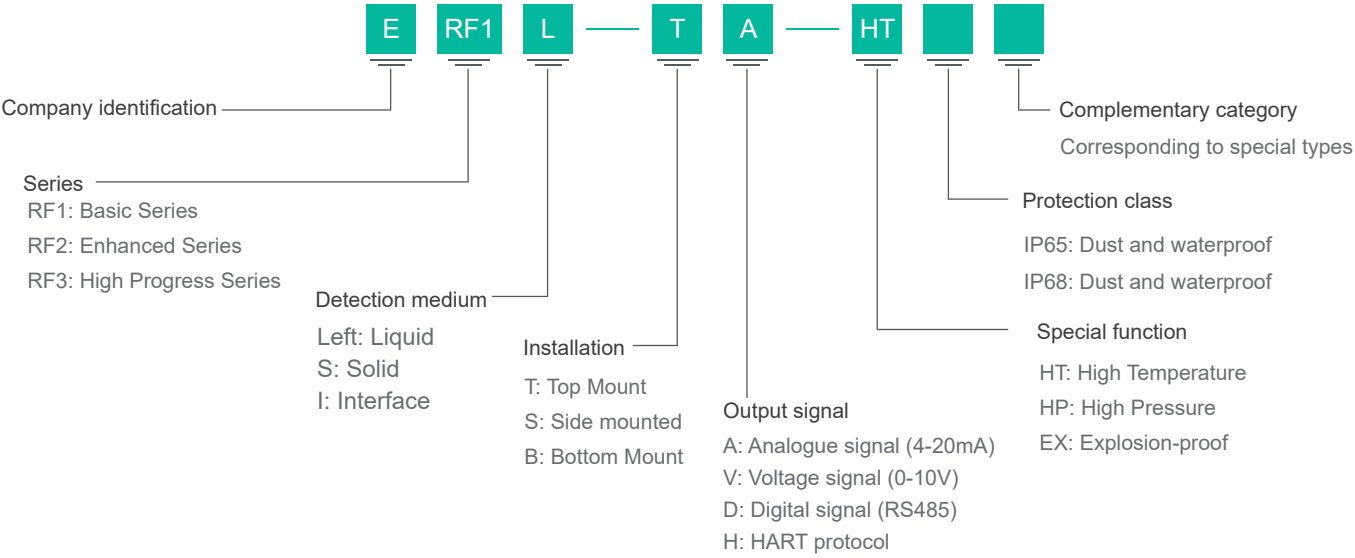


Water treatment industry



Food and beverage industry

— Product Selection Chart



ELS1 series

Laser Displacement Sensors

ELE Laser Displacement Sensor is a high-precision measuring instrument based on the laser ranging principle, which is mainly used for non-contact measurement of the displacement, position or contour of an object. It calculates the displacement or distance of an object by emitting a laser beam and receiving the laser signal reflected back from the surface of the object, and using the change of the position of the laser spot on the surface of the object to calculate the displacement or distance of the object.

The sensor has a one-key easy teaching function, screen button simple teaching, can choose a variety of teaching modes, suitable for different application requirements. Adopt glass lens, with high temperature resistance, corrosion resistance, better light transmission, effectively prevent scratches and other characteristics. Ultra-small size design, suitable for a variety of installation environments. At the same time, the sensor has IP67 protection level, in the wet or dusty field environment can also be used with peace of mind.



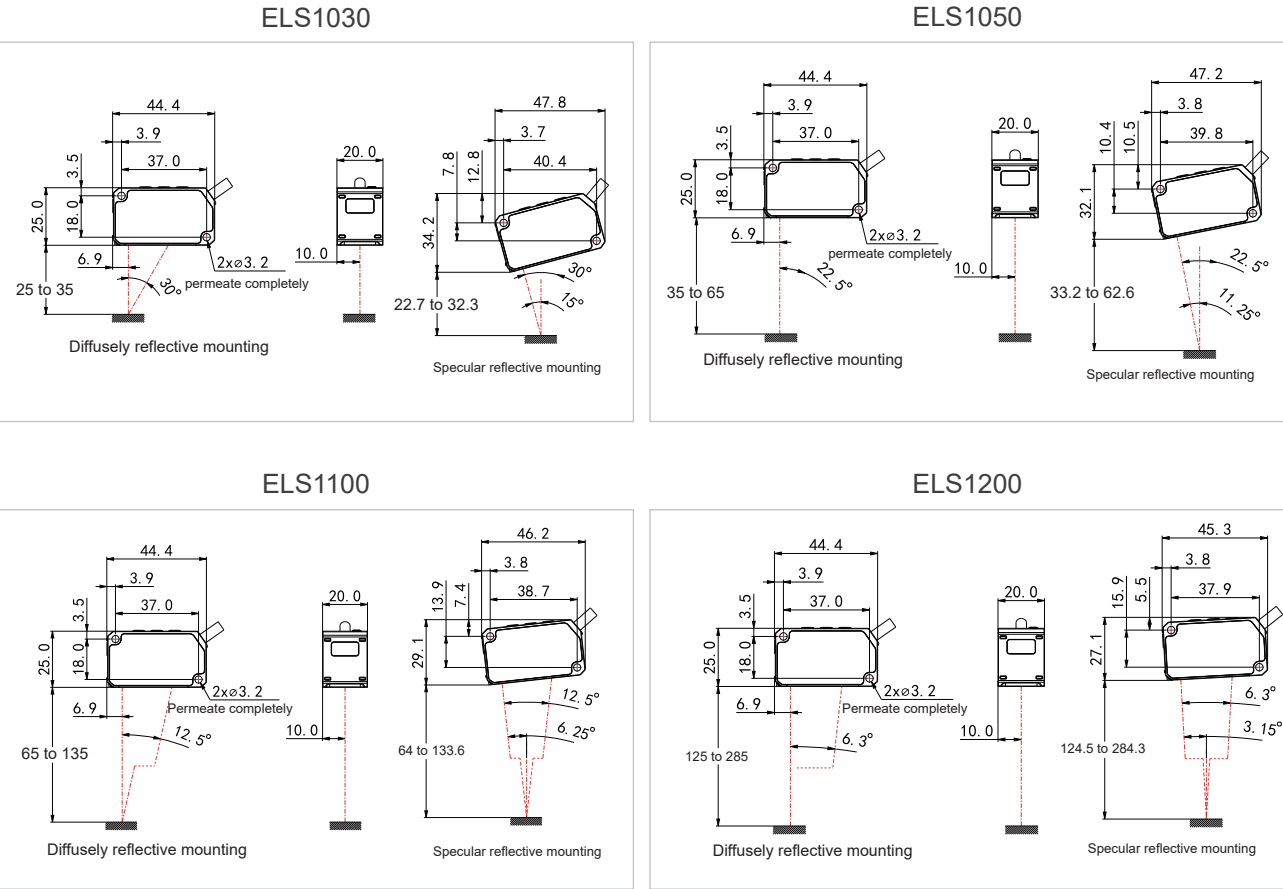
— Specificities

- Cost-effective and stable
 - Capable of adapting to a variety of harsh environments, including electromagnetic interference.
- High performance lens
 - Glass lenses are used in the light outlet and receiving area, which have better temperature resistance, corrosion resistance, light transmission, and effectively prevent scratches compared to acrylic panels.
- User-friendly interface
 - Equipped with a four-digit display panel and three buttons for multifunctional and simple settings.
- Rich Communication Options
 - Supports 485 serial protocol/analogue current/voltage outputs for independent selection, and supports connection to EtherCAT modules, providing flexible communication options.
- Extra Large Indicator Lights
 - Extra-large front output indicator light design facilitates users to intuitively understand the status of the device during operation.

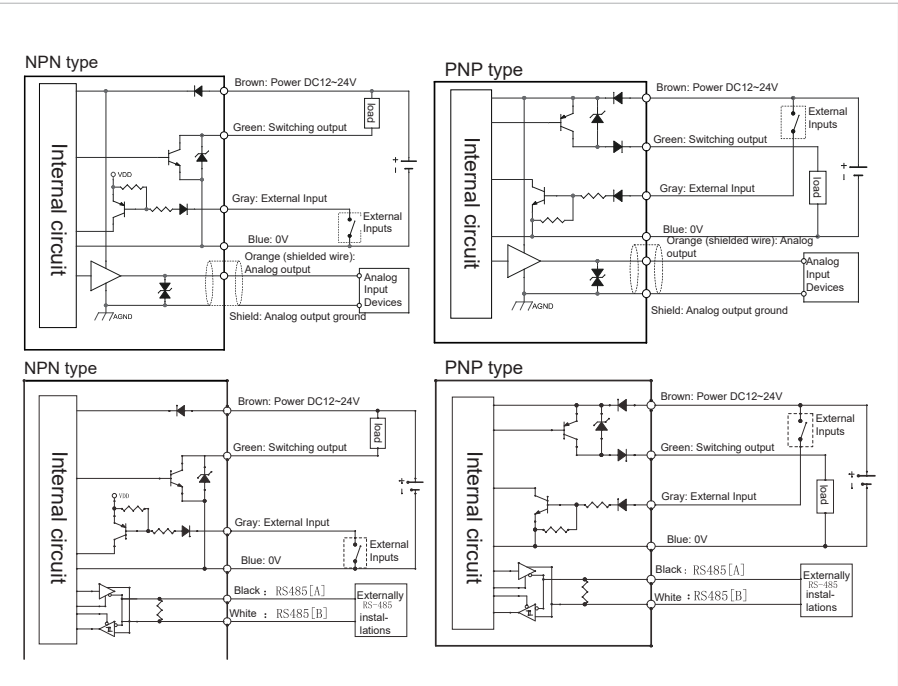
— Technical Parameter

Name		Technical parameters			
		ELS1030	ELS1050	ELS1100	ELS1200
Reference distance (CD)		30mm	50mm	100mm	205mm
Measurement range		±5mm	±15mm	±35mm	±80mm
light source	Wavelength of light source	655nm			
	Laser Class	Category 2			
	Laser Output Power	1mW			
Spot diameter	Reference Distance	Φ50μm	Φ70μm	Φ120μm	Φ300μm
Repeatability		5μm	15μm	35μm	100μm
Linearity (F.S.)		±0.1%			±0.2%
Temperature Characteristics		±0.05% F.S./°C			
Sampling frequency (Hz)		100/200/1000Hz (3 levels selectable)			
input and output	communications port	One RS485 (ModbusRTU supported)			
	Analogue output	1 analogue output, analogue voltage (0~5V) or analogue current (4~20mA). Analogue voltage or analogue current not switchable			
	IO Input	11 channel, support laser off, teach, trigger, zero and other functions			
	IO Output	1 channel, judgement status output			
Supply Voltage		DC12~24V±10%			
Current Consumption		40mA or less , 60mA or less			
Operating Temperature		-10~50°C			
Storage Temperature		-20~60°C			
Operating Humidity		35% to 85% non-condensing, non-frosting			
ESD Protection		Contact discharge 4kV, air discharge 8kV,			
EFT protection		Power port 2kV/5 or 100kHz, Signal port 1kV/5 or 100kHz			
impact		500m/s² (approx. 50G), 3 times each in X, Y and Z directions			
Vibration		10~55Hz, double amplitude 1.5mm, 2 hours each in X, Y and Z directions			
IP rating		IP67, in accordance with IEC60529 standard			
Dimensions(mm)		37*25*20			
Weight (incl. cable)(g)		86			

— Dimension drawing



— Wiring diagram



— Cable Pins

Thread color	Functions
Brown	12...24V DC
Blue	0V
Black	RS485 [A]
White	RS485 [B]
Gray	External input lines
Green	Switching output
Yellow	Analog output
Shield	Analog output GND

ELS2 series

Laser Displacement Sensors

ELE Laser Displacement Sensor is a high-precision measuring instrument based on the laser ranging principle, which is mainly used for non-contact measurement of the displacement, position or contour of an object. It calculates the displacement or distance of an object by emitting a laser beam and receiving the laser signal reflected back from the surface of the object, and using the change of the position of the laser spot on the surface of the object to calculate the displacement or distance of the object.

The sensor has a one-key easy teaching function, screen button simple teaching, can choose a variety of teaching modes, suitable for different application requirements. Adopt glass lens, with high temperature resistance, corrosion resistance, better light transmission, effectively prevent scratches and other characteristics. Ultra-small size design, suitable for a variety of installation environments. At the same time, the sensor has IP67 protection level, in the wet or dusty field environment can also be used with peace of mind.



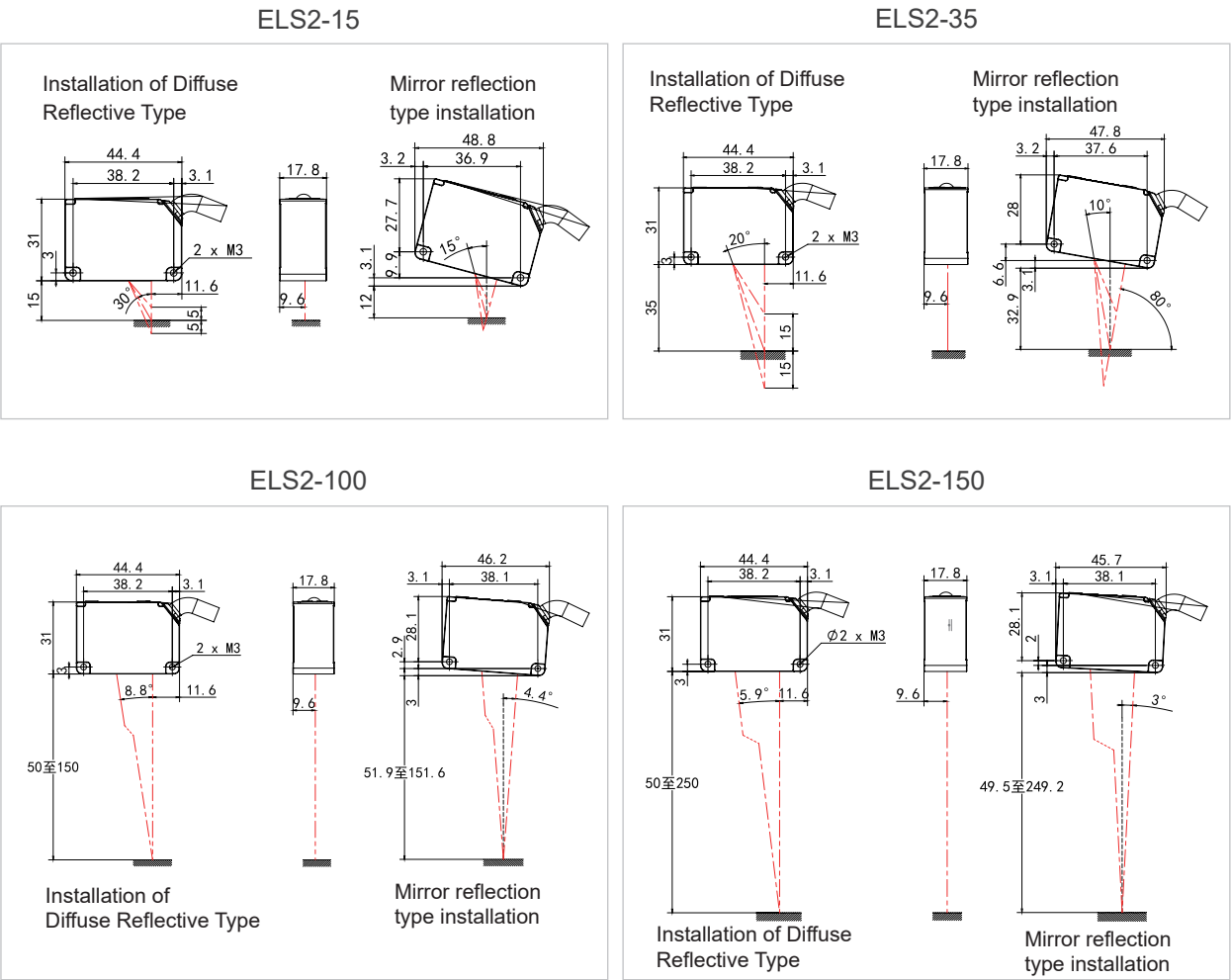
— Specificities

- High-speed sampling
Sampling frequencies up to 3kHz ensure fast response and high accuracy measurements.
- High Repeatability and Linearity
Repeatability of 1μm and linearity of ±0.1% F.S. provide highly accurate measurement results.
- High-performance lenses
Glass lenses are used in both the light outlet and receiving area, which have better temperature resistance, corrosion resistance, light transmission, and effectively prevent scratches compared to acrylic panels.
- User-friendly interface
Equipped with a four-digit display panel and four buttons, making multifunctional settings easy and intuitive.
- Abundant Communication Options
Supports independent selection of analogue voltage/analogue current outputs, EtherCAT module, and RS485 communication (Modbus RTU support), providing flexible communication options.

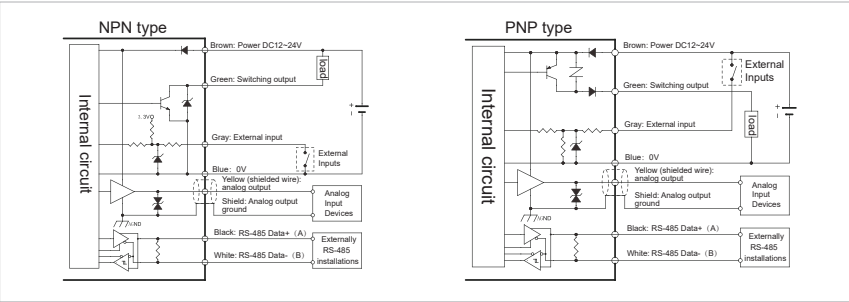
— Technical Parameters

Name		Technical Parameters			
		ELS2-15	ELS2-35	ELS2-100	ELS2-150
Reference distance (CD)		15mm	35mm	100mm	150mm
Measurement range		±5mm	±15mm	±50mm	±100mm
light source	Wavelength of light source	655nm			
	laser level	Category 2			
	Output power	1mW			
spot diameter	Proximal	30*110μm	120*180μm	160*550μm	200*500μm
	Reference distance	50*200μm	100*580μm	300*1500μm	400*2300μm
	Remotely	100*400μm	220*900μm	500*2500μm	800*3500μm
Repeatability		1μm			
linearity		±0.1% F.S.			
temperature characteristic		±0.05% F.S./°C			
Sampling frequency (Hz)		300/500/1000/2000/3000Hz (4 levels selectable)			
input and output	Communications port	One RS485 (ModbusRTU supported)			
	Analog Outputs	1 analog output, analog voltage (0~5V) or analog current (4~20mA), analog voltage or analog current not switchable			
	IO Input	1 channel, support laser shutdown, teach, trigger, zero and other functions			
	IO output	1 channel, judgment status output			
Supply Voltage		DC12~24V±10%			
Current consumption		60mA or less (at DC12V), 120mA or less (at DC24V)			
Operating temperature		-10~50°C			
Storage temperature		-20~70°C			
Operating humidity		35%~85% no condensation, no frosting			
ESD protection		Contact discharge 4kV, air discharge 8kV			
EFT protection		Power port 2kV/5 or 100kHz, signal port 1kV/5 or 100kHz per IEC61000-4-4			
impact		500m/s ² (approx. 50G), 3 times each in the X, Y, and Z directions			
vibration		10~55Hz, double amplitude 1.5mm, 2 hours each in X, Y and Z directions			
IP rating		IP67, according to IEC60529 standard			
Dimension(mm)		44*31*18			
Weight (including cable) (g)		70			

— Dimension drawing



— Wiring diagram



— Cable Pin

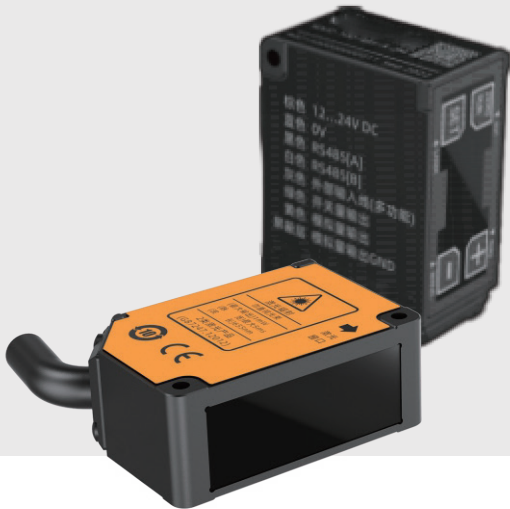
Thread color	Functionality
Brown	12... 24V DC
Blue	0V
Black	RS-485 Data+ (A)
White	RS-485 Data- (B)
Gray	Switching input (multifunction)
Green	Switching Output
Yellow	Analog output
Shield	Analog reference ground (0V)
yellowish green	PE

ELS2 series

Laser Displacement Sensor

ELE Laser Displacement Sensor is a high-precision measuring instrument based on the laser ranging principle, which is mainly used for non-contact measurement of the displacement, position or contour of an object. It calculates the displacement or distance of an object by emitting a laser beam and receiving the laser signal reflected back from the surface of the object, and utilizing the change of the position of the laser spot on the surface of the object to calculate the displacement or distance of the object.

The sensor has a one-key easy teaching function, screen button simple teaching, can choose a variety of teaching modes, suitable for different application requirements. Adoption of glass lens, with high temperature resistance, corrosion resistance, better light transmission, effectively prevent scratches and other characteristics. Ultra-small size design, suitable for a variety of installation environments. At the same time, the sensor has IP67 protection grade, in the wet or dusty field environment can also be used with peace of mind.



— Specificities

- High Repeatability and Linearity

Repeatability of 2μm and linearity of ±0.1% F.S. provide highly accurate measurement results.

- Multi-function input

External inputs enable a variety of functions such as laser shutdown, remote teach-in, sample hold, single pulse trigger, and zeroing.

- High-performance lenses

Both the light outlet and receiving area are made of glass lenses, which have better temperature resistance, corrosion resistance, light transmission, and effectively prevent scratches compared to acrylic panels.

- User-friendly interface

Equipped with a four-digit display panel and four buttons, making multifunctional settings simple and intuitive.

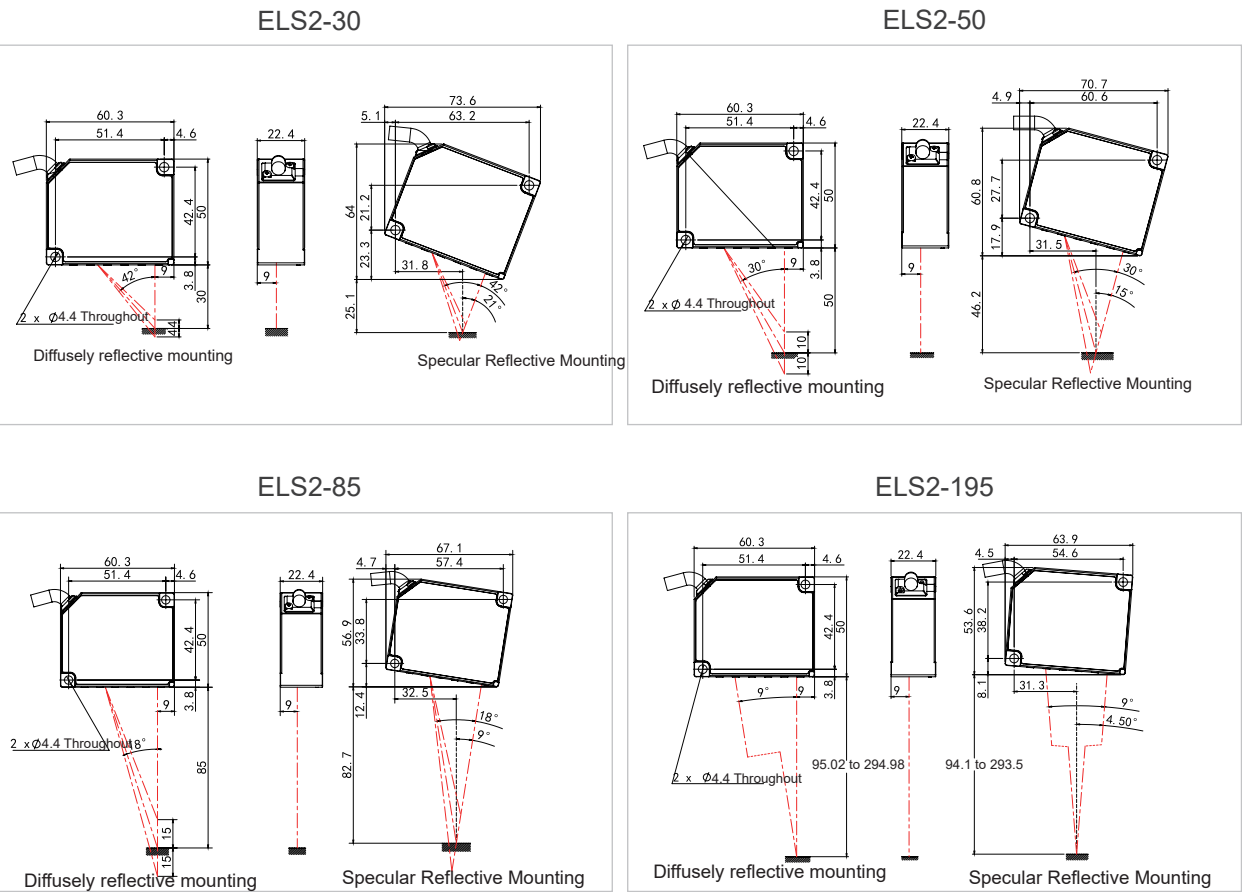
- Abundant Communication Options

Supports independent selection of analog voltage/analog current output, EtherCAT module, and RS485 communication (Modbus RTU support), providing flexible communication options.

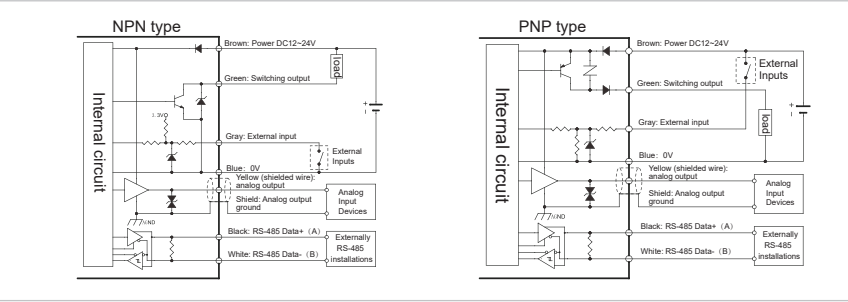
— Technical Parameters

Name		Technical Parameters			
		ELS2-30	ELS2-50	ELS2-85	ELS2-195
Reference distance (CD)		30mm	50mm	85mm	195mm
Measurement range		±4mm	±10mm	±15mm	±99.98mm
light source	Wavelength of light source	655nm			
	laser level	Category 2			
	Output power	1mW			
spot diameter	Proximal	80*180μm	120*230μm	150*600μm	230*600μm
	Reference distance	70*260μm	110*440μm	140*990μm	430*2000μm
	Remotely	100*400μm	150*670μm	190*1200μm	700*3300μm
Repeatability		2μm	5μm	10μm	50μm
linearity		±0.1% F.S.			
Temperature characteristic		±0.05% F.S./°C			
Sampling frequency (Hz)		300/500/1000/2000/3000Hz (4 levels selectable)			
input and output	Communications port	One RS485 (supports ModbusRTU)			
	Analog output	1 analog output, analog voltage (0~5V) or analog current (4~20mA), analog voltage or analog current not switchable			
	IO input	1 channel, support laser shutdown, teach, trigger, zero and other functions			
	IO Output	1 channel, judgment status output			
Supply Voltage		DC12~24V±10%			
Current consumption		Less than 60mA (at DC12V), less than 120mA (at DC24V)			
Operating temperature		-10~50°C			
Storage temperature		-20~70°C			
Operating humidity		35%~85% No condensation, no frosting			
ESD protection		Contact discharge 4kV, air discharge 8kV,			
EFT protection		Power port 2kV/5 or 100kHz, Signal port 1kV/5 or 100kHz, according to IEC61000-4-4 standard.			
impact		500m/s² (approx. 50G), 3 times each in X, Y and Z directions			
vibration		10~55Hz, double amplitude 1.5mm, 2 hours each in X, Y, Z direction			
IP rating		IP67, in accordance with IEC60529 standard			
Dimension(mm)		60*50*22			
Weight (including cable) (g)		120			

— Dimension drawing



— Wiring diagram



— Cable Pins

Thread color	Functions
Brown	12...24V DC
Blue	0V
Black	RS-485 Data+(A)
White	RS-485 Data-(B)
Gray	Switching input (multifunction)
Green	Switching Output
Yellow	Analog output
Shield	Analog reference ground (0V)
yellowish green	PE

ELS3 series
Laser Displacement Sensor

ELE Laser Displacement Sensor is a high-precision measuring instrument based on the laser ranging principle, which is mainly used for non-contact measurement of the displacement, position or contour of an object. It calculates the displacement or distance of an object by emitting a laser beam and receiving the laser signal reflected back from the surface of the object, and utilizing the change of the position of the laser spot on the surface of the object to calculate the displacement or distance of the object.

The sensor has a one-key easy teaching function, screen button simple teaching, can choose a variety of teaching modes, suitable for different application requirements. Adoption of glass lens, with high temperature resistance, corrosion resistance, better light transmission, effectively prevent scratches and other characteristics. Ultra-small size design, suitable for a variety of installation environments. At the same time, the sensor has IP67 protection grade, in the wet or dusty field environment can also be used with peace of mind.



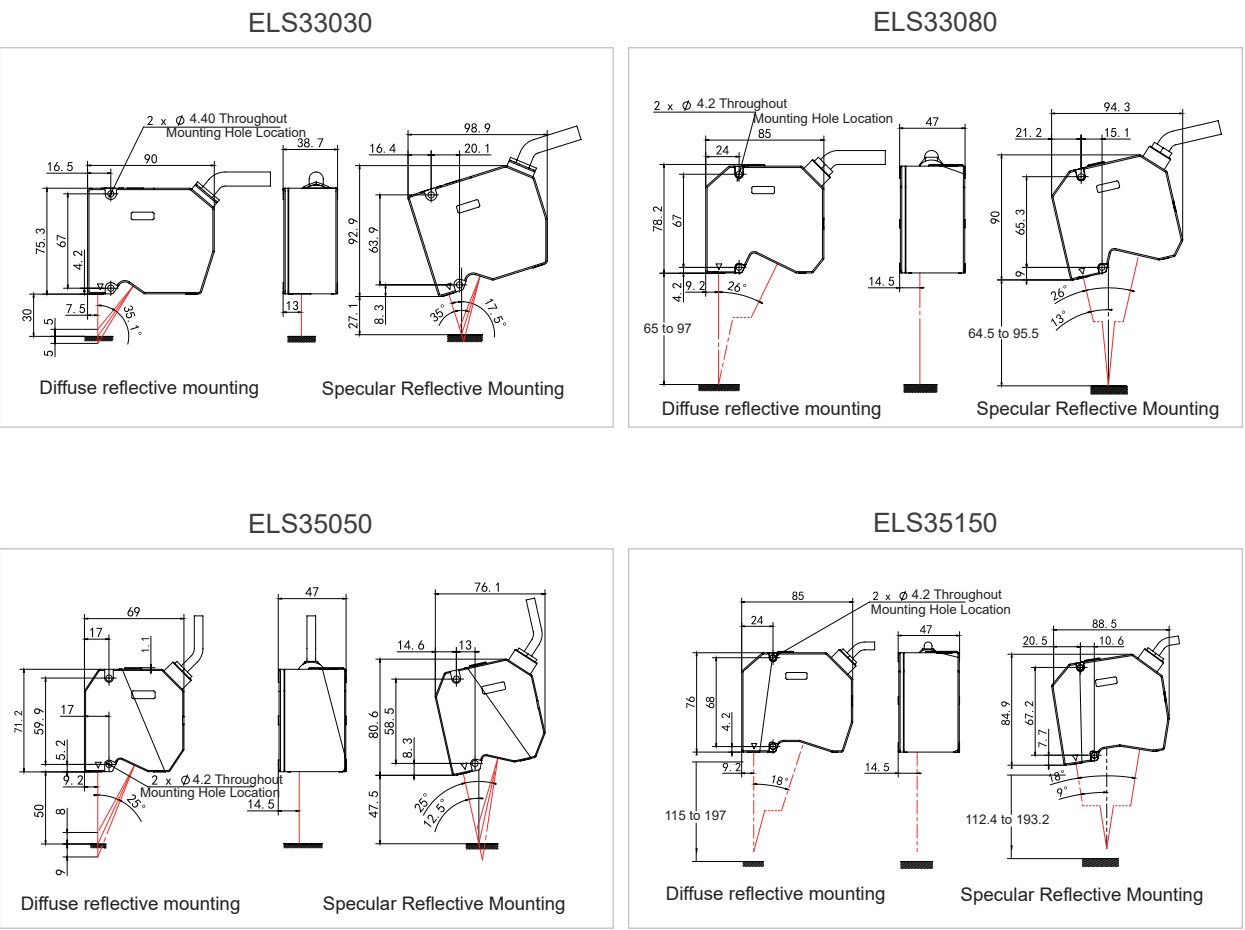
— Specificities

- Fast sampling frequency
With a sampling frequency of 590kHz, the displacement of moving objects is effectively captured with ultra-high stability.
- Spot Type
Provide wide spot and small spot type light spot to meet different measurement needs.
- Function of one controller with four sensors
Realize one controller with four sensors to improve system efficiency and flexibility.
- Differential encoder trigger
Support differential encoder triggering, no need for external modules, simplify system configuration.
- Rich communication options
Provide network port TCP/IP (support Modbus TCP), serial port RS232 communication, analog and switching output, providing flexible communication methods.

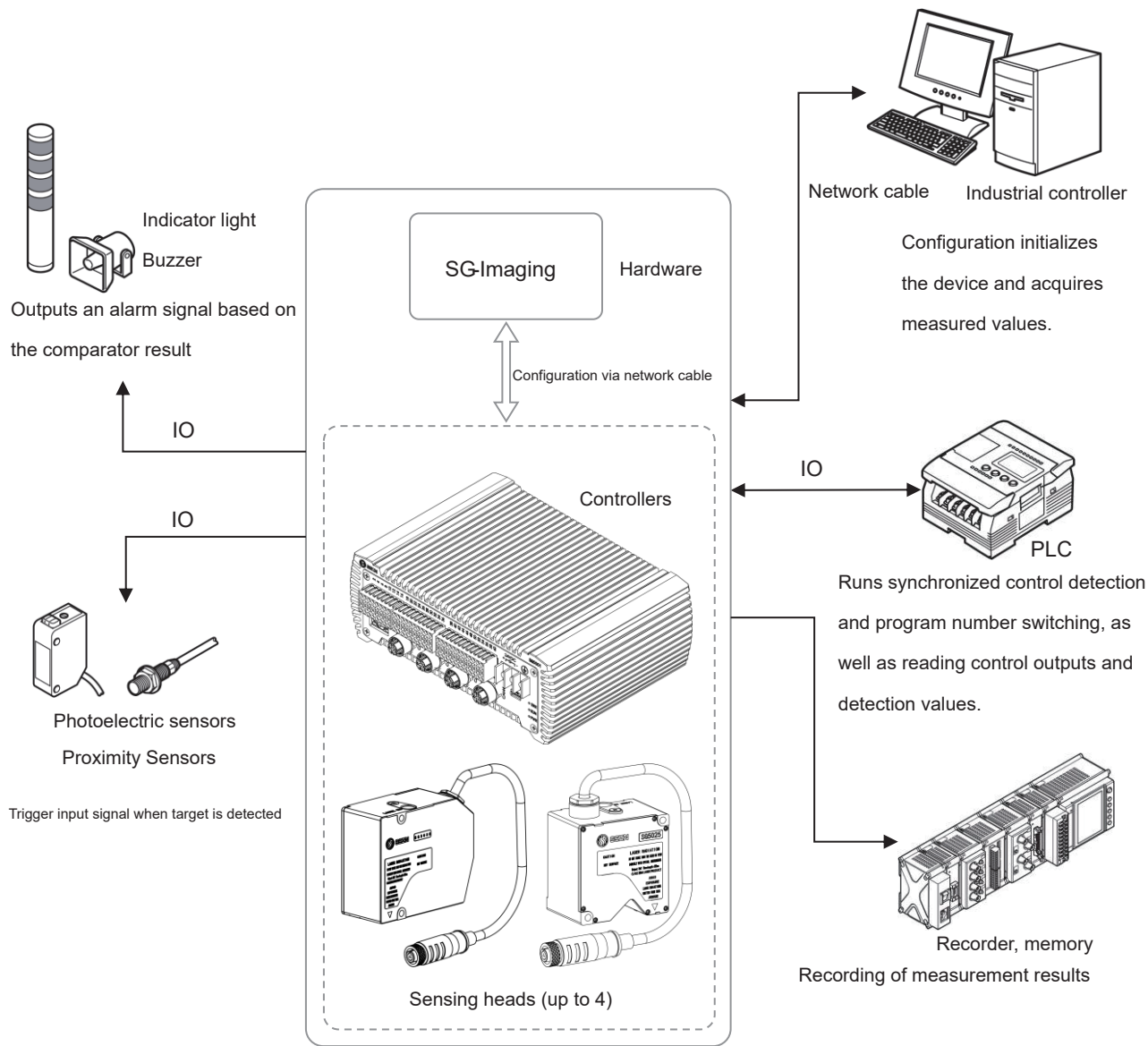
— Technical Parameters

Name		Technical Parameters			
		ELS33030	ELS33080	ELS35050	ELS35150
Reference distance (CD)		30mm	80mm	50mm	150mm
Measurement range		-5mm~5mm	-17mm~15mm	-9mm~8mm	-47mm~35mm
light source	wavelength of light source	655nm			
	Laser Rating	Category IIIa (FDA CDRH 21CFR Part 1040.10)			
	Laser Output Power	5mW			
Spot diameter (spot size)	Small spot	Φ60μm	Φ110μm	Φ75μm	Φ190μm
	Wide spot	60*400μm	110*720μm	75*400μm	190*1300μm
Repeatability		0.05μm	0.2μm	0.025μm	0.25μm
Linearity		±0.05% F.S.		±0.02% F.S.	
Temperature Characteristics		0.01% F.S./°C			
Sampling frequency (Hz)		1/2/5/10/20/50/88kHz		1/2/5/10/20/50/88/ 200/400/590kHz	
input and output	Communication Ports	1 x 100Base-TX/1000Base-T Ethernet Interface, 1 x RS232			
	Analog output	4 analog outputs, support analog voltage and analog current switching			
	Encoder Input	1 group of differential encoder			
	IO Input	14 channels, support timing, zero, reset, laser control, recipe switching and other functions.			
	IO Output	16 channels, judgment status output			
Working Temperature		0~50°C			
Storage temperature		-20~70°C			
Operating Humidity		35%~85% non-condensing			
ESD Protection		Contact Discharge 4kV, Air Discharge 8kV,			
EFT protection		Power port 2kV/5 or 100kHz, Signal port 1kV/5 or 100kHz. Conforms to IEC61000-4-4 standard.			
shock		50Gs/3ms per axis to IEC 68-2-27 Ea			
Vibration		10Gs(10-500Hz), according to IEC 68-2-6 Fc			
IP Rating		IP67, according to IEC 60529			
Dimensions (mm)		90x75x38	85x77x47	69x71x47	85x76x47
Data cable (wiring)		2-3m/5m/10m			
Weight (including cable) (g)		324	376	323	370

— Dimension drawing



— System Wiring Diagram



ELS3 series
Laser Displacement Sensor

ELE Laser Displacement Sensor is a high-precision measuring instrument based on the laser ranging principle, which is mainly used for non-contact measurement of the displacement, position or contour of an object. It calculates the displacement or distance of an object by emitting a laser beam and receiving the laser signal reflected back from the surface of the object, and utilizing the change of the position of the laser spot on the surface of the object to calculate the displacement or distance of the object.

The sensor has a one-key easy teaching function, screen button simple teaching, can choose a variety of teaching modes, suitable for different application requirements. Adoption of glass lens, with high temperature resistance, corrosion resistance, better light transmission, effectively prevent scratches and other characteristics. Ultra-small size design, suitable for a variety of installation environments. At the same time, the sensor has IP67 protection grade, in the wet or dusty field environment can also be used with peace of mind.



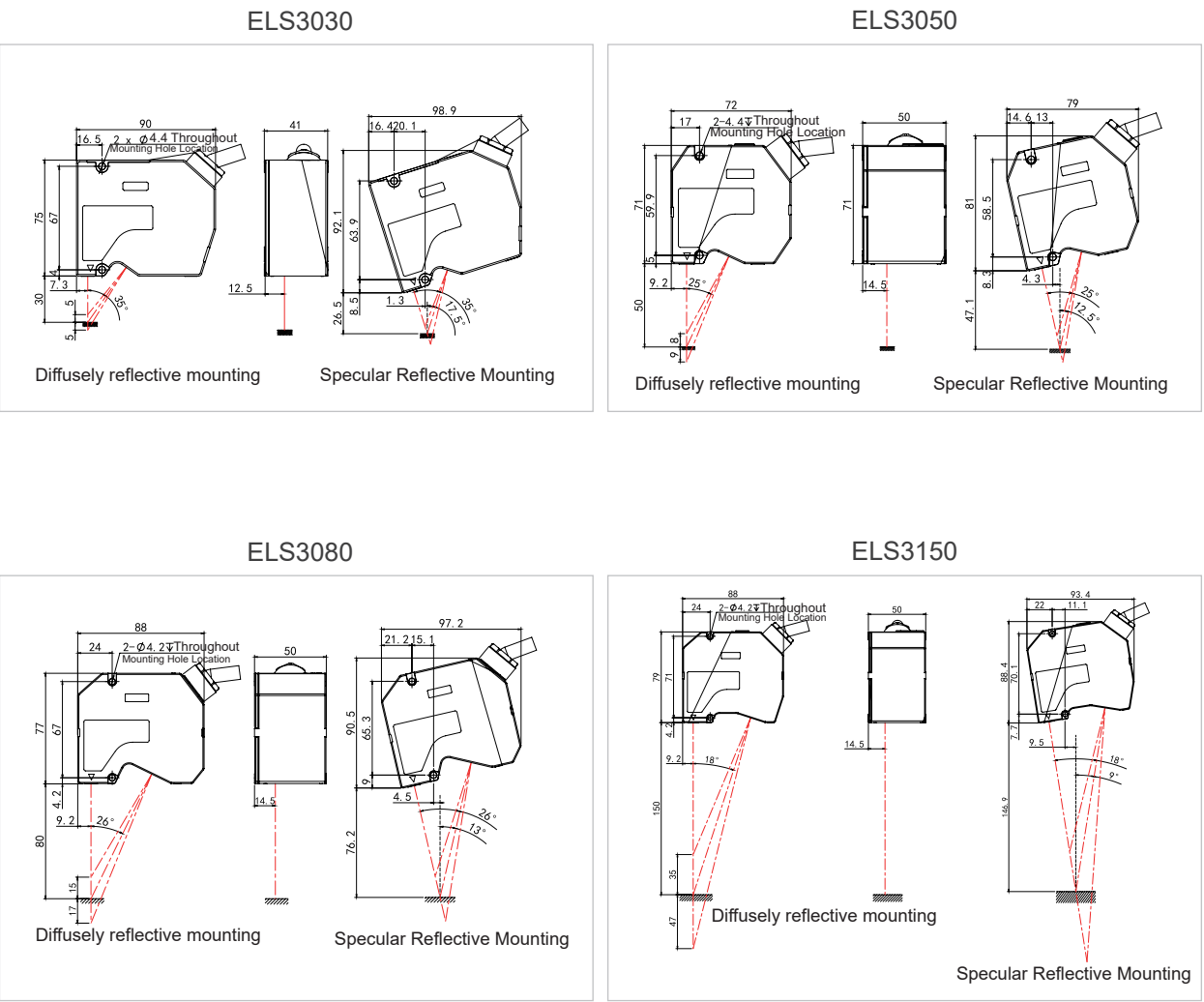
— Specificities

- High Sampling Frequency
The fastest sampling frequency is up to 88kHz, providing fast response measurement capability.
- Encoder Support
Support for single-ended encoders and external timing triggers provides flexible signal processing options.
- Ultra-high integration
No external controller required, compact design for easy integration into a variety of systems.
- Rich Communication Options
Provides network port TCP/IP (supports ModbusTCP), RS485 communication, EtherCAT module support, and both analog and switching outputs to meet a variety of communication needs.
- High Stability
Effectively inhibit the error generated by temperature drift to ensure the accuracy of measurement results.

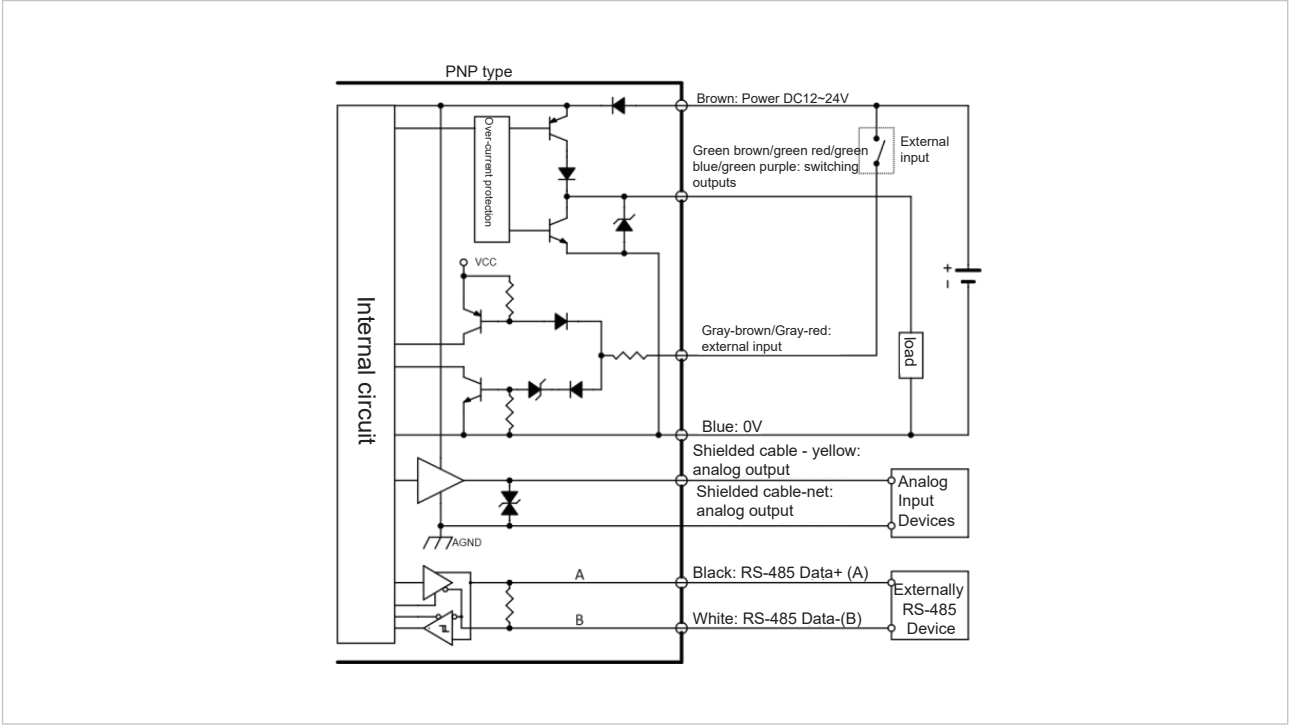
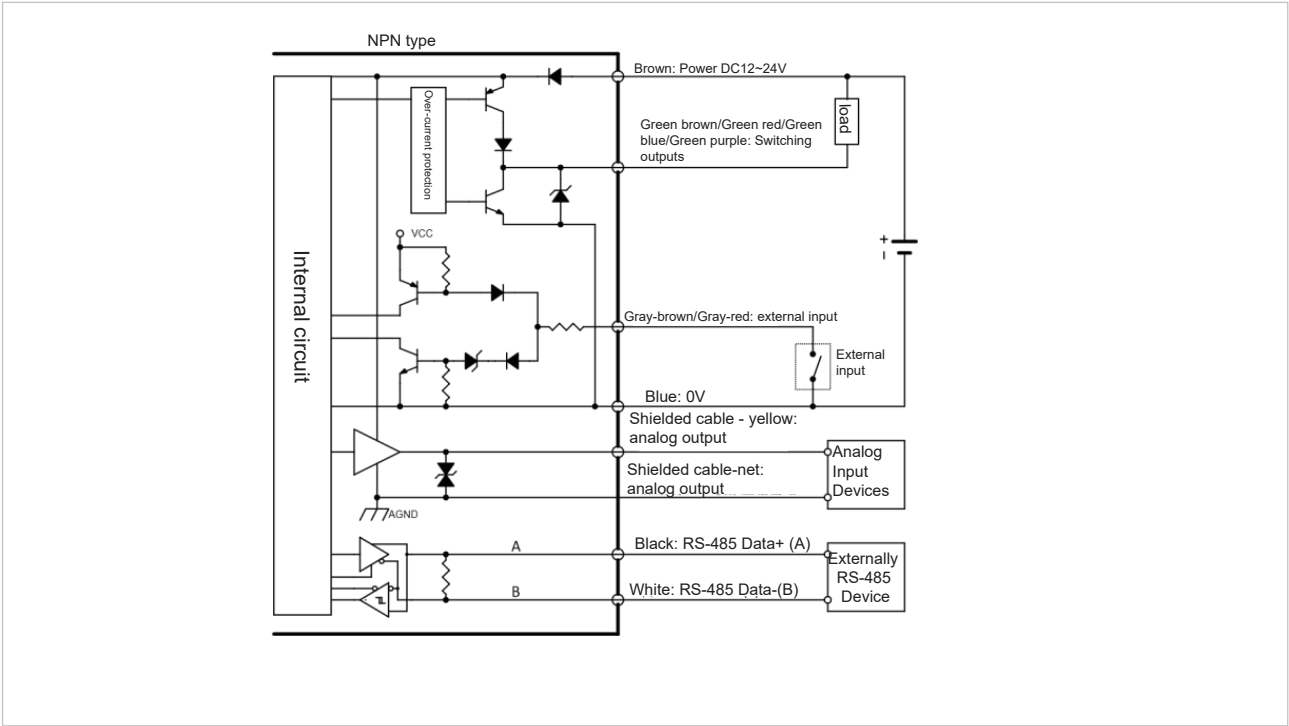
— Technical Parameters

Name		Technical Parameters			
		ELS3030	ELS3050	ELS3080	ELS3150
Reference distance (CD)		30mm	50mm	80mm	150mm
Measurement range		-5mm~5mm	-9mm~8mm	-17mm~15mm	-47mm~35mm
light source	Wavelength of light source	655 nm			
	Laser Class	Class IIIa (FDA CDRH 21CFR Part 1040.10)			
	Laser Output Power	5mW			
Spot diameter (spot size)	Small spot	Φ60μm	Φ75μm	Φ110μm	Φ190μm
	Broad Spot	60*400μm	75*480μm	110*720μm	190*1300μm
Repeatability		0.05μm	0.1μm	0.2μm	0.5μm
Linearity		±0.05% F.S.			
Temperature Characteristics		0.01% F.S./°C			
Sampling frequency (Hz)		1/2/5/10/20/50/88kHz (7 levels selectable)			
input and output	Communication Ports	1 x 100Base-TX,1 x RS485			
	Analog Output	11 analog output, support analog voltage and analog current switching			
	IO Input	2 channels, timing, zero function and single-ended encoder function multiplexing			
	IO Output	4 channels, judgment status output			
Working Temperature		0~50℃			
Storage temperature		-20~70℃			
Operating Humidity		35%~85% no condensation			
ESD Protection		Contact Discharge 4kV, Air Discharge 8kV.			
EFT protection		Power port 2kV/5 or 100kHz, Signal port 1kV/5 or 100kHz.			
		Conforms to IEC61000-4-4 standard.			
Shock		50Gs/3ms per axis to IEC 68-2-27 Ea			
Vibration		10Gs(10-500Hz), according to IEC 68-2-6 Fc			
IP Rating		IP67, according to IEC 60529			
Dimensions (mm)		90x75x41	72x71x50	88x77x50	88x79x50
Data cable (wiring)		2-3m/5m/10m			
Weight (including cable) (g)		324	376	323	370

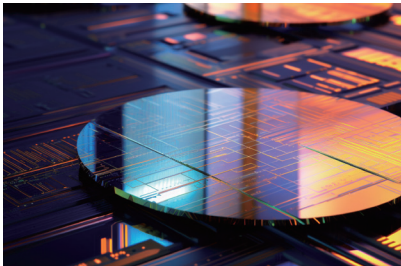
— Dimension drawing



— Cable connection



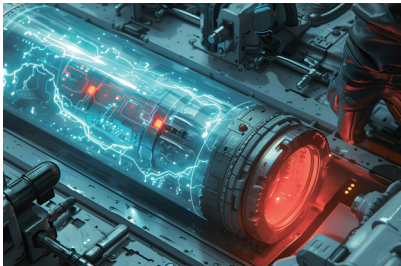
— Areas of application



Semiconductor industry



Automotive industry



lithium



Photovoltaic

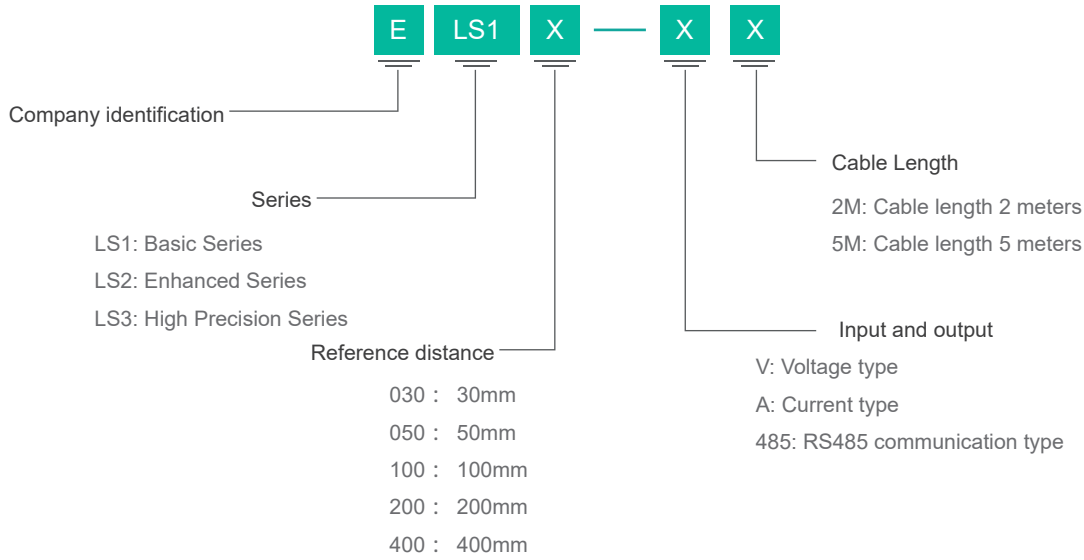


Electronic component



Film/resin/film, etc.

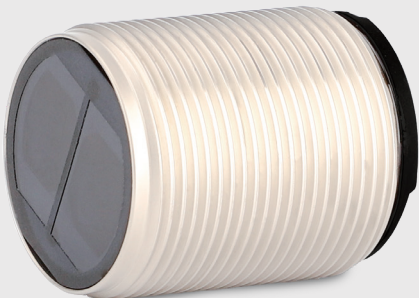
— Product Selection Chart



EGM series

Photoelectric sensors

ELE photoelectric sensor is an intelligent non-contact sensing switch that integrates infrared reception and control. It has anti-sunlight interference function, even in direct sunlight, the sensing distance can reach 500cm, and is suitable for indoor and outdoor environments. The sensor utilizes the principle of diffuse reflection of infrared light on objects, when a person or object enters the sensing range directly in front of it, the sensor will immediately enter the sensing state and control the output signal. When the person or object leaves the sensing range, the sensor will immediately recognize and stop sensing, release the output signal to achieve intelligent control (can also be customized for reverse output).



— Specificities

- Intelligent non-contact sensor switch
- Integrated infrared receiving and control function.
- Anti-Sunlight Interference Function
- Stable sensing performance under direct sunlight.
- Long sensing distance
- Sensing distance up to 500 cm under sunlight.

- Instant Sensing and Control

When a person or an object enters the sensing range directly in front of the sensor, the sensor immediately enters the sensing state and controls the output signal.

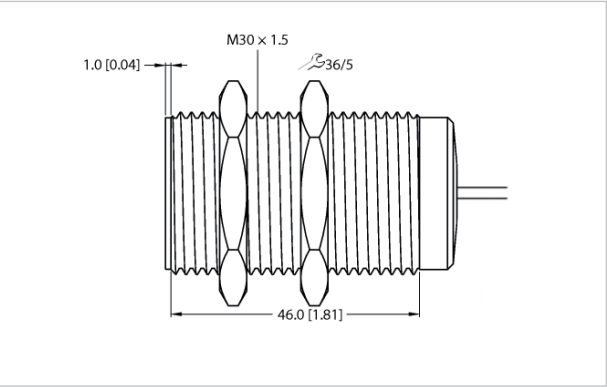
When a person or object leaves the sensing range, it immediately recognizes and stops sensing.

- Intelligent control
- Intelligent control (can also be customized to reverse output).
- Wide range of applicable environments
- Suitable for both indoor and outdoor environments.

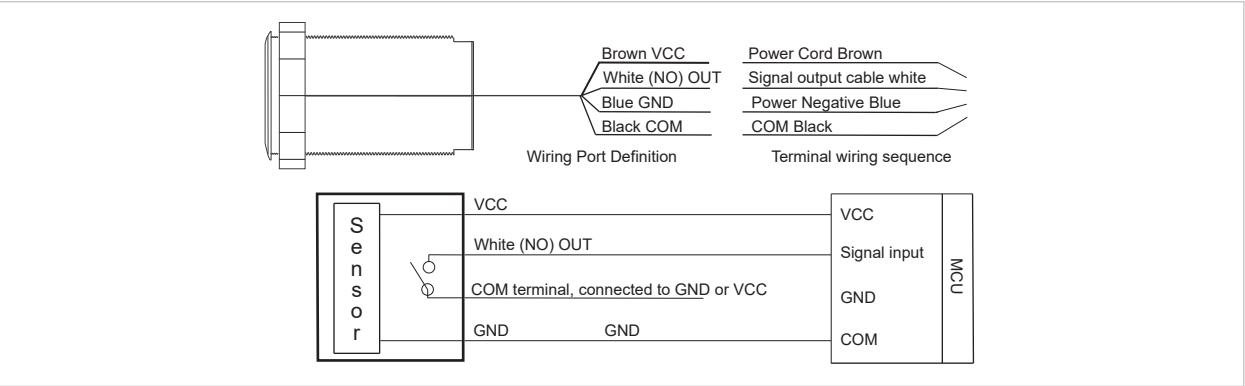
— Technical Parameters

Name	Technical Parameters		
Working Voltage	DC 3.3 V~35V		
Sensing distance	inside 5cm~500cm	outdoor 5cm~500cm	direct sunlight 5cm~300cm
Sensing accuracy	inside ±15cm	inside ±20cm	direct sunlight ±40cm
Response time	≤500ms		
Sensing Angle	30-40° cone angle		
Sensing Method	Active		
Static Current	<4.0mA		
Load Current	50~200mA		
Operating Temperature	-20~85°C		
Storage Temperature	-20~85°C		
Wire Length	2 m(±10MM)(Batch can be customized)		
Material	Shell: Aviation Aluminum		
Waterproof performance	Up to IP67		
Safety Standard Certification	CE		

— Dimension drawing



— Wiring diagram



EGU series

Photoelectric sensors

ELE photoelectric sensors are high-precision capacitive sensors in ruggedized housings with a non-contact detection principle for position, distance, level and surface detection, which are stable in harsh environments in automation, industrial production and precision measurement.



— Specificities

- High Precision

Application scenarios that can realize micron-level displacement or object presence detection to meet the needs of high-precision measurement.

- Non-contact detection

Adopting advanced capacitive sensing technology, no direct contact with the measured object can be detected, effectively avoiding mechanical wear and damage, especially suitable for precision parts and fragile objects detection.

- Ruggedness and durability

The product adopts a ruggedized housing design, which can adapt to various harsh industrial environments, and has strong anti-interference ability and protection ability.

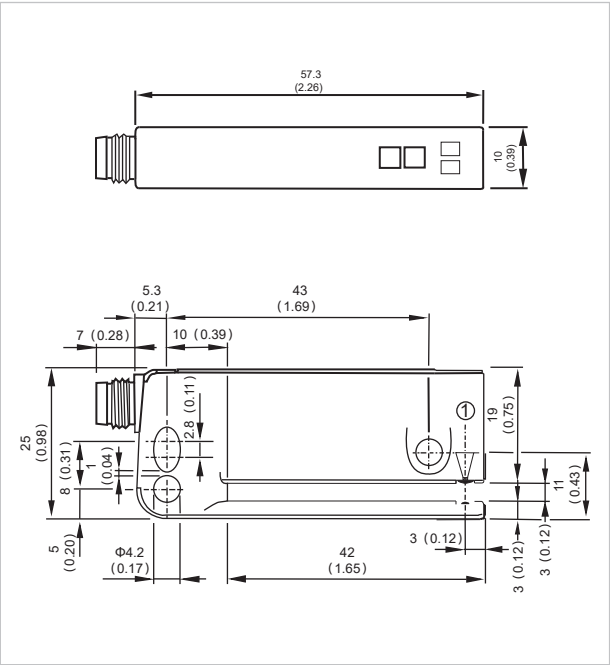
- Wide range of applications

The product is suitable for position detection, distance measurement, liquid level monitoring, film detection and other application scenarios, especially suitable for use in high temperature, corrosive and other harsh environments.

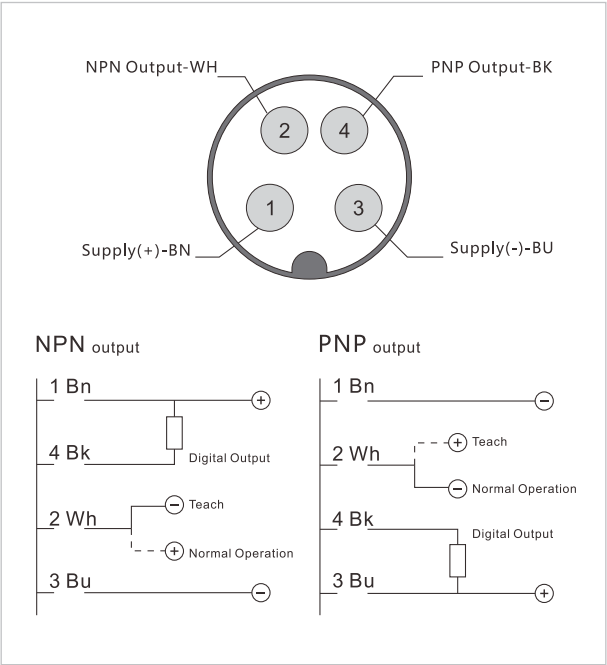
— Technical Parameters

Name	Technical Parameters
Working Principle	Optical Principle
Dimensions (WXHXD)	10 mm x 25 mm x 64.3 mm
Slot width	3MM
Housing shape (beam exit)	42 MM
Fork depth	Slot shape
Label Recognition	Yes
Minimum detectable object (MDO)	Spacing between labels/label size: 2MM (depending on label thickness)
Light source	LED, Infrared
Switch function	Bright pass/dark pass switch adjustable by button
Settings	Plus/minus button
Teach-In Function Program	2 teach-in contacts, teach-in function program (dynamic)
Switching output	NPN/PNP
Switching frequency	10 KHZ (at 1:1 contrast ratio)
Response time	50 MS (Signal transmission time (at resistive load))
Switching Output (Voltage)	PNP: High level = UV-≤2V, Low level = approx. 0V
Switch type	Bright/Dark switching
Connection type	Plug, M8, 4-pin/wire

— Dimension drawing



— Wiring diagram



— Areas of application



Industrial automation



Safety monitoring



Transportation



Public facilities

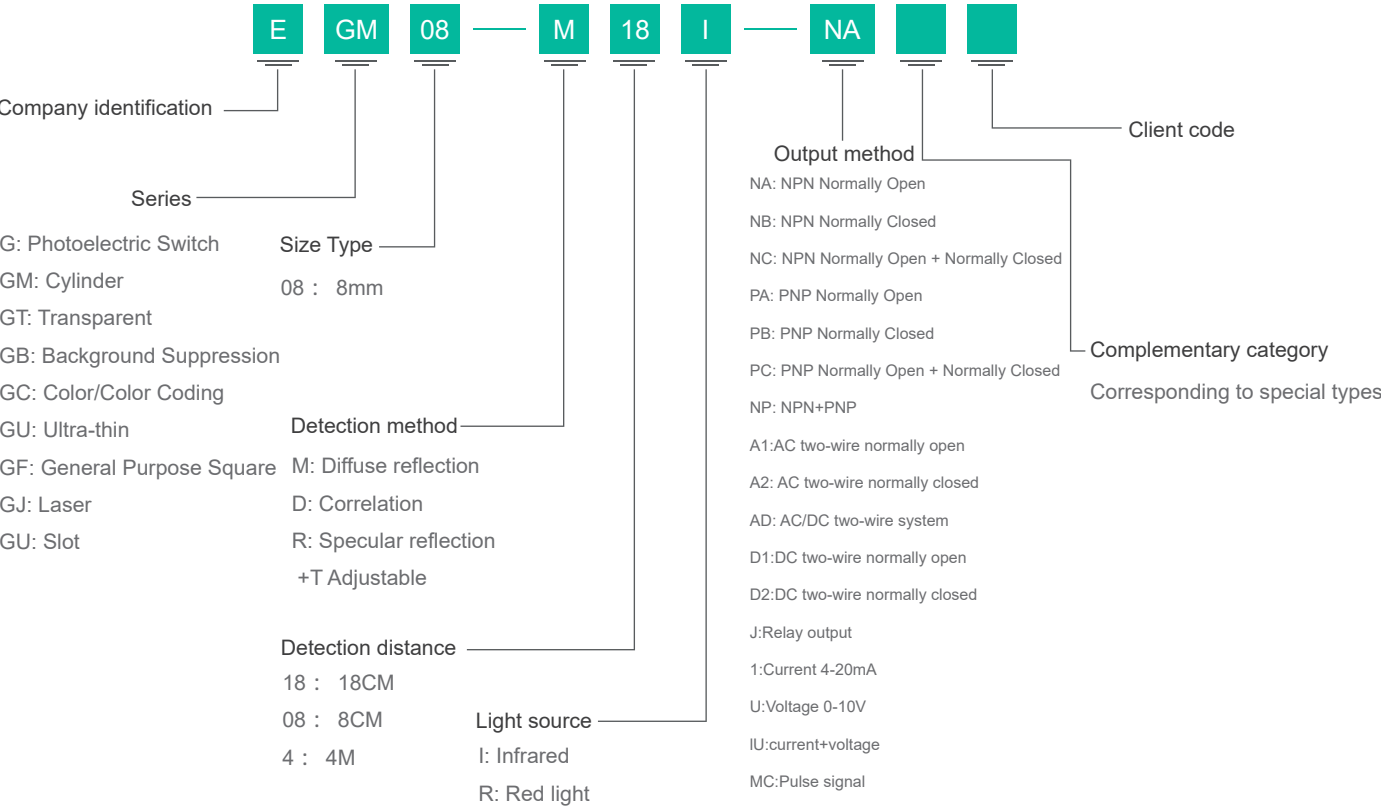


Smart home



Medical equipment

— Product Selection Chart



E80Gseries

Radar Level Sensor

ELE Radar Level Sensor is a device that utilizes high-frequency electromagnetic waves (80GHz) for liquid level measurement, featuring high measurement accuracy and non-contact measurement. It can adapt to the level measurement needs under various complex working conditions, especially suitable for urban flooding water level monitoring, open channel water level monitoring and sewage discharge and other scenarios. It is widely used in material level and liquid level measurement of various strong corrosive and high dust media, providing reliable liquid level monitoring solutions for industrial production and environmental protection.



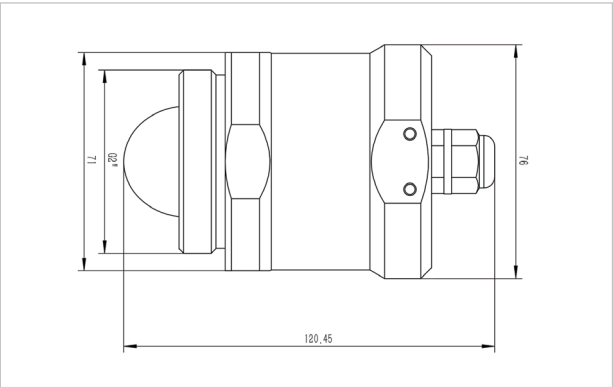
— Specificities

- Frequency Modulated Continuous Wave (FMCW) technology
- Suitable for measuring liquid levels and solids
- High penetration for high vapor and dust applications

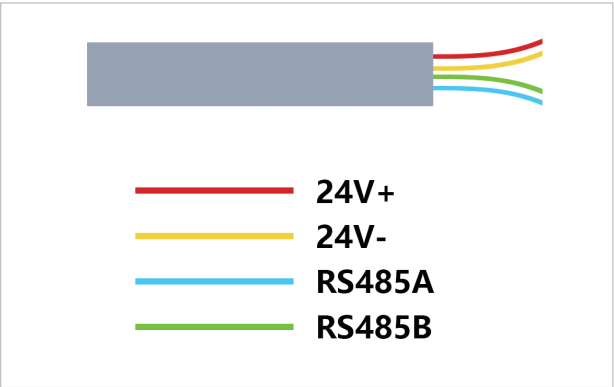
— Technical Parameters

Name	Technical Parameters
Power supply	DC24V
Range	0-30m
Accuracy	±2mm
Output Signal	4-20mA/Modbus/Rs485
Ambient Temperature	-25°C~60°C
Waterproof grade	IP68(1m1h)
Display Mode	Cell phone Bluetooth APP
Dimension	76mmx120mm
Material	Stainless steel
Installation	G2 thread

— Dimension drawing



— Wiring diagram



— 80GHz Radar Level Meter



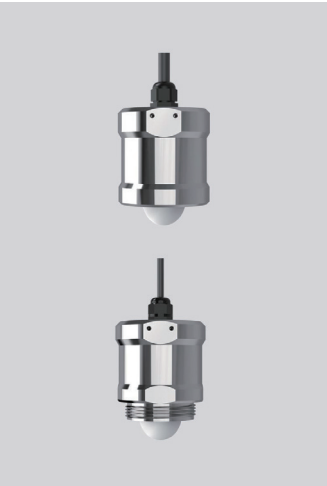
Name	Technical Parameters
Power supply	DC24V
Range	0-30m
Accuracy	±2mm
Output Signal	4-20mA/Modbus/Rs485
Ambient Temperature	-25°C~60°C
Waterproof grade	IP68(1m1h)
Display Mode	Cell phone Bluetooth APP
Dimension	76mmx120mm
Material	Stainless steel
Installation	G2 thread

— 80GHz Digital Radar Level Meter



Name	Technical Parameters
Power supply	DC24V, DC12V
Range	0-30m
Accuracy	±2mm
Output	4-20mA/Modbus/Rs485
Ambient Temperature	-40°C~70°C
Protection class	IP67
Display	128*64 Dot Matrix LCD, Mobile APP
External Dimension	76mmx107mm
Housing Material	PP/ABS

— 80GHz Radar Water Level Gauge (Metal Case)



Name		Technical Parameters
Power supply		DC24V, DC12V
Range		0-30m
Accuracy		±2mm
Output		4-20mA/Modbus/Rs485
Ambient Temperature		-40°C~70°C
Protection class		IP68
Display		Mobile Bluetooth APP
External Dimension		76mmx107mm
Housing Material		Aluminum/Stainless Steel

— 80GHz radar water level meter (PP housing)



Name		Technical Parameters
Power supply		DC24V, DC12V
Range		0-30m
Accuracy		±2mm
Output		4-20mA/Modbus/Rs485
Ambient Temperature		-40°C~70°C
Protection class		IP66
Display		Cell phone Bluetooth APP
External Dimension		76mmx107mm
Housing Material		PP/ABS

— Areas of application



Petrochemicals



Electrical power



Sewage treatment



Food processing

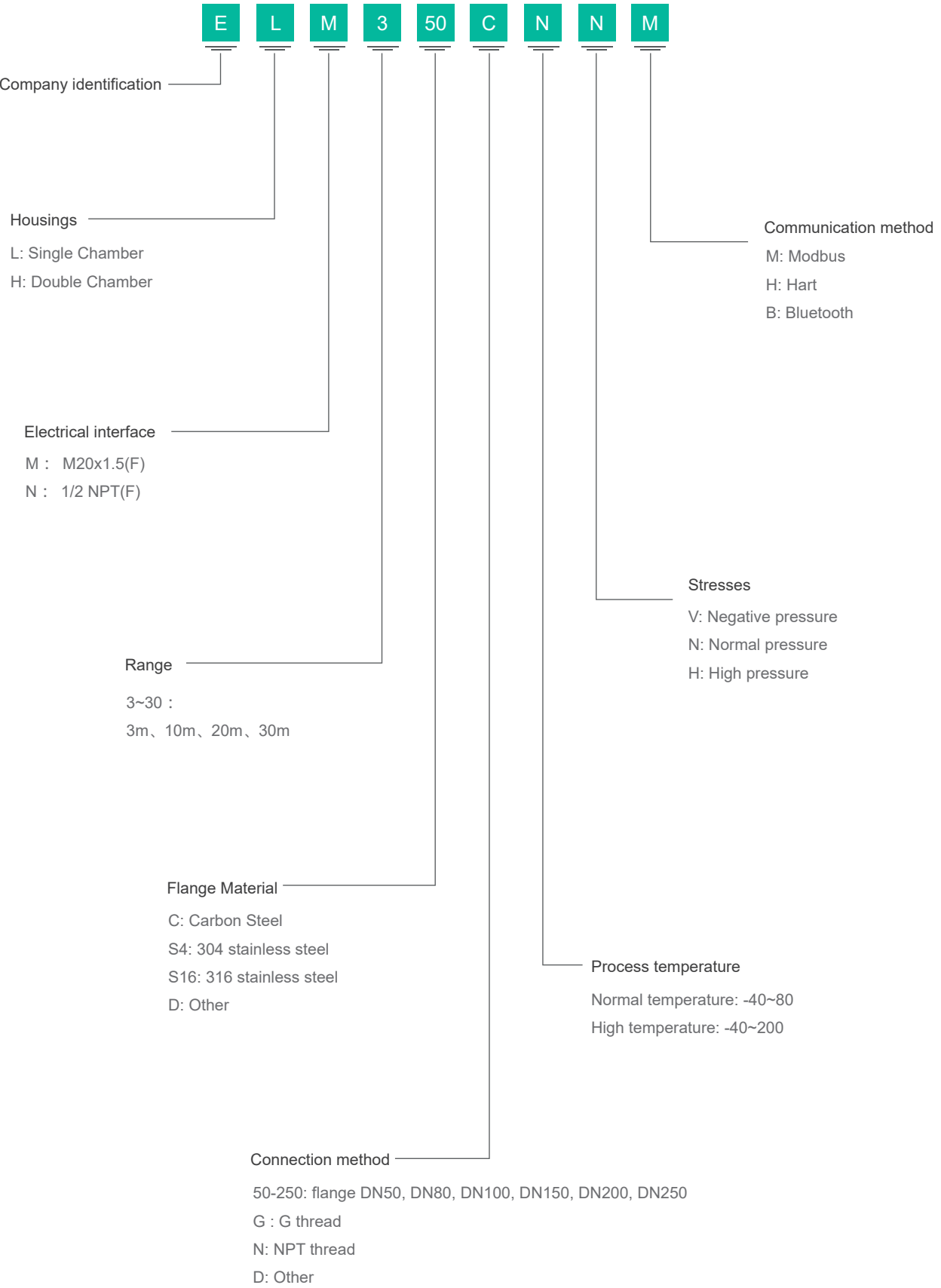


Mining industry



Pharmaceutic

— Product Selection Chart



EUB series

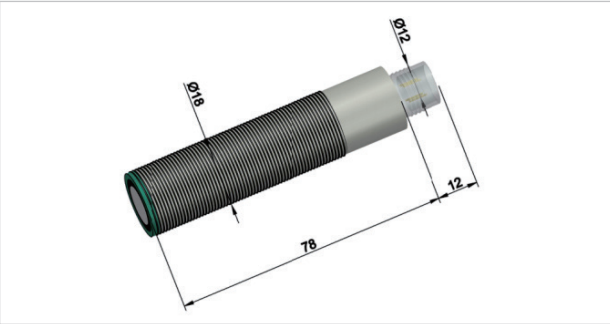
Ultrasonic sensors



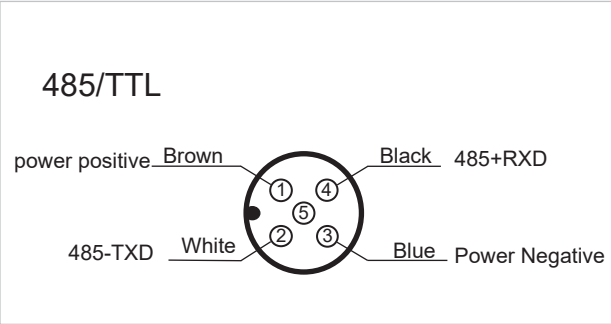
— Technical Parameters

Name	Technical Parameters
Measuring range	60~1000mm
Blind Zone	0~60mm
Standard Inspection Plate	300*300mm
Angle	10°
Repeatability	0.3%
Operating Voltage	10~30VDC
Temperature Drift	0.05%/°C (built-in temperature compensation)
Linearity	<1%
Resolution	0.1% of range (0.5mm min)
Response time	125ms
Electromagnetic compatibility	GB/T17626.2-2006 / GB/T17626.4-2008
Power Consumption	20ma
Protection Circuit	Anti-reverse connection protection, instantaneous over-voltage protection
Operating Temperature	-20°C~+80°C
Storage temperature	-40°C~+80°C
Housing Material	Copper nickel plated (customized stainless steel housing available)
Wire Length	2m

— Dimension drawing



— Wiring diagram



EdbK+4

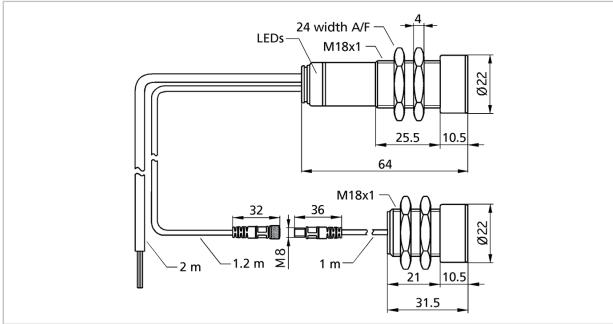
Ultrasonic sensors



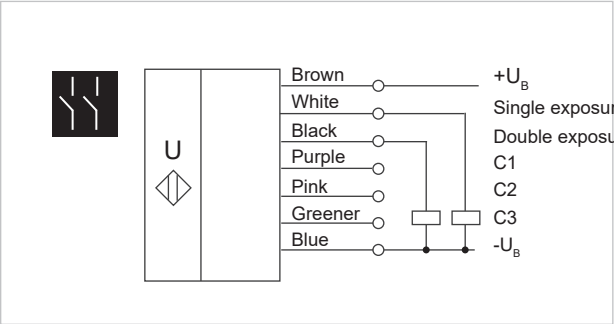
— Specificities

- High performance ultrasonic double sheet controller
Designed to inspect a wide range of materials, including corrugated cardboard, plastic sheets, and metal sheets several millimeters thick.
- Three control inputs
Provides external sensitivity selection, triggering and self-learning functions to accommodate different materials under test.
- Optional self-learning function
Particularly suitable for detecting complex materials such as water-coated solar wafers.
- Compact design with M18x1 threaded sleeve
Ensures that the sensor works efficiently in small spaces and adapts to various installation environments.

— Dimension drawing



— Wiring diagram



NameEdbK+4 Series	
General Description	
Test range	Paper with a weight per unit area of 20-2000g/m2, alloy laminates and films up to 0.4mm thick, self-adhesive films, metal sheets up to 0.3mm thick, corrugated cardboard, wafers and PCBs.
Design	Cylindrical M18
Indicator Lights	2 LEDs; green: working, red: double, blinking red: missing sheets
Characteristics	Selectable distance between transmitter and receiver
Ultrasonic transducer characteristics	
Measurement Methods	Pulse operation with amplitude estimation
Transducer frequency	200 kHz
Blind zone	7 mm in front of transmitter and receiver
Electrical data	
Operating voltage	18 - 30 V d.c., reverse polarity protected
Voltage pulsation	± 10 %
No-load current loss	≤ 50 mA
Connection type	1 m PUR cable, 7 x 0.25 mm²
Output	
Output 1	Dual npn/pnp output: I _{max} = 200 mA (UB-2V) Normally open/closed, adjustable, short circuit protected
Output 2	Tabless npn/pnp output: I _{max} = 200 mA (-UB-2V) Normally open/closed, adjustable, short circuit protected
Response Time	Trigger mode <500µs, auto mode 2.5ms
Input	
Description	< -UB+6V: logic 1; > -UB+10 V or control input open: I logic 0
Input 1	Control Inputs
Input 2	Control Inputs
Input 3	Control Inputs
Enclosure	
Transmitter-receiver distance	20 - 60 mm; optimum: 40 mm ± 3 mm
Allowable angular deviation	± 45° from vertical
Material	Brass bushings, nickel-plated, plastic parts, PBT, PA
Ultrasonic transducer	Polyurethane foam, glass filled epoxy resin
Maximum tightening torque of the nut	15 Nm
Protection class EN 60529	IP 65
Operating temperature	Between +5°C and +60°C
Storage temperature	-40°C to +85°C
Storage temperature	160 g

NameEdbK+5 Series	
General Description	
Testing Scope	Weight per unit area 100-2000g/m2 plastic sheets, alloy laminates and films up to 5mm thick, self-adhesive films, metal sheets up to 2mm thick, corrugated cardboard, wafers and PCBs.
Design	Cylindrical M18
Indicator light	2 LEDs; green: working, red: double, blinking red: missing sheets
Characteristics	Selectable distance between transmitter and receiver
Ultrasonic sensor characteristics	
Measurement method	Pulse operation with amplitude estimation
Transducer frequency	400 kHz
Blind zone	7 mm in front of transmitter and receiver
Electrical data	
Operating voltage	20 - 30 V d.c., reverse polarity protected
Voltage pulsation	± 10 %
No-load current loss	≤ 50 mA
Connection type	2 m PUR cable, 7 x 0.14 mm²
Output	
Output 1	Dual npn/pnp output: I _{max} = 200 mA (UB-2V) Normally open/closed, adjustable, short circuit protected
Output 2	Tabless npn/pnp output: I _{max} = 200 mA (-UB-2V) Normally open/closed, adjustable, short circuit protected
Response time	Trigger mode <500µs, auto mode 2.5ms
Input	
Description	< -UB+6V: logic 1; > -UB+10 V or control input open: I logic 0
Input 1	Control Inputs
Input 2	Control Inputs
Input 3	Control Inputs
Enclosure	
Transmitter-Receiver distance	20 - 60 mm; optimum: 40 mm ± 3 mm
Allowable Angular Deviation	± 45° from vertical
Material	Brass bushings, nickel-plated, plastic parts, PBT, PA
Ultrasonic transducer	Polyurethane foam, glass filled epoxy resin
Maximum tightening torque of the nut	15 Nm
Protection class EN 60529	IP 65
Operating temperature	Between +5°C and +60°C
Storage temperature	-40°C to +85°C
Storage temperature	160 g

Euuseries

Ultrasonic sensors

The ELE ultrasonic sensor is a high-performance, durable industrial sensor for distance measurement, level detection, obstacle detection and many other industrial automation applications. It uses a non-contact measurement method with a large measuring range to provide accurate and reliable measurement data in complex environments, helping to optimize production processes and improve equipment efficiency.



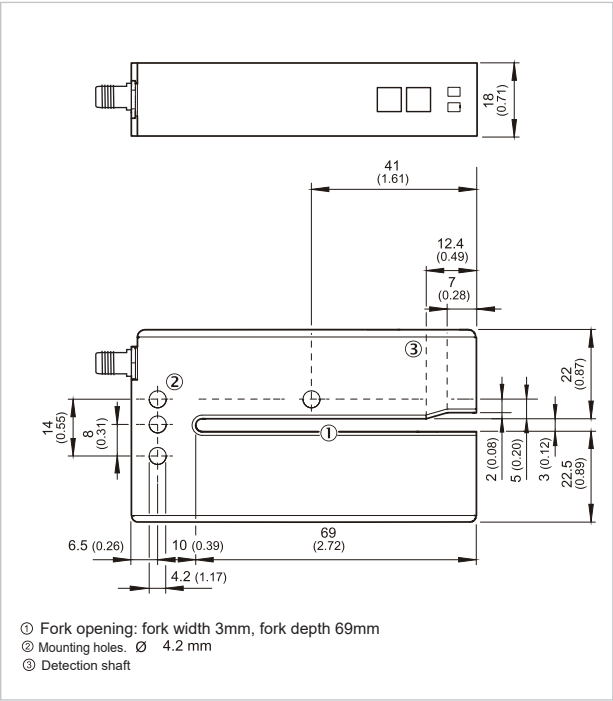
— Specificities

- Using the principle of ultrasonic technology, it is able to detect transparent labels.
- Slot width is 3mm and fork depth is 69mm.
- Minimum spacing between detected object labels/label size: 2mm
- Equipped with one-touch teach-in function, plus/minus button (teach-in, sensitivity, bright pass/dark pass switch)
- Sensing frequency: 1.5kHz
- PNP and NPN dual output options available
- Outputs are short-circuit protected and the sensor housing is made of metal.

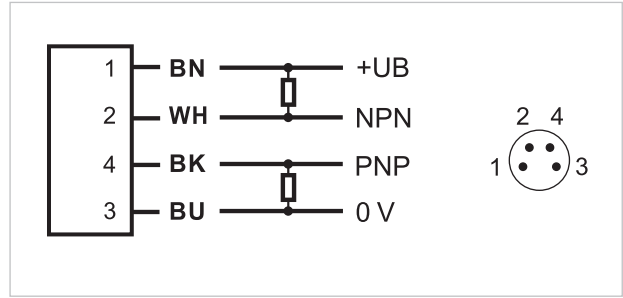
— Technical Parameters

Name	Technical Parameters
Supply Voltage	10 - 30V DC
Residual Ripple	<10% of the total
Current consumption	40 mA
Switching Frequency	1.5 kHz
Response time	250 μs
Switching output	PNP + NPN
Switch Type	Normally open/closed switchable
Output Current	100 mA
Initialization time	100 ms
Connection Type	M8x1 plug, 4-pin
Protection circuit	Output Q with short-circuit protection to suppress interference pulses
Ambient Temperature	+5°C...+ 55°C
Warehouse ambient temperature	-20°C...+70°C
Protection class	IP65
Weight	95 g
Housing Material	Metal, Aluminum

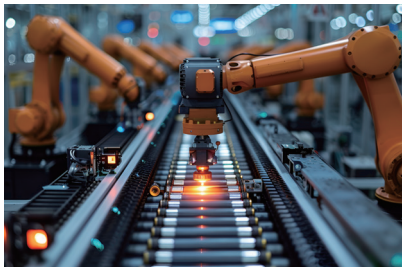
— Dimension drawing



— Wiring diagram



— Areas of application



industrial automation



Automobile manufacturing



Transportation



Medical equipment

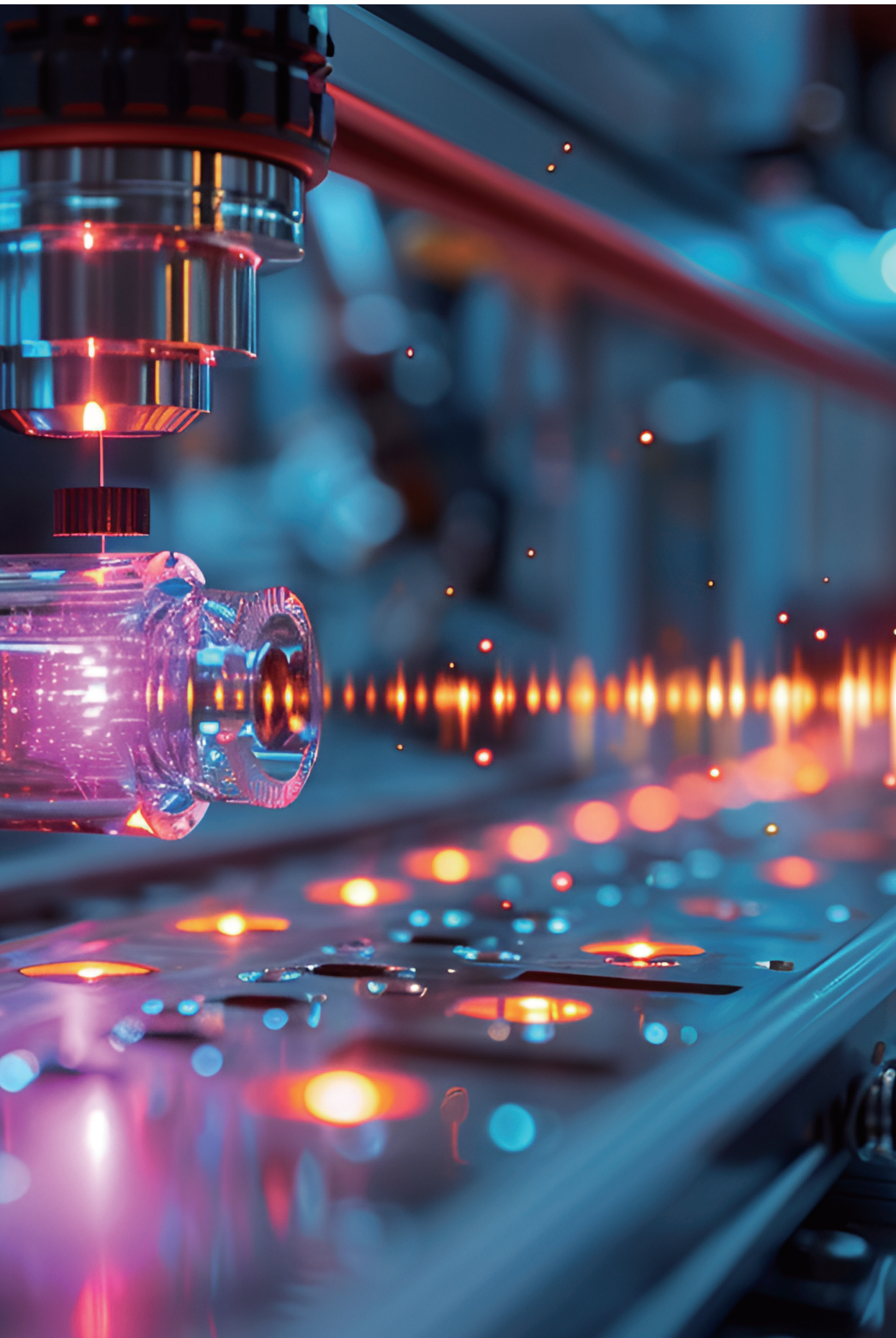
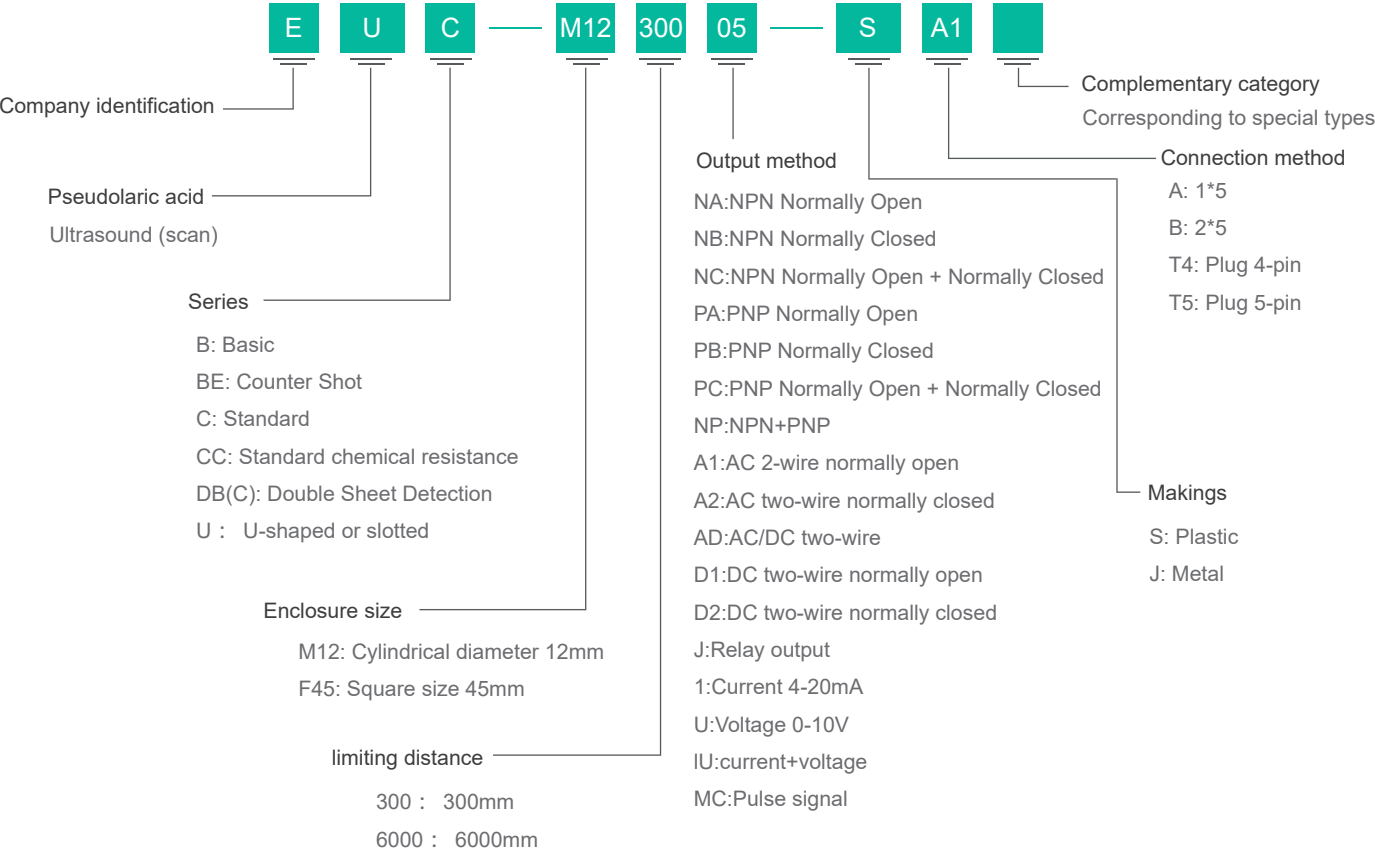


Environmental monitoring



New energy

— Product Selection Chart



EUFseries

Ultrasonic flowmeter

ELE ultrasonic flowmeter is a device designed to measure the flow of various liquids in the pipeline, which can realize the real-time flow measurement of the production process and output digital signals, analog signals, etc., to participate in the measurement and control of the production process.

The flowmeter is built-in advanced measurement chip with time resolution up to 20ps to ensure high accuracy of measurement. Equipped with a four-line IPS LCD display, it can clearly display the date, signal, instantaneous flow rate and cumulative amount, and can be easily read even in low light or dim environment. In addition, the unique design of the built-in magnet allows the meter to snap into place automatically with a non-removable screw, making it easy to install with one hand in 60 seconds. The menu selector adopts drop-down list, four touch buttons can be easily set up, support Chinese, traditional and English language switching, no need to memorize the menu number, easy to operate.



— Specificities

- External clamping design

The flow meter is clamped directly to the outside of the pipe without any modification to the piping, making installation easy and quick.

- User-friendly

No specialized knowledge is required. Installation and measurement are easily accomplished through intuitive menu operations, lowering the threshold for use.

- No mechanical wear and tear

There are no moving parts, so there is no pressure loss, ensuring measurement accuracy and long-term stability.

- Installation without shutdown

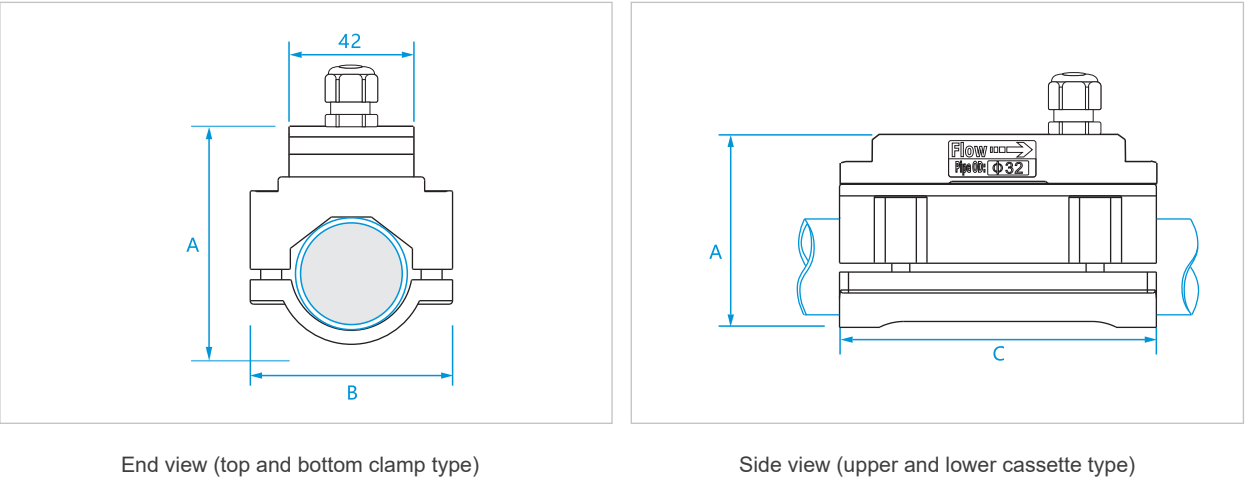
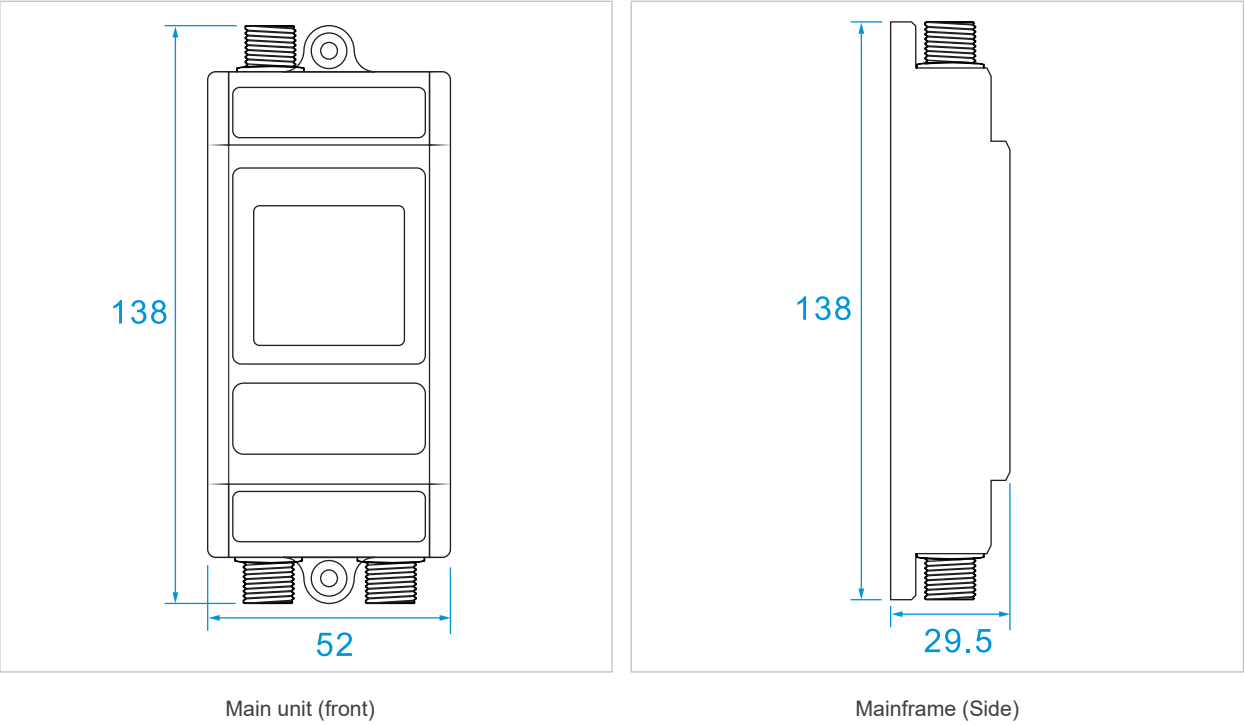
No production downtime is required for installation and use, minimizing production interruptions and increasing productivity.

— Technical Parameters

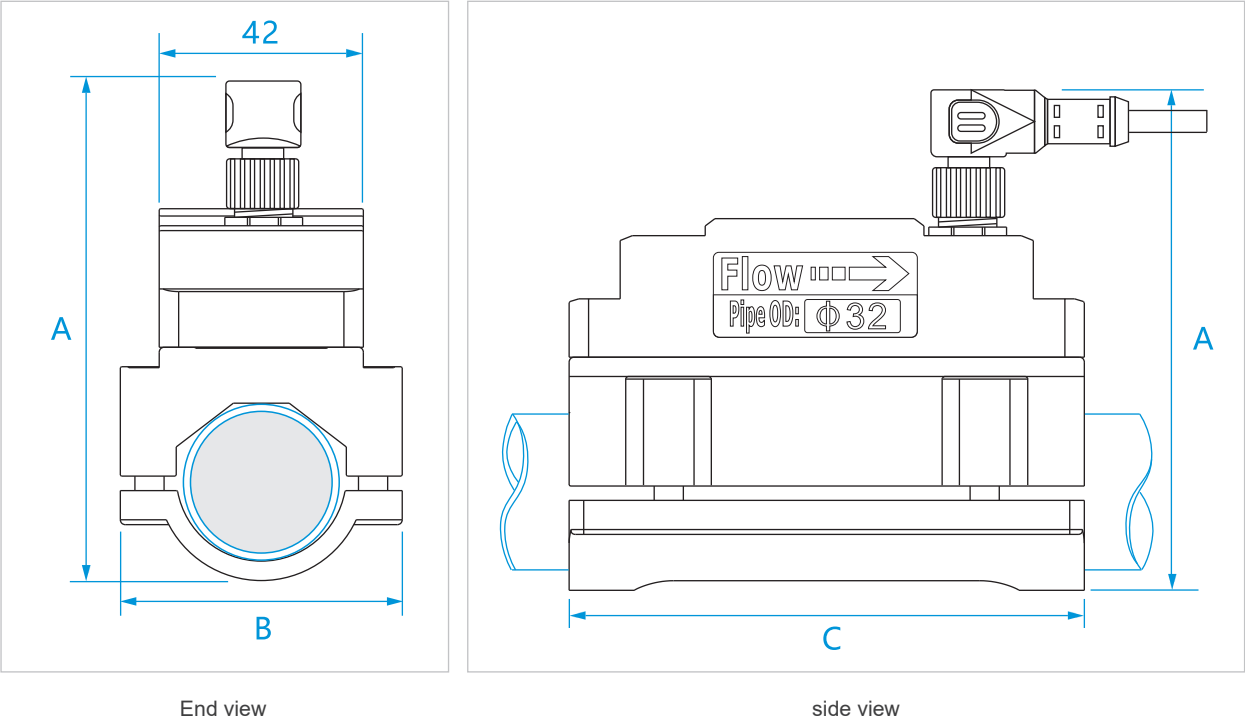
Name		Technical Parameters	
Measurement accuracy		±2.0% (0.3m/s-5.0m/s)	
Flow rate range		0.1m/s-5.0m/s	
Linearity		±2.0%(0.3m/s-5.0m/s)	
Repeatability		0.8% (0.3m/s-5.0m/s)	
Response time		500ms	
On-screen display		1.54" 240*240 IPS LCD 4-way rotation (easy to read)	
Menu language		Simplified Chinese, Traditional Chinese, English	
Display Unit		Support metric and imperial unit selection, m³/h, LPM, ml/min, GPM, LPH, factory default unit is m³/h	
Display data		Instantaneous flow rate,, net cumulative amount, single cumulative amount, daily maximum value, daily minimum value	
Accumulator		7-digit flow rate accumulator	
Accumulation data		10 years, 64 months, 64 days	
Operation buttons		4 light touch buttons	
Calendar Battery		CR1220	
Power Configuration		24VDC@3W	
Analog Output		4-20mA, max. load 600Ω	
Communication Interface		RS485, support Modbus RTU communication protocol	
Alarm Output		OCT upper and lower limit alarm output, pulse output, etc. (option)	
Relay output		(Option) 30VDC@1A, switching frequency less than 2Hz	
Suitable medium		Water, solution, chemical reagent (impurity <4%), etc	
Waterproof grade		IP54/IP65	
Installation method		all-in-one	split
Pipe diameter		OD9.53-OD220(DN6-DN200)	
Catch material		Non-contact	
Medium temperature		Normal temperature split:-10°C-70°C	
Ambient temperature		-10°C-50°C	
Ambient humidity		Relative humidity 0%-95%, no condensation	
Viscosity		<300CST(mm²/s)	
Cable length		Output cable and connection cable 2.0 meters each (can be extended to 20 meters)	

— Dimension drawing

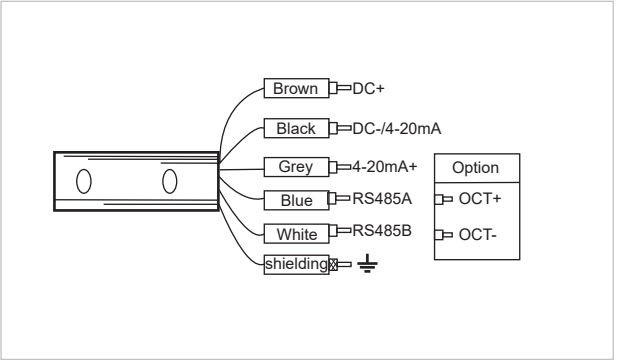
all-in-one



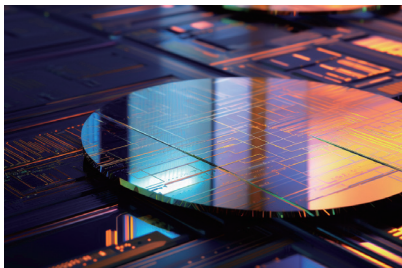
Split



— Wiring diagram



— Areas of application



Semiconductor industry



Food and drink



Medical care



Metallurgy

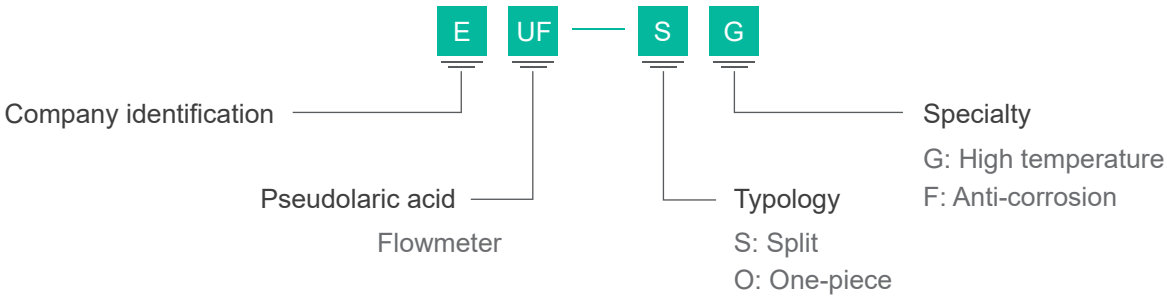


Petrochemical



Eco-friendly

— Product Selection Chart



— Ultrasonic flowmeter



ECR series

Encoders

ELE encoders are sensors that accurately measure mechanical motion and convert mechanical displacement, such as rotational or linear motion, into electrical signals.ELE encoders are used in a wide range of automation control systems to provide precise feed-back on displacement, speed and position, helping control systems to accurately regulate and manage machine motion.

As a key component of precision control systems, encoders provide real-time, accurate feedback by converting physical displacement into electrical signals. Incremental encoders are particularly suited to dynamic measurements such as speed and direction control, while absolute encoders are more suitable for applications requiring precise position feedback. With a wide range of applications in automation, robotics, machine tools, logistics and many other areas, encoders are an essential tool in modern precision control systems.

— Technical Parameters

Name		Technical Parameters		
Product Series		25 Series	30 Series	38 Series
Product Pictures				
Outer diameter (external dimensions)		25mm	30mm	38mm
Shaft Bore Diameter (Mounting Dimensions)		4mm	4mm (default), 5mm	6mm
Pulse optional		1-4096	1-4096	100,200,360,400,600
output method	C:Open collector	√	√	√
	F:Complementary output	√	√	√
	T:Push-pull output			
	L:5V drive output	√	√	√
	A:24V drive output			

25 series

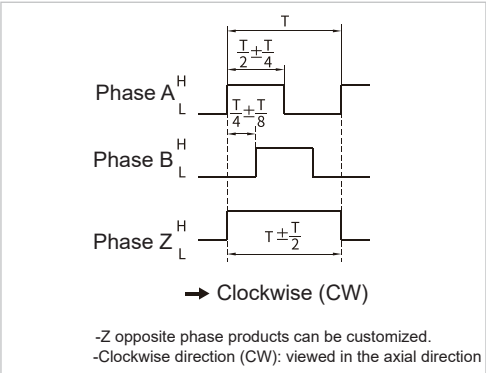


— Specificities

- Outside diameter Φ25mm, shaft diameter Φ4mm
- Enhanced replacement of Japan Omron E6A2 series encoder.
- Resolution: Any pulse number within 4096
- Output mode: add 5V drive differential output.
- Resistant to vibration, dust and other harsh environments.

— Output phase difference

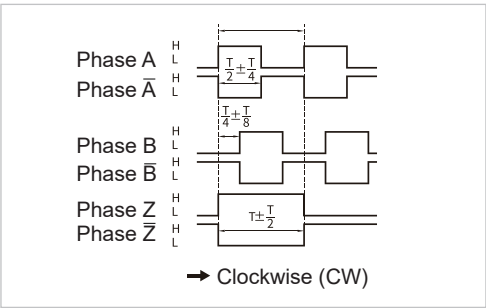
Complementary Outputs / NPN Open Collector Outputs



— Wiring diagram

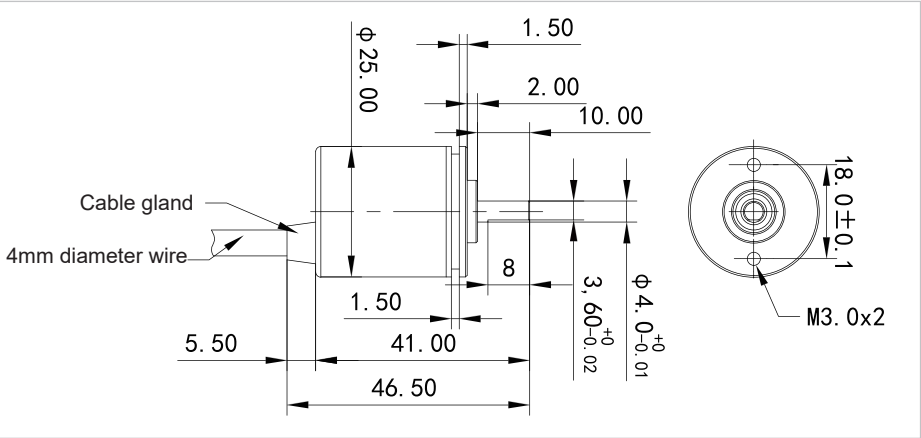
Color of thread	C/F output signal	Color of thread	L output signal
Brown	VCC	Brown	VCC
Blue	GND	Blue	GND
Black	Phase A	Black	Phase A
White	Phase B	White	Phase B
Orange	Phase Z	Orange	Phase Z
Block	F·G	Block	F·G

Long drive outputs



Take note of
F output: complementary output
L output: Long drive output
C output: NPN open collector output
E, C, F: Supply voltage DC10.8-26.4V
L: Supply voltage DC5V

— Mechanical drawing



30 series

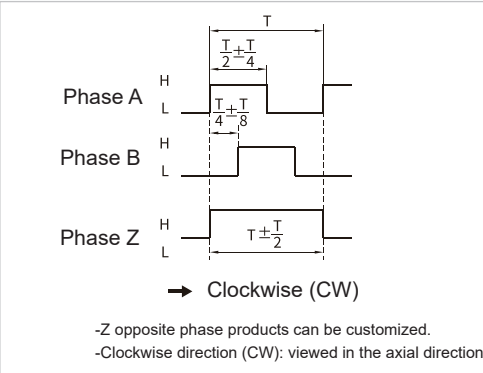


— Specificities

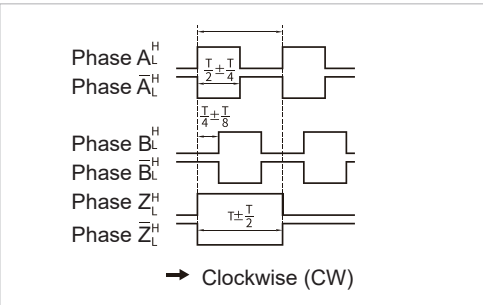
- Outside diameter Φ30mm, shaft diameter Φ4, Φ5mm
- Enhanced replacement for OSS series encoders.
- Resolution: 4096 pulses or less.
- Output method: add 5V drive differential output.
- Resistant to vibration, dust and other harsh environments.

— Output phase difference

Complementary Outputs / NPN Open Collector Outputs



Long drive outputs

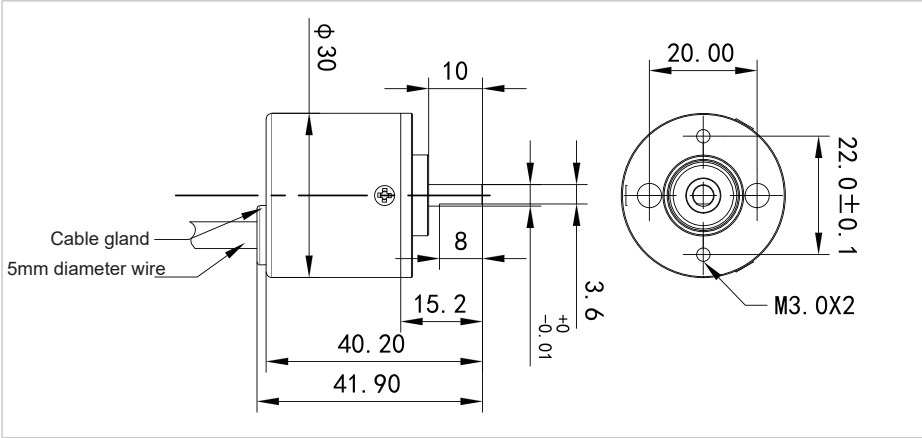


— Wiring diagram

Color of thread	C/F output signal	Color of thread	L output signal
Red	VCC	Red	VCC
Black	GND	Black	GND
Greener	Phase A	White	Phase B
White	Phase B	Yellow	Phase Z
Yellow	Phase Z	Pink	Phase A
Block	F·G	Blue	Phase B
		Orange	Phase Z
		Block	F·G

Take note of :
F output: complementary output
L output: Long drive output
C output: NPN open collector output
E, C, F: Supply voltage DC10.8-26.4V
L: Supply voltage DC5V

— Mechanical drawing



38 series

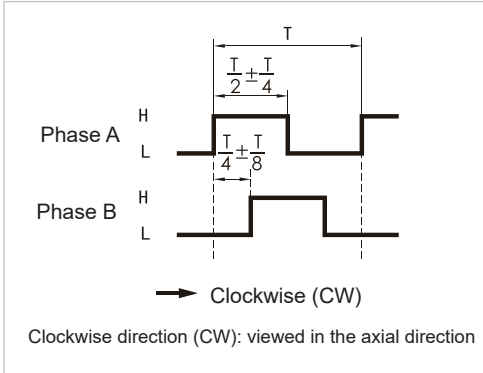


— Specificities

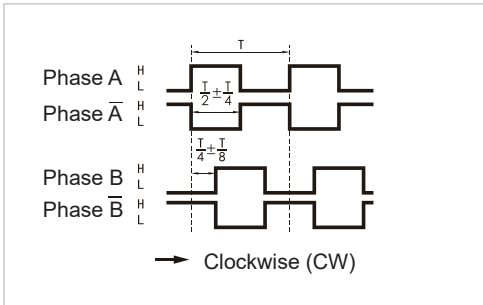
- Super price/performance ratio
- Resolution options: 100, 200, 360, 400, 600P/R
- Cable length can be customized
- Output two A and B signals
- Misconnection protection circuit, strong vibration resistance

— Output phase difference

Complementary Outputs / NPN Open Collector Outputs



Long drive outputs

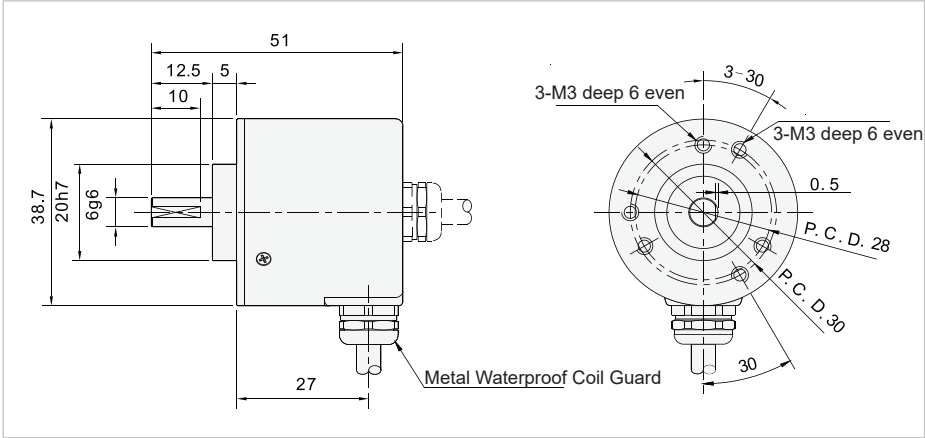


— Wiring diagram

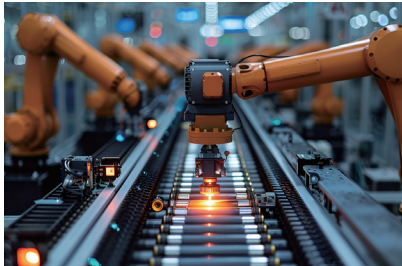
Color of thread	C/F output signal	Color of thread	L output signal
Red	VCC	Red	VCC
Black	GND	Black	GND
Greener	Phase A	White	Phase B
White	Phase B	Brown	Phase A
Block	F·G	Grey	Phase B
		Block	F·G

Take note of :
F output: complementary output
L output: Long drive output
C output: NPN open collector output
C, F: Supply voltage DC10.8-26.4V
L: Supply voltage DC5V

— Mechanical drawing



— Areas of application



Industrial automation



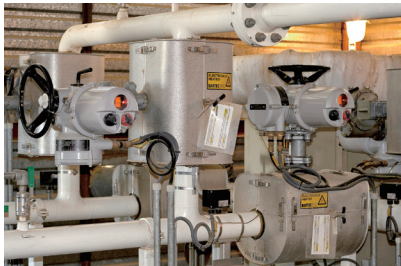
Means of transportation



New energy



Intelligent manufacturing

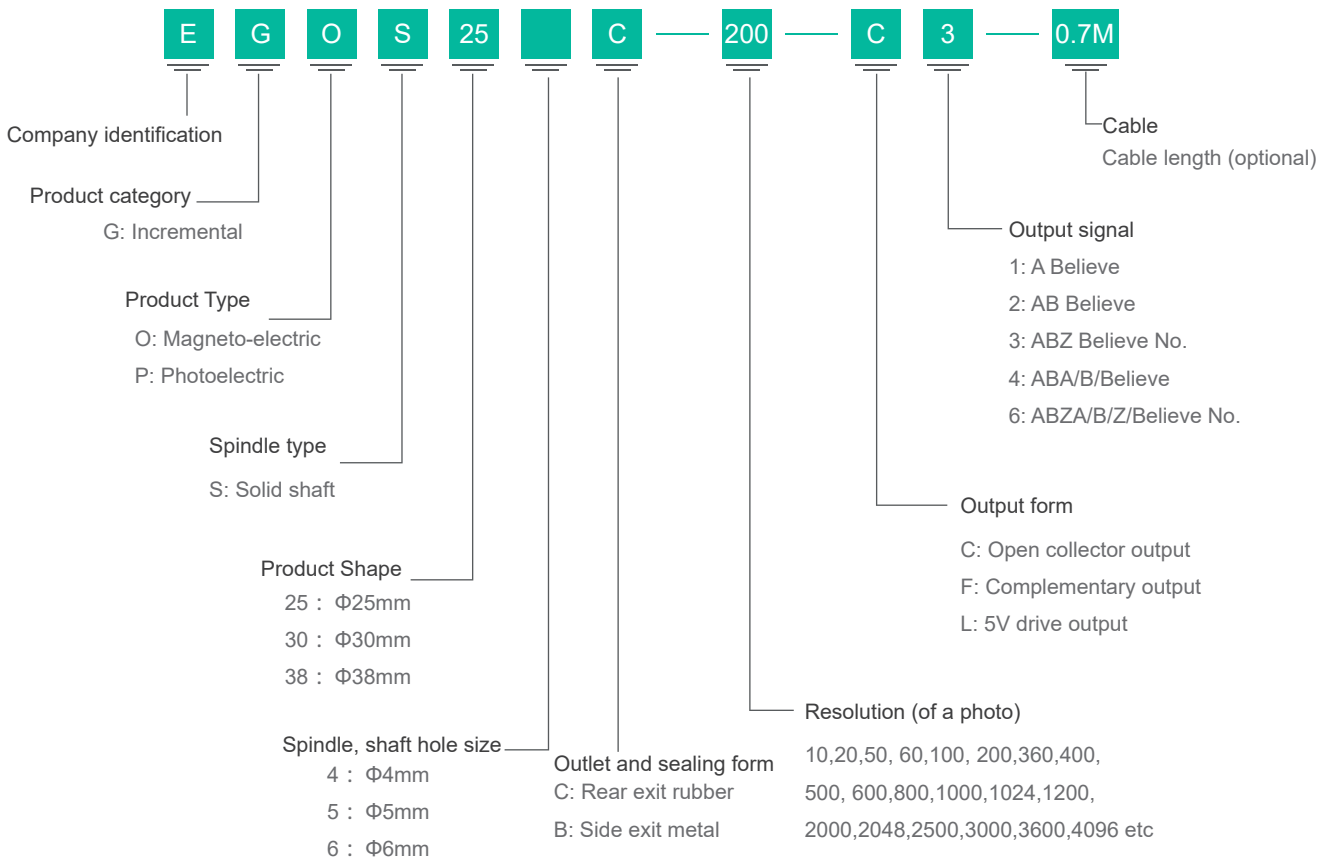


Metrological examination



Aerospace

— Product Selection Chart



ELSeries

Laser distance sensors

ELE Laser Distance Measuring Sensor is a high-precision, non-contact measuring tool that combines laser technology and a digital display for a variety of application scenarios that require accurate distance measurement. It is widely used in industrial automation, liquid level monitoring, logistics, robotics, etc. With the advantages of high accuracy, long measuring range and fast response, it helps to improve productivity, ensure product quality and optimize workflow.



— Specificities

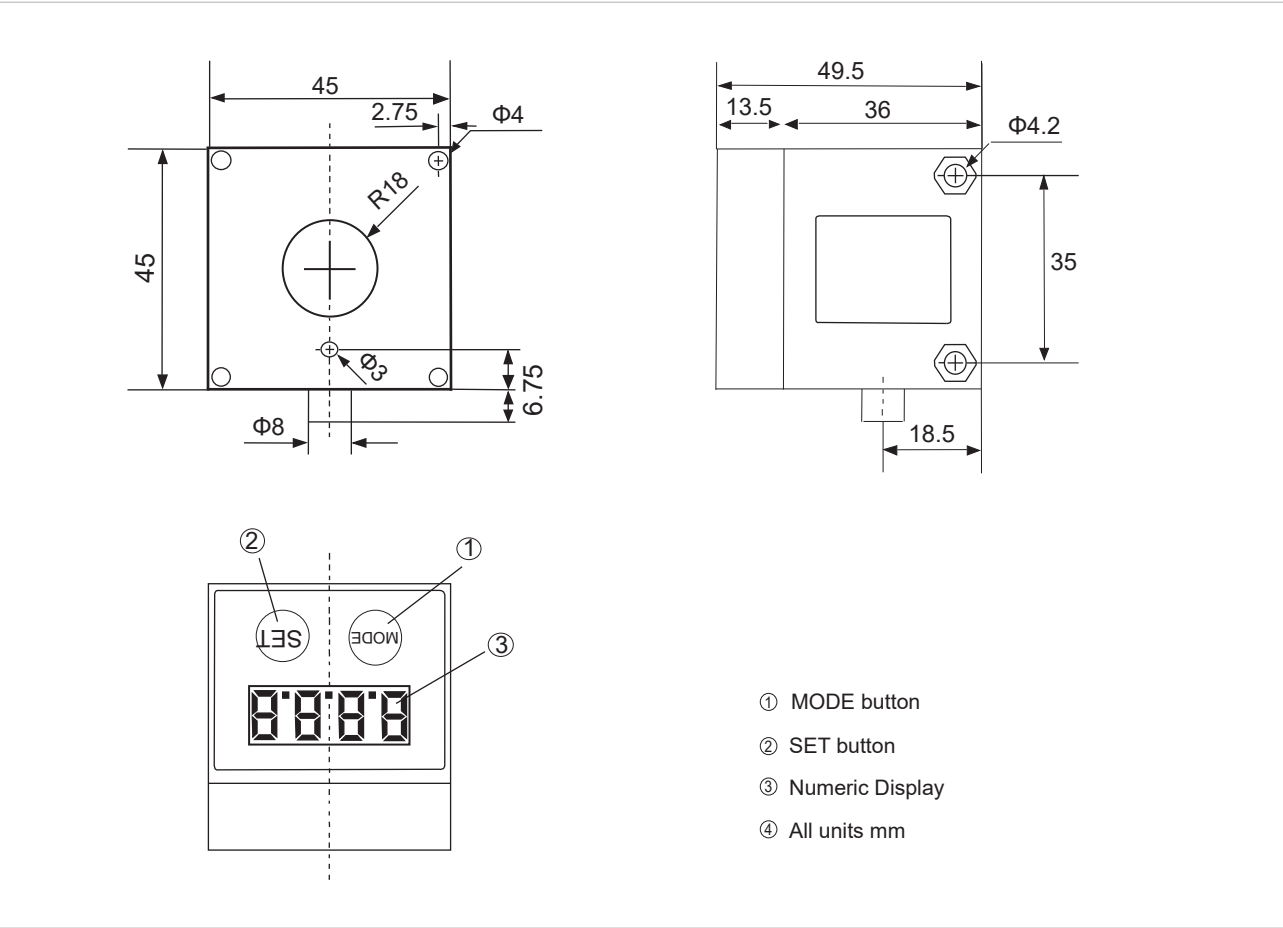
- Waterproof connector, protection class IP65
- Red light indication, easy to install
- Support Modbus-RTU, 4-20mA, switching three kinds of interfaces

— Technical Parameters

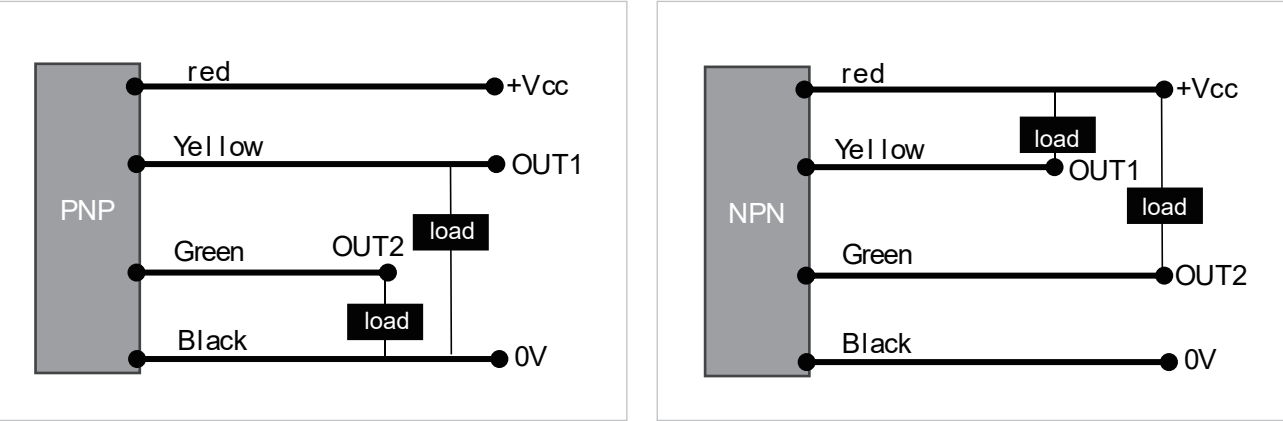
Name	Technical Parameters
Performance Parameters	
Measuring range	Maximum measuring distance: 22m
	Under bright light @ 160KLux environment: 15m
	Black target under 10% reflectivity: 20m
Measuring frequency	1~1000Hz(Default 100Hz)
Repeatability	±8.0mm @50~2000mm
	±20.0mm @2000~6000mm
	±30.0mm @6000~20000mm

Absolute Accuracy	±20.0mm @200~2000mm; 20~200mm near-breeding area, error is large
	±30.0mm @2000~6000mm
	<1% @6000~20000mm
Multi-target detection	Double Peak
Temperature Compensation	Yes
Reflectance Correction	Yes, different color target deviation less than 5mm
Blind Zone	0.03m
Light Source	
Operating Laser	905nm, Class 1
Field of view FOV	<2°
Spot size	Φ3.5cm@1m; Φ11.5cm@5m
	Φ23cm@10m; Φ50cm@20m
Indicator Laser	635nm, Class 2
Working environment	
Operating Temperature	-20~50℃
Storage temperature	-40~85℃
Enclosure protection class	IP65
Electrical parameters	
Working Voltage	DC+9~35V
Operating Current	107mA@12V Indicates laser operation
	103mA@12V indicates laser off
Reverse protection	Yes
Isolation	Yes
Service life	50000h or more
Output Interface	
Output interface	Two PNP (Normally Open/Normally Closed), Two NPN (Normally Open/Normally
	Closed), RS485-Modbus (4.... .20mA), UART
Maximum current load for switching output	100mA
Maximum load for analog output	250 Ω
Display keys	
Number of digits	4-bit
Key Function	Switching Threshold Adjustment; Indicating Laser Switch; Analog Range Adjustment
Mechanical Parameters	
Weight	73g±3g (filling volume error)
Casing	ABS
Dimension	45*45*49.5mm

— Dimension drawing



— Wiring diagram



Note: OUT1 and OUT2, load allowable maximum current 100mA

ELS series

Laser distance sensors

ELE Laser Distance Measuring Sensor is a high-precision distance measuring module with high measuring accuracy, fast measuring speed, easy installation and operation, etc. It has been widely used in various fields, such as home decoration measurement, industrial control and so on.



— Specificities

- Compact size
- Light weight
- Long distance measurement, up to 100m
- High accuracy, up to 1mm
- Resistant to high and low temperatures -30~+60°C

— Wiring diagram

RS485 output interface

Color of thread	Red	Black	Yellow	White
Define	Anodal	Power ground/signal ground	485 B	485 A
Marginal notes	DC+24V			

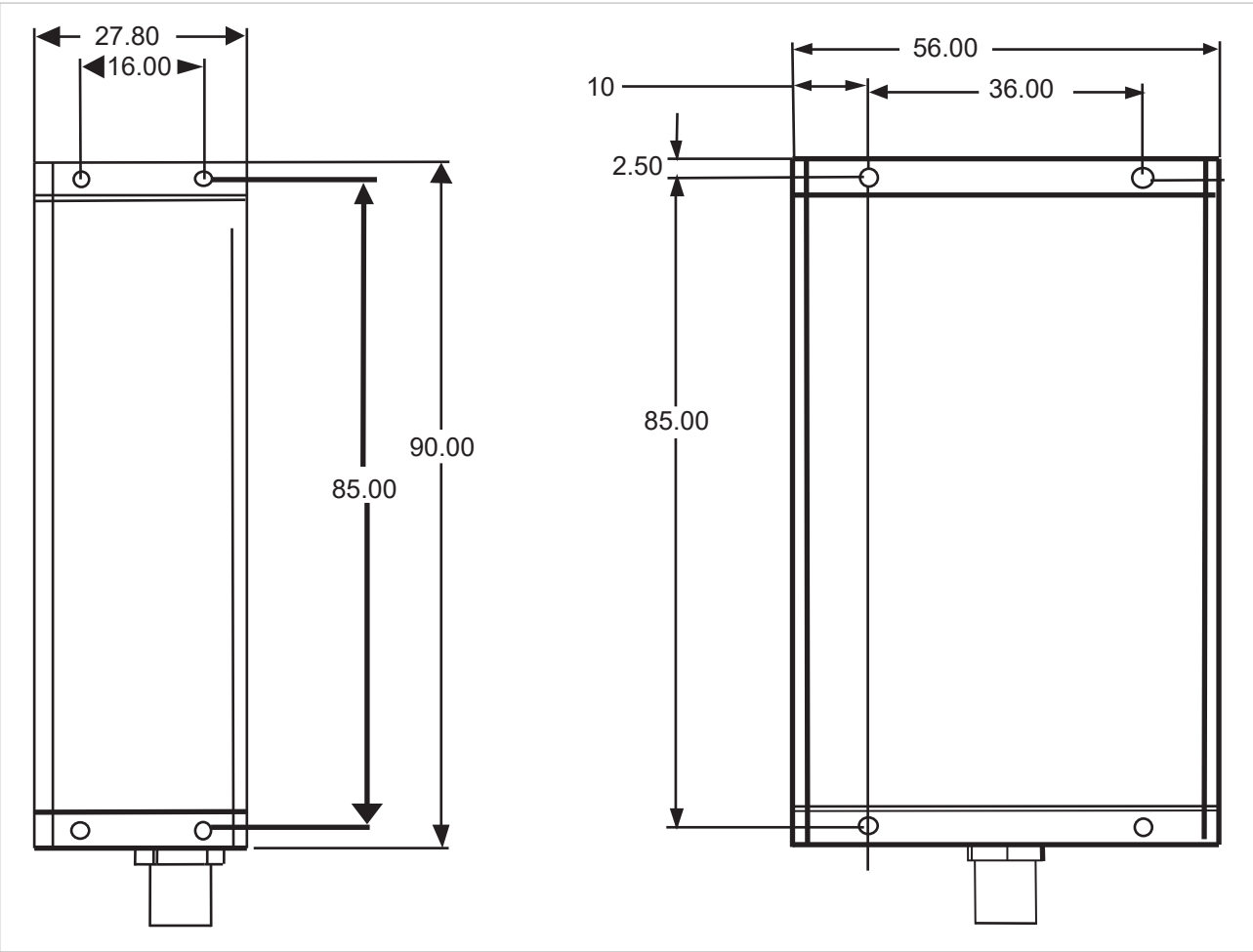
4-20mA output interface

Color of thread	Red	Black	Yellow	White
Define	Anodal	Power ground/signal ground	Anodal	Negative Current Level
Marginal notes	DC+24V			

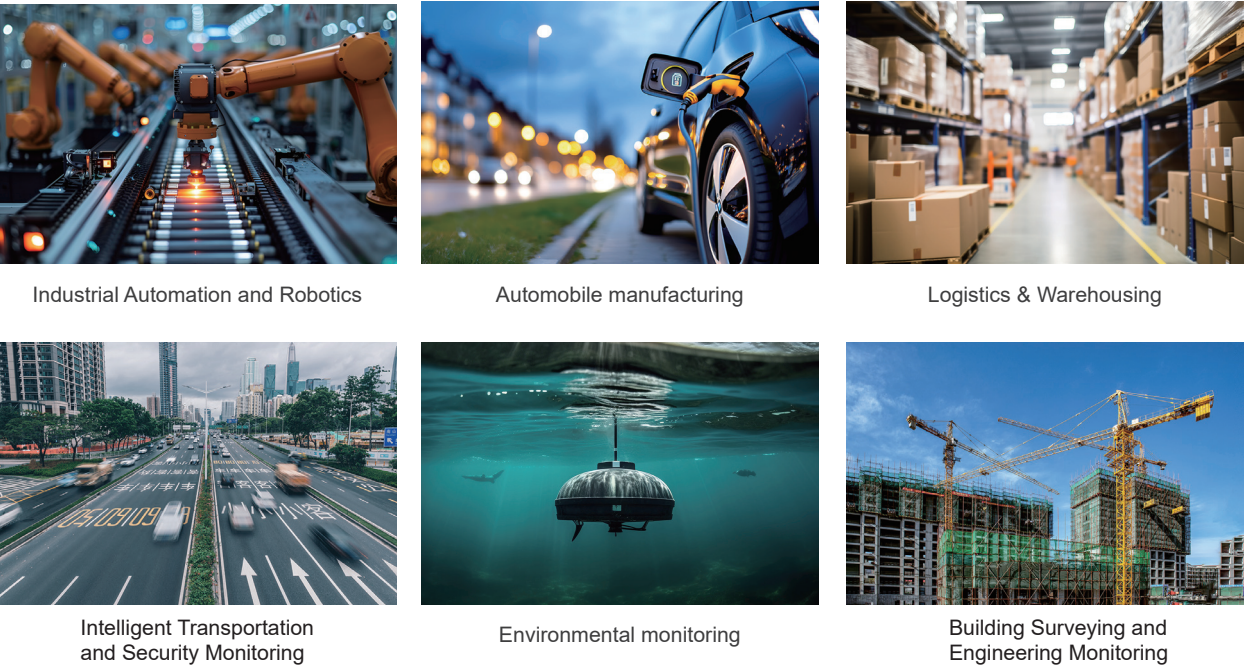
— Technical Parameters

Name	Technical Parameters
Indoor Range	0.03-100m
Outdoor Range	0.03-30m
Output Frequency	2Hz
Absolute Accuracy	±2mm
Resolution	1mm
Blind Zone	3cm
Light source	635nm, <1mW, Red Laser, Class II Safe Laser
Communication Interface	4~20mA, RS485
Working Temperature	-30℃---+60℃(High and low temperature models)
Working Voltage	DC+24V
Working Current	20mA
Volume	28*56*90mm

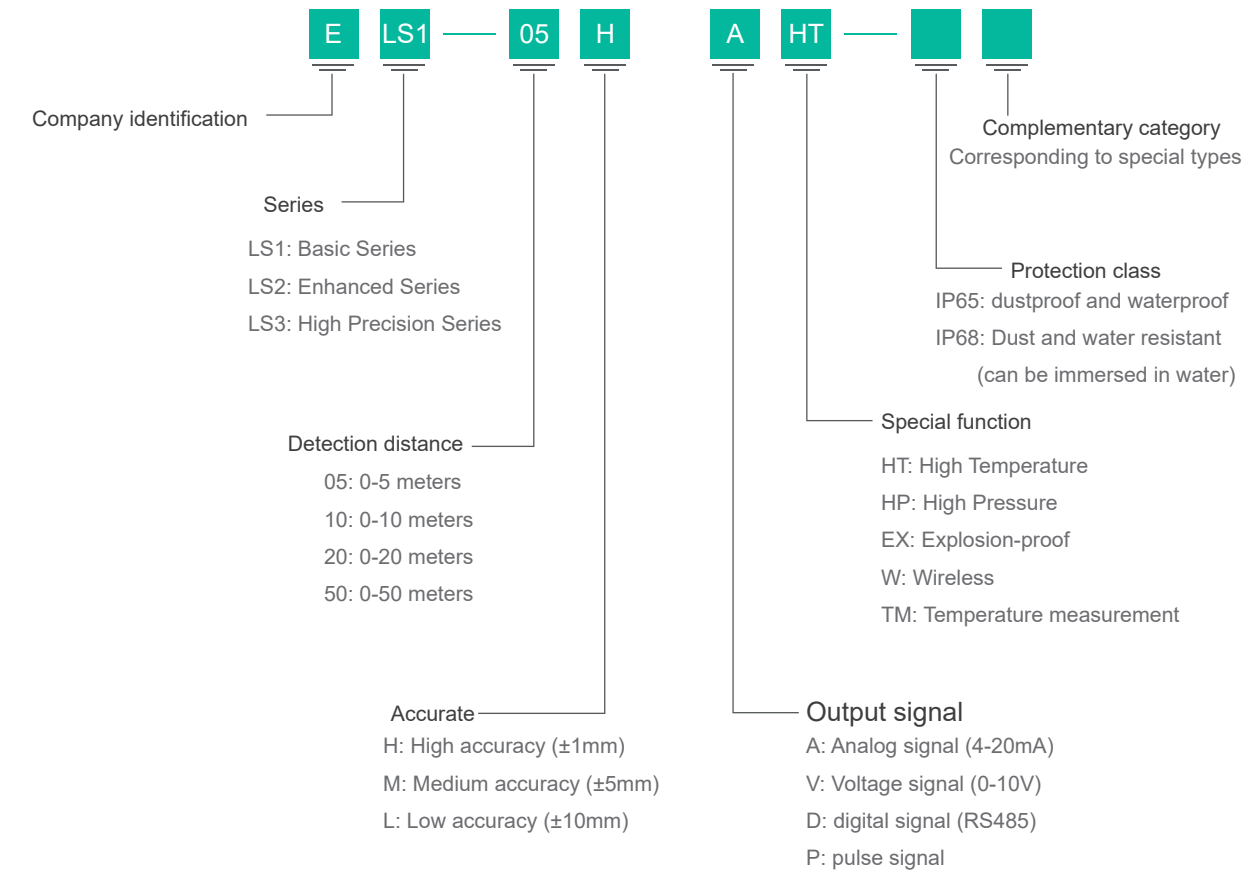
— Dimension drawing



— Areas of application



— Product Selection Chart



No Attenuation Series

Proximity sensors

ELE Inductive Sensor is a sensor based on the principle of electromagnetic induction, which is capable of converting the displacement of an approaching metal object into a voltage or current signal output. The sensor contains an inductive coil that generates an alternating magnetic field. When a metal object comes close to the sensor, it interferes with the strength of the magnetic field, which changes the inductance, resulting in a change in the induced current in the sensor's internal circuitry. This change is converted by the sensor into an output signal that indicates the proximity of the target object.

ELE inductive sensors are very responsive to metallic objects (e.g. iron, aluminum, copper, etc.) and have an attenuation coefficient of 1, making them particularly suitable for detecting metallic targets.

—

Specificities

- Non-Attenuation Performance

By optimizing the circuitry and sensing structure, the non-attenuating proximity sensor maintains a relatively consistent sensing distance across different materials.
- Fast Response

Responds immediately when the sensor detects a trigger. This makes it suitable for high-speed motion or continuous operation.
- High Sensitivity

The sensor is extremely sensitive to detection of target objects and responds immediately when the object is close to the calibrated distance.
- High resistance to environmental interference

The non-attenuating proximity sensor is able to operate in complex industrial environments thanks to its advanced anti-interference design. It is able to maintain high accuracy in environments with strong magnetic fields or strong electromagnetic interference.

EJLC-M1208NA/NB/PA/PB-M



—

Technical Parameters

Name		Technical Parameters
Design	Thread	
Structural dimensions	M12 x 1	
Rated switching distance	8 m/12m	
Mounting method	Flush/non-flush	
Working Voltage	10.... .30 VDC	
Output Performance	Normally open contacts, 2-wire	
Switching frequency	0.30 kHz	
Electrical Connection	Cable	
Cable Length	2.0 m	
Enclosure Material	Stainless steel type, 1.4427 SO	
Operating Temperature	-25... +70°C	
Protection class	IP67	

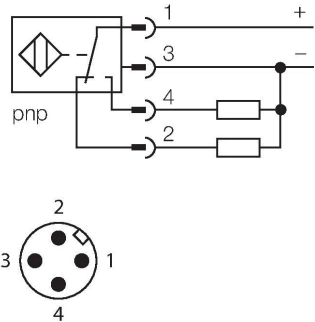
—

Dimension drawing



—

Wiring diagram



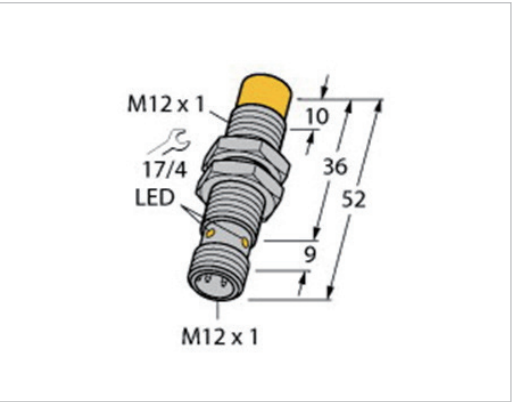
EJLC-M1212NA/NB/PA/PB



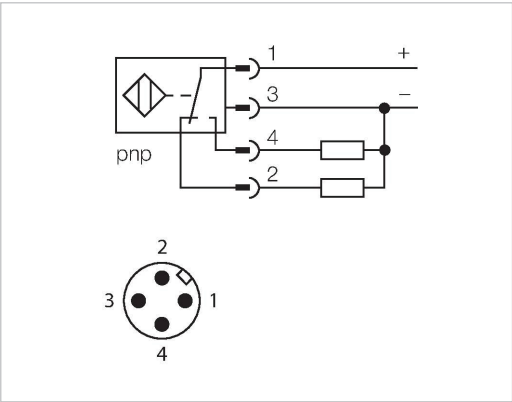
— Technical Parameters

Name	Technical Parameters
Design	Thread
Structural dimensions	M12 x 1
Rated switching distance	8 m/12m
Mounting method	Flush/non-flush
Working Voltage	10.... .30 VDC
Output Performance	Normally open contacts, 2-wire
Switching frequency	0.30 kHz
Electrical Connection	Cable
Cable Length	2.0 m
Enclosure Material	Stainless Steel Type, 1.4427 SO
Operating Temperature	-25... +70°C
Protection class	IP67

— Dimension drawing



— Wiring diagram



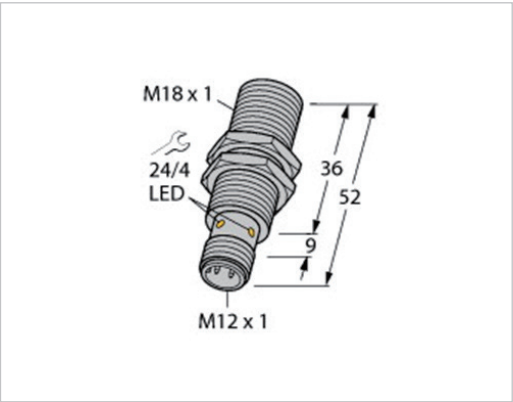
EJLC-M1808NA/NB/PA/PB-M



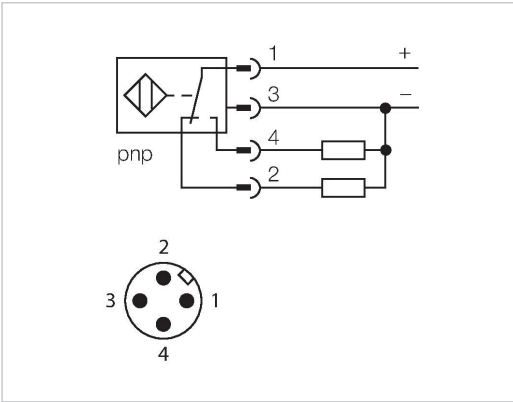
— Technical Parameters

Name	Technical Parameters
Design	Thread
Structural dimensions	M18 x 1
Rated switching distance	4m/8m
Mounting method	Flush/non-flush
Working Voltage	10.... .30 VDC
Output Performance	Normally open contacts, 2-wire
Switching frequency	0.30 kHz
Electrical Connection	Cable
Cable Length	2.0 m
Enclosure Material	Stainless Steel Type, 1.4427 SO
Operating Temperature	-25... +70°C
Protection class	IP67

— Dimension drawing



— Wiring diagram



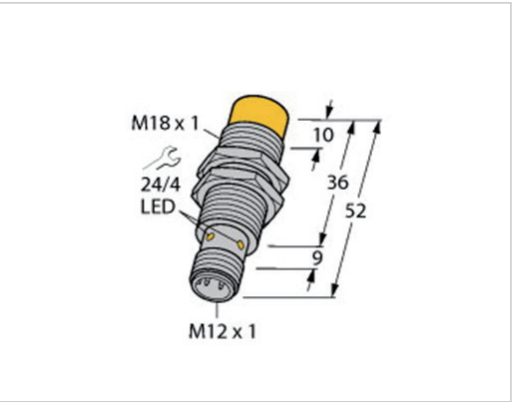
EJLC-M1804NA/NB/PA/PB



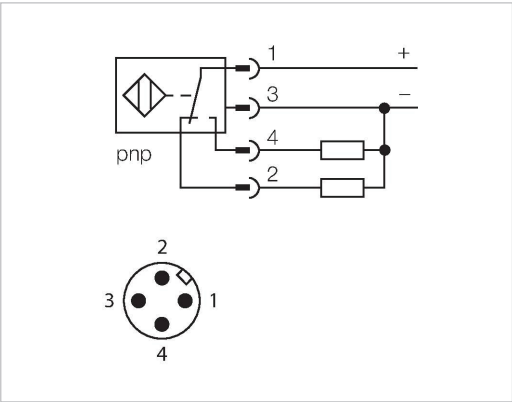
— Technical Parameters

Name	Technical Parameters
Design	Thread
Structural dimensions	M18 x 1
Rated switching distance	4m/8m
Mounting method	Flush/non-flush
Working Voltage	10.... .30 VDC
Output Performance	Normally open contacts, 2-wire
Switching frequency	0.30 kHz
Electrical Connection	Cable
Cable Length	2.0 m
Enclosure Material	Stainless steel type, 1.4427 SO
Operating Temperature	-25... +70°C
Protection class	IP67

— Dimension drawing



— Wiring diagram

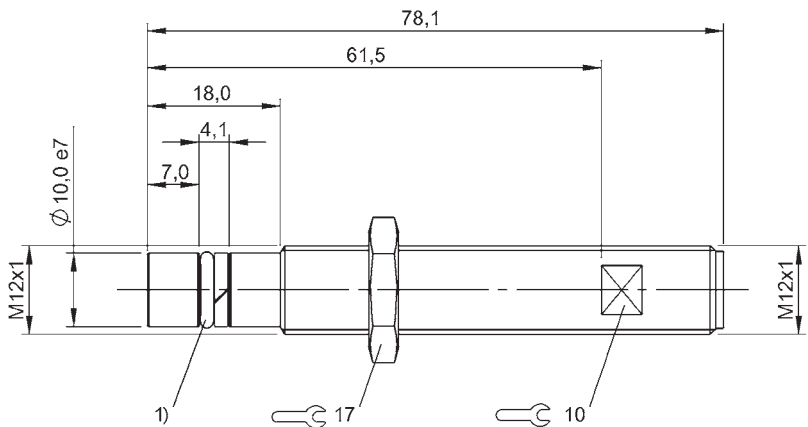


High Pressure Resistant Series
Proximity sensors

ELE high pressure resistant proximity switches are designed for high pressure environments, with pressure resistant performance, and can work stably in extreme working conditions. Adopting non-contact detection technology, it realizes precise object position sensing with fast response and high repeatability. Supporting wide temperature and pressure range, high protection level, built-in intelligent protection mechanism to ensure the safety and reliability of the equipment. Suitable for industrial automation, electric power systems, petrochemical and other fields, providing efficient solutions for position detection and control in high-pressure environments.

— Specificities

- Extreme pressure resistance
Extremely high pressure resistance ensures stable and reliable operation in high-pressure environments.
- Precision Detection
Small detection distance and high repeatability can meet most precision control needs.
- Wide Temperature and Wide Voltage Design
Supports a wide range of operating temperatures and wide voltage inputs, adapting to a variety of complex and changing industrial sites.
- Safety Protection
High protection level can ensure the stable operation of the equipment in harsh environments.
- Fast Response
Extremely short response time, can quickly respond to changing conditions.

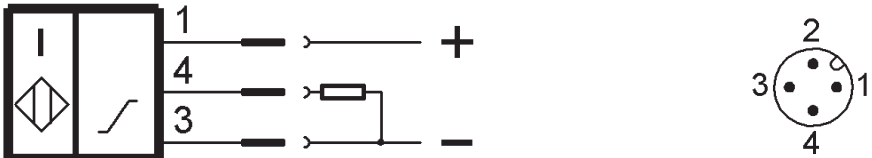


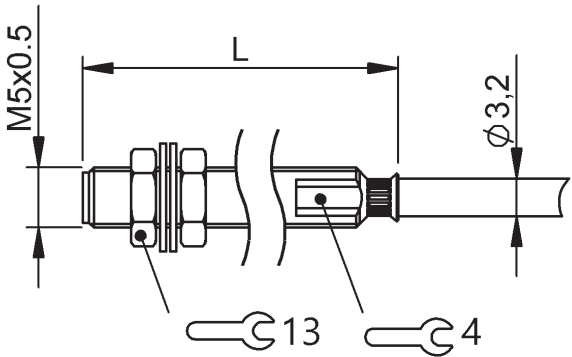
— Technical Parameters

Name		Technical Parameters
Functional Safety		
MTTF (40 °C)		150 a
Interfaces		
Analog outputs		Analog, voltage 0~10V
Output Characteristics		Drop on approach
Output Voltage, at Se		5 V
Output Voltage, at SI Maximum		10 V
Output voltage, at SI min.		0 V
Display / Operation		
Function display		No
Operating voltage display		No
Mechanical parameters		
Fixed length		43.5 mm
Mounting		Flush
Dimension		Φ12x78 mm
Compressive strength, tips		Oil pressure
Tightening torque		15Nm±10 %
Maximum compressive strength		500 bar
Structural dimensions		M12x1
Material		
Housing material		Stainless steel
Induction surface, material		Ceramic

Environmental conditions	
EN 60068-2-27, Shock	Half Sine, 30gn, 11ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
Contamination level	3
Ambient temperature	-25.... .85°C
Protection class	IP68
Electrical parameters	
Maximum unloaded current at Ue	10 mA
Rising U	6.70 V/mm
Residual wave, max. (% of Ue)	15%
Operating voltage Ub	15~30 VDC
Limiting frequency -3 dB	1000 HZ
Measured operating voltage Ue DC	24 V
Measured insulation voltage Ui	75 V DC
Load resistance RL, min	2000 Ohm
Electrical connection	
Reverse polarity protection	Yes
Interface	M12x1-male, 3-pin, A-coded
Short-circuit protection	yes
Prevents confusion	yes
Range / Distance	
Maximum temperature drift of the end value	±10.0 %
Measuring range	0.5.... .2 mm
Linear deviation, max.	±45 µm
Linear area SI	0.5.... .2 mm
Repeatability according to BWN	±8 µm
Generalization parameters	
Basic standard	IEC 60947-5-2
	IEC 60947-5-7

— Wiring diagram



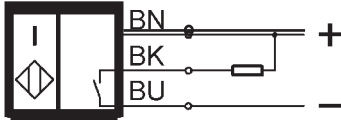


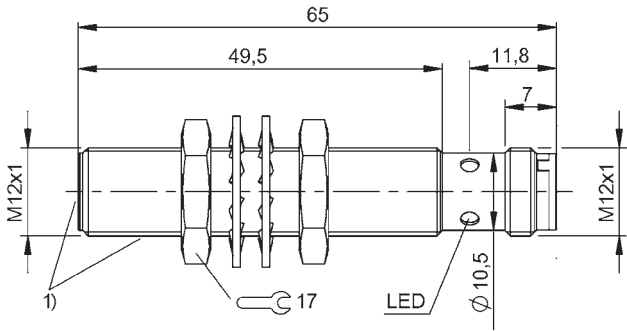
— Technical Parameters

Name		Technical Parameters
Functional safety		
MTTF (40 °C)		2280 a
Interface		
Switch outputs		NPN normally open contact (NO)
Display/Operation		
Function display		No
Operating voltage display		No
Mechanical parameters		
Mounting		Flush
Dimensions		Ø5 x 27mm
Compressive strength, tips		Oil pressure
Tightening torque		1.5 Nm
Maximum compressive strength		10 bar
Structural dimensions		M5x0.5
Material		
Housing material		Stainless steel (1.4104)
Induction surface, material		Ceramic
Sheath material		Silicone
Environmental conditions		
EN60068-2-27, Shock		Half sine, 30gn, 11ms
EN60068-2-6, Vibration		55 Hz, Amplitude 1mm, 3x30 min
		55 Hz, amplitude 2mm, 3x30 min
Contamination level		3
Ambient temperature		0.... .135°C
Protection class		IP67
Electrical parameters		
Residual wave, max (% of Ue)		10 %

Ready delay tv, max.	50 ms
Operating voltage Ub	10~30 VDC
Application classification	DC -13
Switching frequency	1.5 kHz
Max. residual current Ir	50 µA
Max. reactive current Io, without attenuation	5 mA
Max. reactive current Io, attenuation	5 mA
Maximum load capacitance, at Ue	0.5 µF
Measured operating voltage Ue DC	0.5 µF
Measured operating current Ie	100 mA
Measurement of short-circuit current	100 A
Measured insulation voltage Ui	75 V DC
Voltage drop, static, max	2 V
Output resistance RA	Open Collector
Electrical connection	
Reverse polarity protection	open collector
Conductor cross section	0.15 mm²
Number of conductors	3 mm²
Wire length L	10 m
Electrical specifications	3 cores
Cable diameter D	3.15 mm
Short-circuit protection	yes
Connection method	Cable, 10 m, silicone
Prevents confusion	yes
Range/Distance	
Safety switching distance Sa	0.58 mm
Repeatability, max. (% of Sr)	10 % of the total number of cables
Temperature drift, max. (% of Sr)	10 % of the total
True switching distance Sr, tolerance	10 % 10 % ±10 %
Hysteresis H, max. (% of Sr)	15 % Yes
Rated switching distance Sn	0.8 mm
Generalization parameters	
Scope of supply	2x toothed disk, D9x0.5, 2x nut, M5x0.5
Basic standard	IEC 60947-5-2

— Wiring diagram





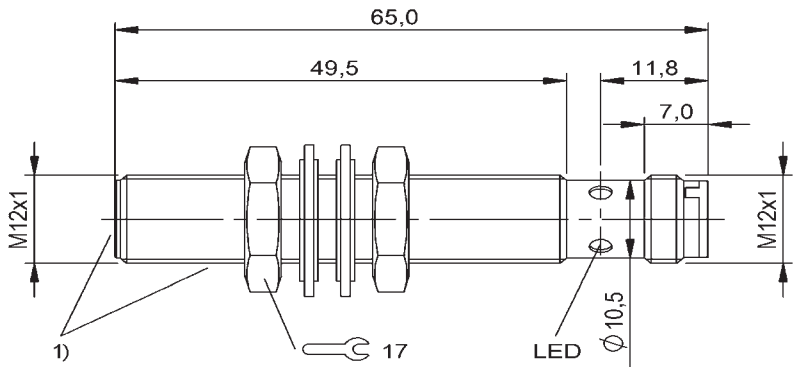
— Technical Parameters

NameTechnical Parameters	
Functional Safety	
MTTF (40 °C)	330 a
Interface	
Switching outputs	PNP normally open contact (NO)
Display/Operation	
Function display	No
Operating voltage display	No
Mechanical parameters	
Fixed length	49.50 mm
Mounting	Flush
Dimension	Ø12 x 65 mm
Compressive strength, tips	Pressure
Tightening torque	10 Nm
Maximum compressive strength	60 bar
Structural dimensions	M12x1
Material	
Housing material	Stainless steel, coated, PTFE
Induction surface, material	Stainless steel/coating/PTFE
Environmental conditions	
EN60068-2-27, Shock	Half sine, 30gn, 11ms
EN60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
Contamination level	3
Ambient temperature	-25.....70°C
Protection class	IP67

Electrical parameters	
Residual wave, max (% of Ue)	10 %
Ready delay tv, max.	100 ms
Operating voltage Ub	10 to 30 VDC
Application classification	DC-13
Switching frequency	500 Hz
Maximum residual current Ir	10 µA
Max. reactive current Io, without attenuation	10 mA
Max. reactive current Io, attenuation	15 mA
Maximum load capacitance, at Ue	1 µF
Measured operating voltage Ue DC	24V
Measured operating current Ie	200 mA
Measurement of short-circuit current	100 A
Measurement of the insulation current Ui	75 V DC
Voltage drop, static, max	2.5 V
Output resistance RA	33.0 kOhm + D
Electrical connection	
Reverse polarity protection	yes
Interface	M12x1-male, 4-pin, A-coded
Short Circuit Protection	yes
Prevents confusion	yes
Range/Distance	
Safety switching distance Sa	3 mm
Switching distance marking	■ ■
Repeatability, max. (% of Sr)	5.0 %
Temperature drift, max. (% of Sr)	10 %
True switching distance Sr	4 mm
True switching distance Sr, tolerance	±15.0 %
Hysteresis H, max (% of Sr)	15.0 %
Rated switching distance Sn	4 mm
Generalization parameters	
Basic standard	IEC 60947-5-2

— Wiring diagram



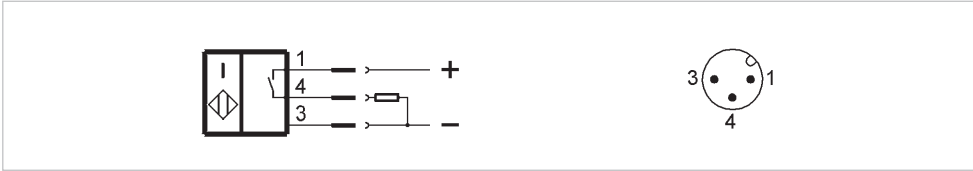


— Technical Parameters

Name		Technical Parameters
Functional Safety		
MTTF (40 °C)		770 a
Interface		
Switch outputs		PNP normally open contact (NO)
Display/Operation		
Function display		yes
Operating voltage display		No
Mechanical parameters		
Fixed length		49.50 mm
Mounting		Flush
Dimension		Ø12 x 65 mm
Compressive strength, tips		Pressure resistance
Tightening torque		10 Nm ±10 %
Maximum compressive strength		60 bar
Structural dimensions		M12x1
Material		
Housing material		Stainless steel, coated, PIFE
Induction surface, material		Stainless steel, coated, PIFE
Environmental conditions		
EN 60068-2-27, Shock		Half-sine, 30gn, 11ms
EN 60068-2-6, Vibration		55 Hz, amplitude 1 mm, 3x30 min
Contamination level		3
Ambient temperature		-25.....70°C
Protection class		IP67

Electrical parameters	
Residual wave, max (% of Ue)	10 %
Ready delay tv, max	23 ms
Operating voltage Ub	10~30 VDC
Application classification	Dc -13
Switching frequency	500 Hz
Maximum residual current Ir	10 µA
Max. reactive current Io, without attenuation	2 mA
Max. reactive current Io, attenuation	6 mA
Maximum load capacitance, at Ue	1 µF
Measured operating voltage Ue DC	1 µF 24 V
Measured operating current Ie	200 mA
Measurement of short-circuit current	100 A
Measured insulation voltage Ui	75 V DC
Voltage drop, static, max	2 V
Output resistance RA	100.0 kOhm
Electrical connection	
Reverse polarity protection	yes
Interface	M12x1-Male, 4-Pin, A-Code
Short Circuit Protection	yes
Prevents confusion	yes
Range/Distance	
Safety switching distance Sa	3.2 mm
Switching distance marking	■ ■
Repeatability, max. (% of Sr)	5.0 %
Temperature drift, max. (% of Sr)	10 %
True switching distance Sr	4 mm
True switching distance Sr, tolerance	±10 %
Hysteresis H, max (% of Sr)	15.0 %
Rated switching distance Sn	4 mm
Generalization parameters	
Basic standard	IEC 60947-5-2

— Wiring diagram



Capacitive Series

Proximity sensors

ELE capacitive proximity switches adopt advanced capacitive sensing technology, featuring high sensitivity and non-contact detection. The product can stably detect metallic and non-metallic objects and is suitable for various harsh industrial environments. With compact design, easy installation, excellent anti-interference ability and long life performance, ELE capacitive proximity switches are widely used in automation control systems, and are ideal for object position detection, counting and positioning control to ensure efficient and reliable production processes.

— Specificities

- High Precision Sensing
Adopting advanced capacitive sensing technology to realize accurate detection of tiny objects.
- Wide applicability
Can not only detect metal, but also effectively recognize non-metallic objects, such as plastic, paper, etc.
- Strong environmental adaptability
Able to operate stably in harsh industrial environments such as high temperature, humidity and dust.
- Convenient installation
Compact design makes installation easier and faster, saving space.
- High reliability
Excellent anti-interference ability and long life performance to ensure long-term stable operation.

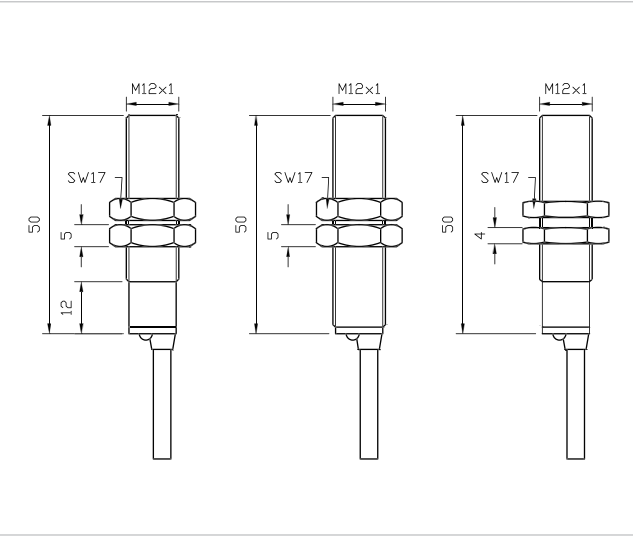
M12 Flush



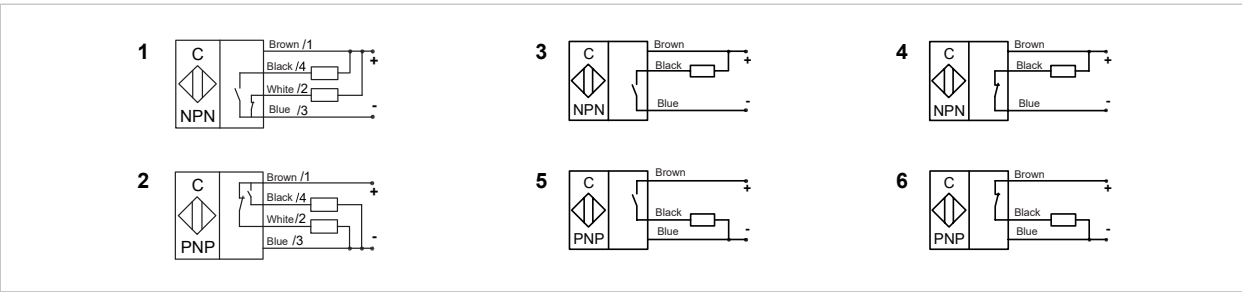
— Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2 × 200 mA
Maximum voltage drop	≤ 2.0 V
No-load current	< 15 mA
Maximum switching frequency	300 Hz
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67 (EN 60947-5-2)
Cables	4 x 0.14 mm²/3 x 0.14 mm²
Protection circuit	Short circuit, reverse polarity, overload protection

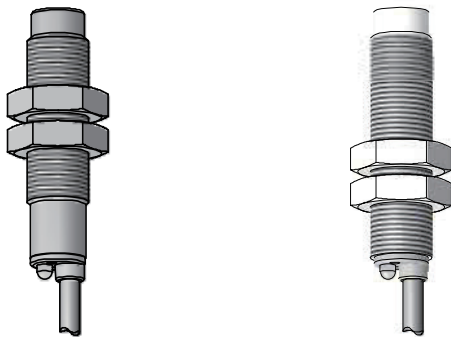
— Dimension drawing



— Wiring diagram



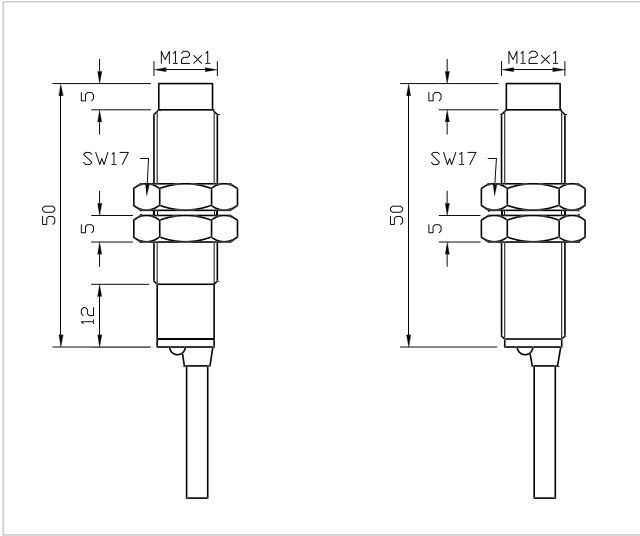
M12 Non-flush



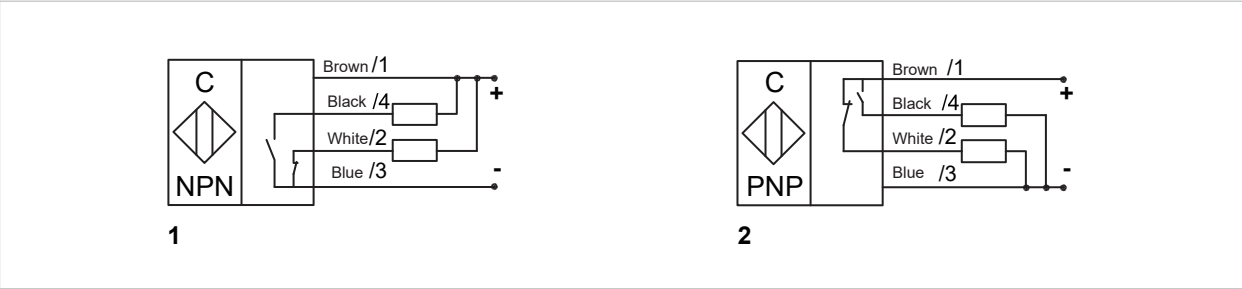
— Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2x200 mA
Maximum voltage drop	≤ 2.0 V
No-load current	<15 mA
Maximum switching frequency	50 HZ
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67 (EN 60947-5-2)
Cables	4x0.14 mm²
Protection circuit	Short circuit, reverse polarity, overload protection

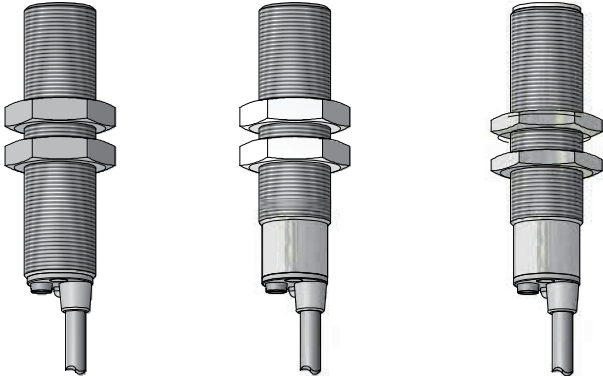
— Dimension drawing



— Wiring diagram



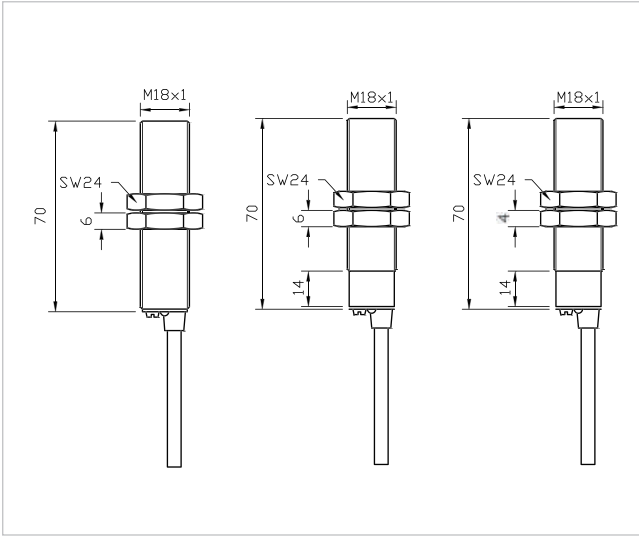
M18 Flush



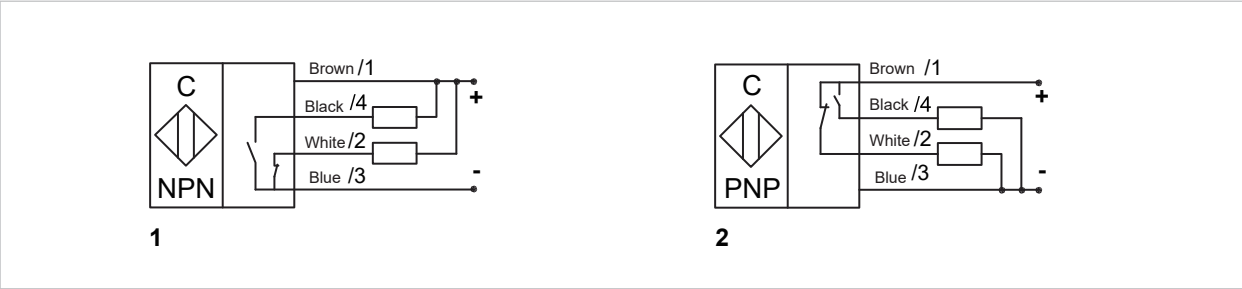
— Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2 x 200 mA
Maximum voltage drop	≤ 2.0 V
No-load current	< 15 mA
Maximum switching frequency	200 Hz
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67 (EN 60947-5-2)
Cables	4x0.34 mm²
Protection circuit	Short circuit, reverse polarity, overload protection

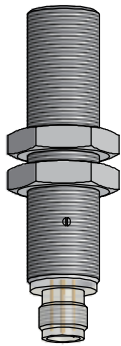
— Dimension drawing



— Wiring diagram



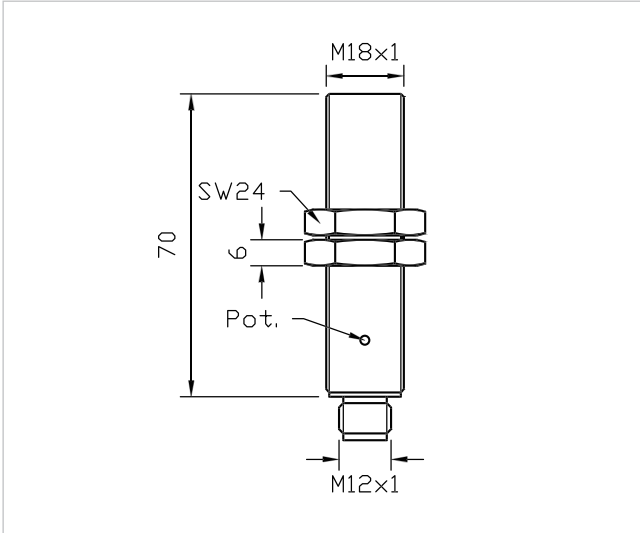
M18 Flush



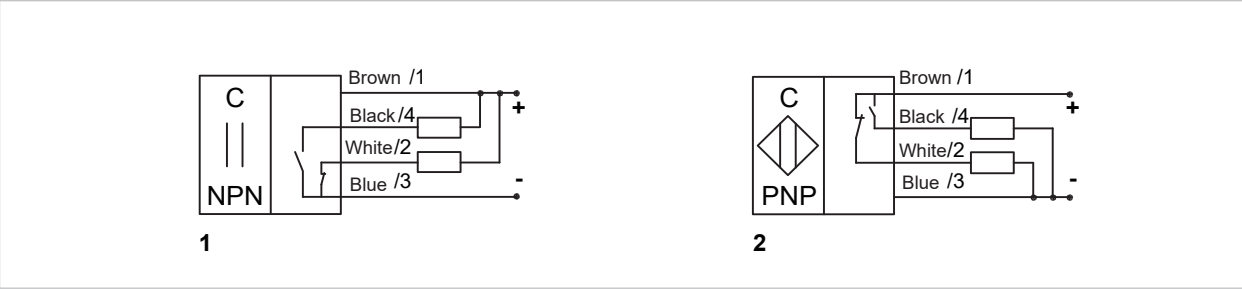
Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2x200 mA
Maximum voltage drop	≤ 2.0 V
No-load current	< 15 mA
Maximum switching frequency	200 HZ
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67(EN 60947-5-2)
Cables	M12x1,4pin
Protection circuit	Short circuit, reverse polarity, overload protection

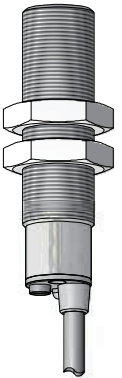
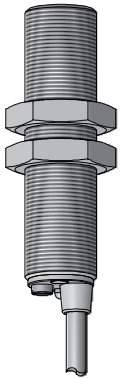
Dimension drawing



Wiring diagram



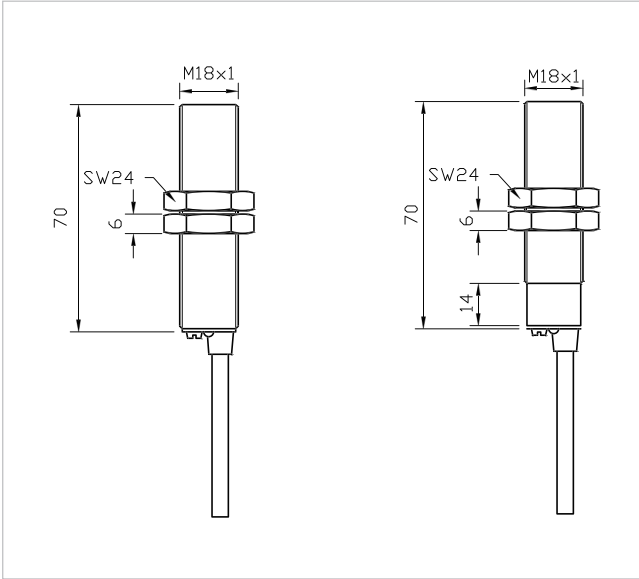
M18 Flush



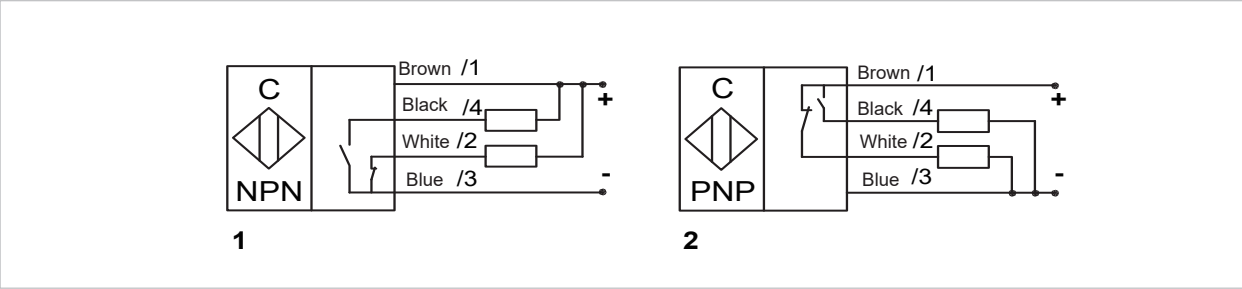
Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2 x 200 mA
Maximum voltage drop	≤2.0 V
No-load current	< 15 mA
Maximum switching frequency	200 Hz
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	P67 (EN 60947-5-2)
Cables	4x0.34 mm²
Protection circuit	Short circuit, reverse polarity, overload protection
Commissioning method	Commissioning buttons

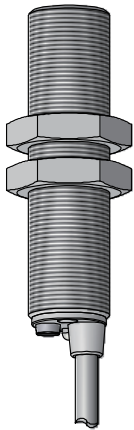
Dimension drawing



Wiring diagram



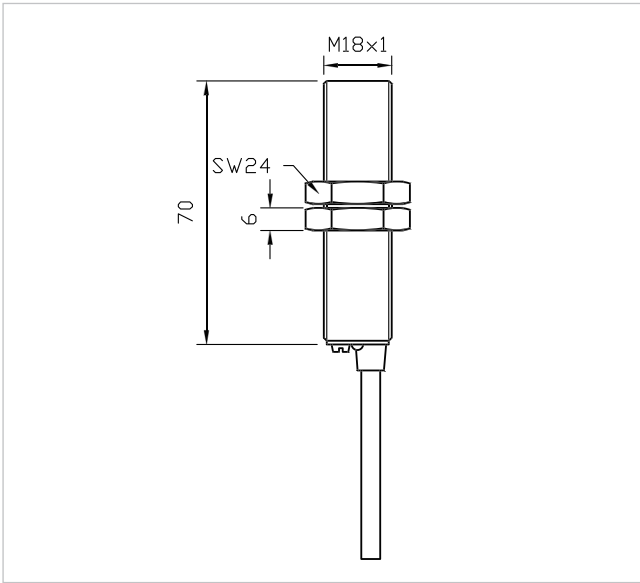
M18 Flush



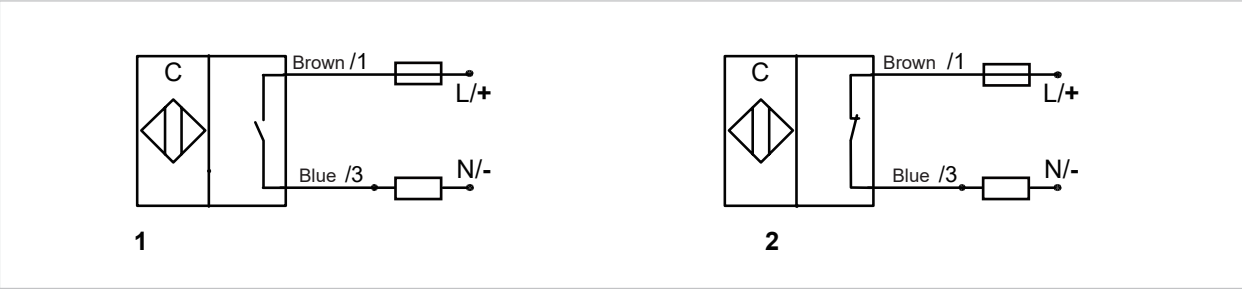
— Technical Parameters

Name	Technical Parameters
Upply voltage	20 ... 250 V AC/DC
Maximum output current	250 mA
Minimum load current	5 mA
Maximum voltage drop	≤ 6.0 V
No-load current	<2.5 mA
Maximum switching frequency	25 Hz
Indicator lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67 (EN 60947-5-2)
Cables/connectors	2x0.34 mm²
Protection circuits	Short circuit, reverse polarity, overload protection

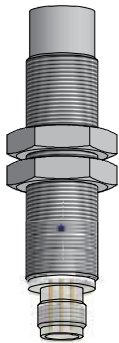
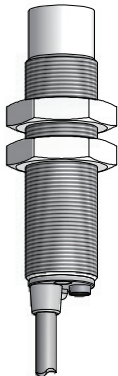
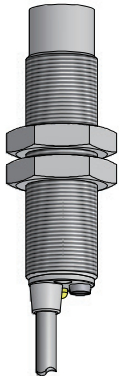
— Dimension drawing



— Wiring diagram



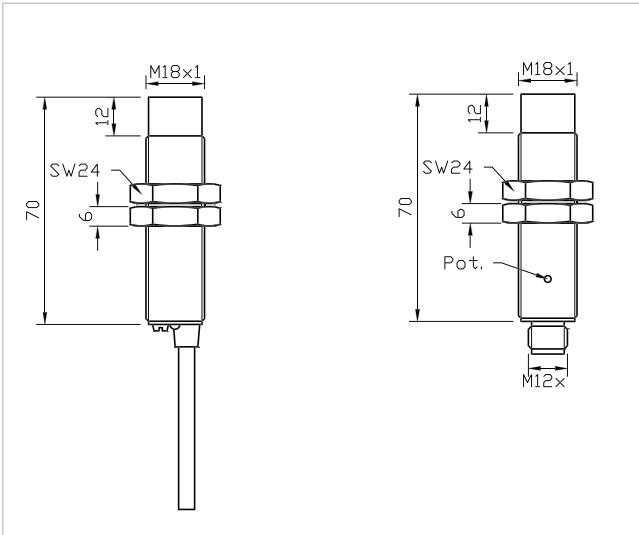
M18 Non-flush



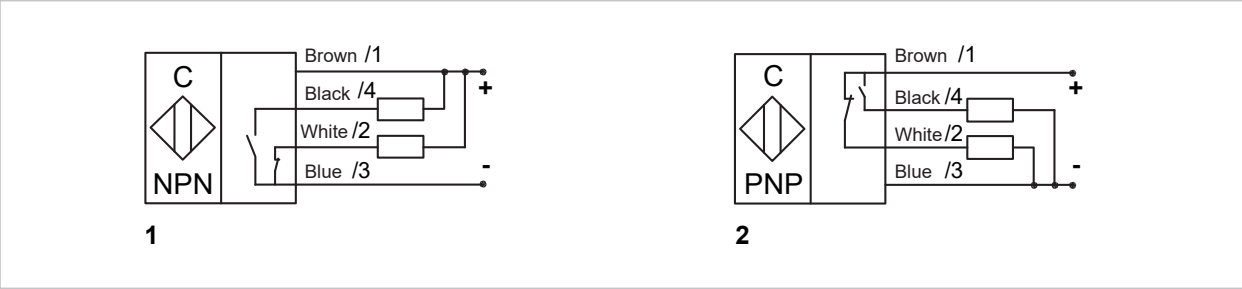
— Technical Parameters

Name	Technical Parameters
Supply Voltage	12 ... 30 VDC
Maximum output current	2 x 200 mA
Maximum voltage drop	≤2.0 V
No-load current	< 15 mA
Maximum switching frequency	50 HZ
Indicator Lamp	Yellow color
Ambient temperature range	-25 ... +70°C
Protection class	IP67 (EN 60947-5-2)
Cables/connectors	4x0.34 mm²/M12x1,4pin
Protection circuits	Short circuit, reverse polarity, overload protection

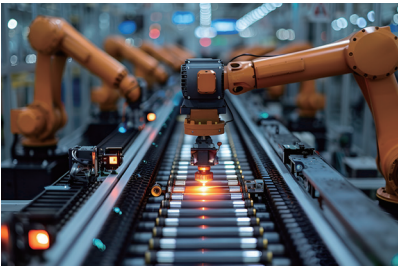
— Dimension drawing



— Wiring diagram



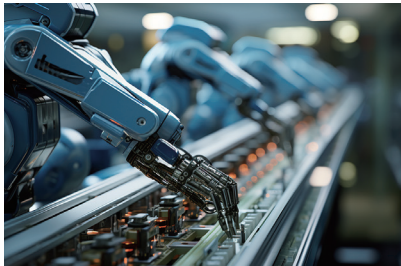
— Areas of application



Industrial automation



logistics control



Robotics



Smart home

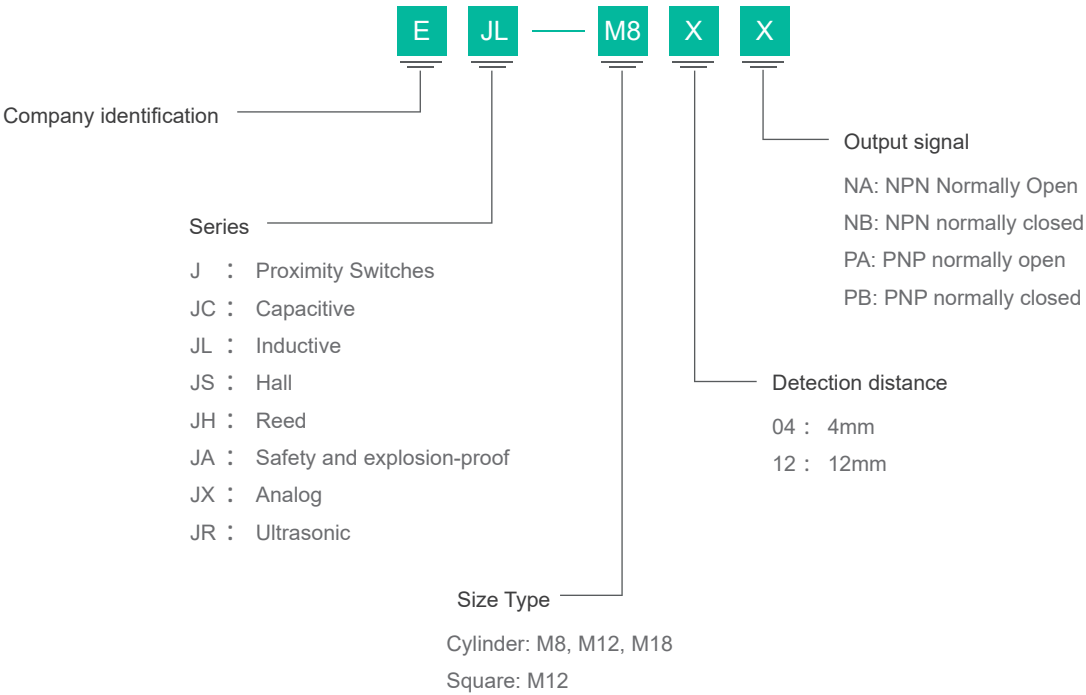


Safety protection



Transportation

— Product Selection Chart



01

No Attenuation Series

Inductive sensors with high sensitivity and non-attenuating response to metals

02

High Pressure Resistant Series

Designed for high-pressure environments. Stable and reliable

03

Capacitive Series

Detects both metals and non-metals. High sensitivity and long service life

E308 Series

Pressure sensors

ELE pressure sensors utilize high-precision sensing technology to accurately monitor liquid or gas pressure changes in real time. Its rugged design is suitable for a variety of harsh industrial environments to ensure long-term stable operation. ELE pressure sensors have excellent anti-interference ability and wide measuring range, widely used in industrial automation, hydraulic systems, process control and other fields, to provide reliable pressure monitoring and control solutions for the system.

— Specificities

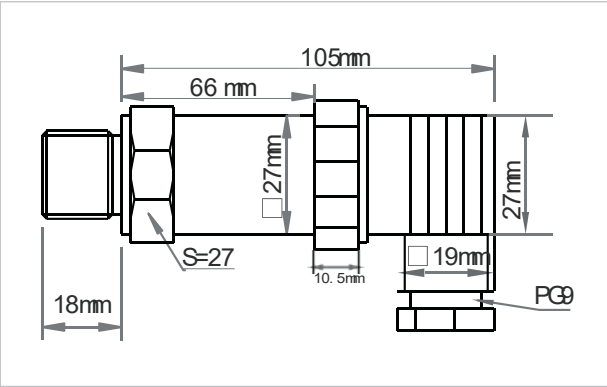
- Adoption of diaphragm isolation technology
- Integrated chip, wide voltage power supply
- Compact structure, easy to install
- Intercept frequency design, strong anti-interference ability
- Current limit, voltage limit, reverse connection protection (limit current output)



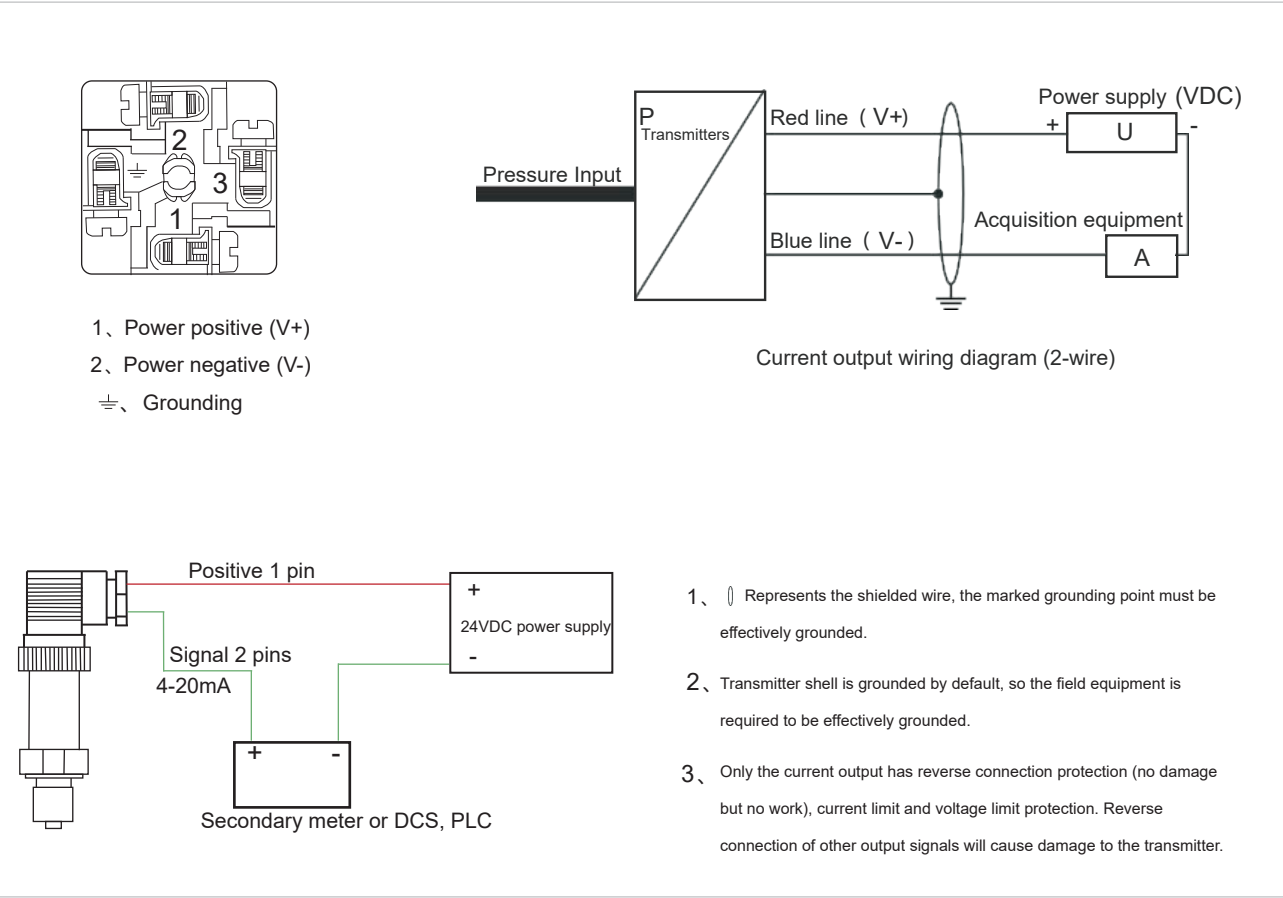
— Technical Parameters

Name	Technical Parameters	
Measuring medium	Liquid or gas (compatible with contact material)	
Overall material	Diaphragm: 316L stainless steel (contact)	Process connection: 304 stainless steel (contact)Shell: 304 stainless steel Seal: Buna-N (contact) Hussman connector: ABS engineering plastics
Pressure range	0-0.6~2.5MPa	
Pressure mode	Gauge pressure	
Output signal	4~20mA, RS485 (standard Modbus-RTU protocol)	
Supply voltage	8-30VDC	
Accuracy Class	0.5%FS	
Working conditions	Medium temperature: 20~80°C Ambient temperature: 20~85°C	
	Ambient Humidity 0%~95%RH (no condensation, no dew)	
Temperature Compensation	10~70°C	
Vibration resistance	10g(20~2000Hz)	
Overload capacity	200% full scale	
Response Frequency	Analog signal output 10-2400Hz	
	Digital signal output 10-40Hz	
	Stability:±0.2%FS/year	
Temperature Drift	±0.02%FS/°C (within temperature compensation range)	
Overall Weight	≈190g	
Protection class	IP65	
	Note: The above protection level refers to the power range reached after the electrical connection is complete: current type ≤ 0.02Us (W)Digital ≤ 0.015US (W), Note: Us = supply voltage	
Load Characteristics	Current load ≤ {(Us-7.5)÷0.02(Us=supply voltage)}Ω	

— Dimension drawing



Wiring diagram



Areas of application



Constant pressure water supply



Thermal system



Heat exchanger



Injection mold

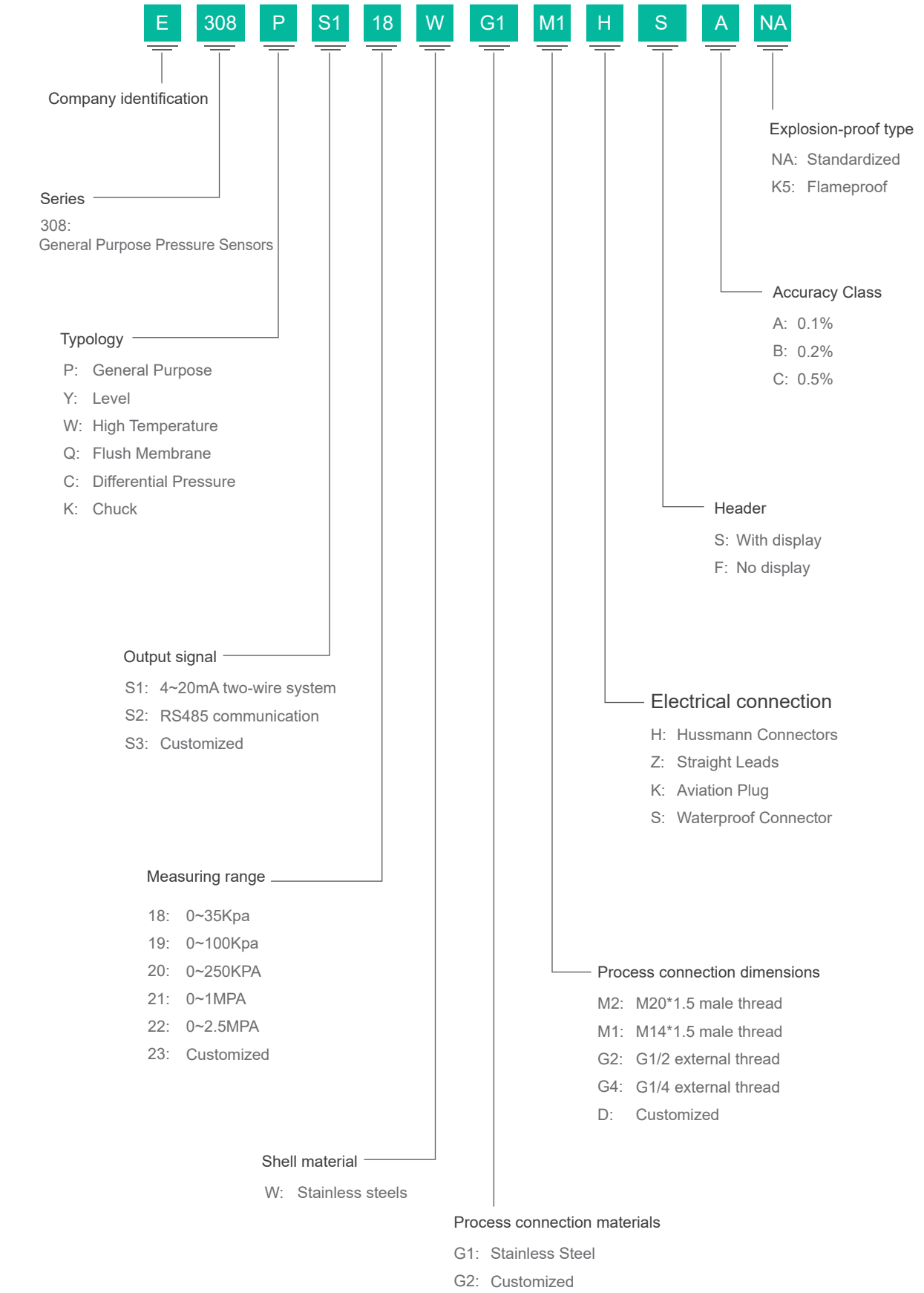


Environmental monitoring



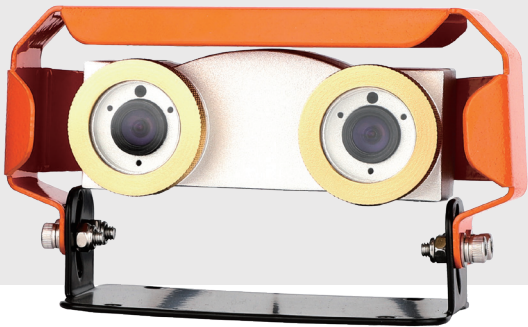
Mine monitoring

Product Selection Chart



CCD vision

ELE CCD vision system combines the latest artificial intelligence technology and high-precision inspection technology, specially designed for paper cup manufacturing industry. It can effectively detect the gluing status of paper cups, with an inspection speed of up to 300 pieces per minute and an accuracy rate of more than 99%, ensuring production quality. Equipped with high-definition camera and intelligent dimming system, it can adapt to various industrial environments. Real-time monitoring through industrial touch screen, easy to operate. Modular design, easy to expand and upgrade, helping paper cup manufacturers to improve efficiency and reduce costs.



— Specificities

- Integrated and efficient design
Integration of multi-functional modules simplifies wiring, reduces maintenance costs, and improves ease of use and system reliability.
- Industrial-grade interactive experience
Equipped with 10.1-inch high brightness touch screen, supporting multi-touch, intuitive display of real-time data, easy to quickly adjust and monitor.
- High-performance and Stable Configuration
Industrial-grade motherboard, adapting to the harsh industrial environment, rich hardware interfaces, supporting the expansion of multi-scenario applications.
- Reliable interface and connection
Customized aviation plug data cable ensures stable and reliable connection, and the industrial aviation connector is anti-dumb design to prevent misplugging. Acquisition network port supports high-speed data transmission, with trigger, reject, alarm and other interfaces to meet diversified needs.
- Intelligent detection and efficient processing
Combined with AI algorithm, it realizes high-precision detection. Detection speed is up to 300 pieces/minute to meet the needs of high-speed production lines.

— Technical parameters

Camera Features and Performance	
High Definition Imaging with High Dynamic Response	
Resolution (of a photo)	1280×1024 pixels, supporting high precision visual inspection, providing clear images and rich details.
Color capture	Full-color imaging, adapting to multi-spectrum needs in complex scenes.
Chip sensitive area	5.12×4.1 mm ensures higher light intake and light sensitivity for excellent performance in low-light environments.
Fast and efficient data processing	
Maximum frame rate	213.9 FPS, meets the needs of high-speed motion target detection, avoiding leakage or dragging phenomenon.
Pixel size	4 μm×4 μm, providing higher signal-to-noise ratio and detail reproduction capability, suitable for precision industrial applications.
Adaptable to a wide range of industrial environments	
Shutter mode	Global shutter technology, designed for dynamic scenes, eliminates motion blur and distortion.
Interface	Adopt industrial grade high-speed aviation connector, stable transmission, strong anti-interference ability.
Transmission distance	Support more than 5 meters transmission, no additional relay equipment, flexible wiring.
Intelligent dimming system	
High-performance dimming chip	Adopting high-performance dimming chip, it can realize wide range of brightness adjustment.
Self-developed dimming system	Equipped with the company's self-developed dimming system, and the depth of the software adaptation, according to the detection needs of dynamic adjustment of the light source brightness, to ensure the best detection effect.
Lgh brightness and high precision dimming	The dimming system supports high luminance output to meet the inspection tasks that require strong light illumination. At the same time, the dimming precision is high, and the resolution of brightness adjustment reaches 0.1%.
Real-time regulation and intelligent control	The software supports real-time control of light intensity, so that users can quickly adjust the brightness of the light source through the interface according to the actual inspection scene, which further improves the inspection efficiency and accuracy.
Compact camera size	
Sizes	40 x 40 x 62 mm, compact and easy to install and use in space-constrained environments.

Visual Inspection Software Features	
AI Algorithm support	
Dispensing inspection	Supports a variety of glue inspection needs, including hot glue, cold glue, glue with, glue dumping and other states.
Multi-point inspection	Multiple areas can be inspected at the same time to improve production efficiency and inspection coverage.
Efficient Processing Capability	Inspection speed up to 300 pieces / minute, to meet the real-time inspection needs of high-speed production lines.
Stability and accuracy	Combined with hardware performance optimization algorithms, it is able to cope with error correction and accurate judgment in complex environments.
Visual Data Presentation	Real-time display of inspection results and abnormality information for operators to make quick decisions.