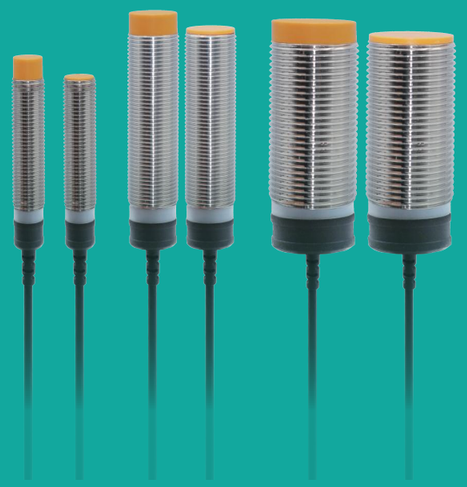
EB-M 3-WIRE CYLINDRICAL PROXIMITY SENSOR



Complete category

The product specification is complete in size, and the model can be selected according to the installation requirements.

Quality assurance

Adopts specialized IC for longer service life.

Protection circuit

Surge protection circuit, short circuit protection, reverse polarity protection.

Protection level IP67

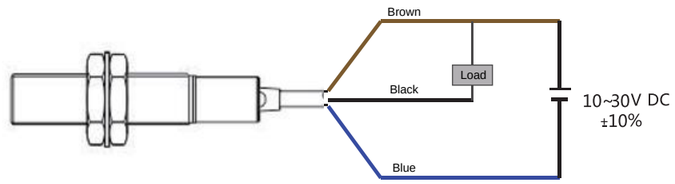
Realizes IP67 protective construction, excellent resistance to water and oil.

Selection rule

EB – M 30 KN 20 N C – ☐

- Dimension: standard body length (default not written) C2= wire length 2m (default not written)
- Output: O= normally open (default not written) C= normally closed
- Signal: N=NPN P=PNP
- Distance: 1, 2, 4, 8, 10, 15, 20
- Convex header: KN non-flush KS flush LN double non-flush LS double flush
- Diameter: 5, 8, 12, 18, 30
- Shape: M threaded cylinder Q square front W square top
- Category: EB= Inductive proximity EB-DR= Capacitive proximity

Connection diagram



Category

	Category	Dimension	Detection distance	NPN type	PNP type	Output action
Standard distance type	Flush	M5	1mm	EB-M05KS01N	EB-M05KS01P	Normally open
				EB-M05KS01NC	EB-M05KS01PC	Normally close
	Flush	M8	1.5mm	EB-M08KS01N	EB-M08KS01P	Normally open
				EB-M08KS01NC	EB-M08KS01PC	Normally close
	Non-flush	M8	2mm	EB-M08KN02N	EB-M08KN02P	Normally open
				EB-M08KN02NC	EB-M08KNO2PC	Normally close
	Flush	M12	2mm	EB-M12KSO2N	EB-M12KS02P	Normally open
				EB-M12KSO2NC	EB-M12KS02PC	Normally close
	Non-flush	M12	4mm	EB-M12KN04N	EB-M12KN04P	Normally open
				EB-M12KN04NC	EB-M12KN04PC	Normally close
	Flush	M18	4mm	EB-M18KS04N	EB-M18KS04P	Normally open
				EB-M18KS04NC	EB-M18KS04PC	Normally close
	Non-flush	M18	8mm	EB-M18KN08N	EB-M18KN08P	Normally open
				EB-M18KN08NC	EB-M18KN08PC	Normally close
	Flush	M30	10mm	EB-M30KS10N	EB-M30KS10P	Normally open
				EB-M30KS10NC	EB-M30KS10PC	Normally close
	Non-flush	M30	16mm	EB-M30KN16N	EB-M30KN16P	Normally open
				EB-M30KN16NC	EB-M30KN16PC	Normally close

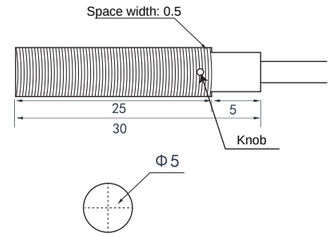
Product parameters

Item \ Model	Category				
					
	EB-M05KS	EB-M08KS EB-M08KN	EB-M12KS EB-M12KN	EB-M18KS EB-M18KN	EB-M30KS EB-M30KN
Outer diameter size	5mm	8mm	12mm	18mm	30mm
Detection distance	1.0mm±10%	2mm±10%	4mm±10%	8mm±10%	15mm±10%
Setting distance	0~1.2mm	0~1.6mm	0~4mm	0~8mm	0~14mm
Detecting objects (iron)	8x8x1mm	12x12x1mm	18x18x1mm	30x30x1mm	54x54x1mm
Answer frequency	1KHZ			500HZ	
Repeated accuracy	0.01mm				
Detecting objects	Magnetic metal (reduced detection distance for non-magnetic metal)				
Hysteresis distance	Less than 10% of detection distance				
Power supply voltage	10~30VDC				
Current consumption	10mA or below				
Control output	Load power supply current 100mA or below (residual voltage 1V or below)				
Indicator light	Action indicator light (red)				
Motion form	NO: Normally open NC: Normally close				
Protection circuit	Surge protection circuit, short circuit protection, reverse polarity protection				
Ambient temperature	In action: -25 to +70°C In storage: -40 to 85°C (no icing)				
Environmental humidity	In action, in storage: 35-90% RH each (non-frosting)				
Temperature effect	Temperature range -25~70℃, detection distance changes within ±15% for every 23℃ difference.				
Voltage effect	When the rated power supply voltage fluctuates within +15%, the detection distance changes within +1%				
Insulation impedance	50MΩ or above (DC500 megohmmeter) between the charging part and housing				
Voltage-resistant	AC1000V or above at 50/60Hz for 1min between the charging part and housing				
Vibration (durable)	10~55Hz,1.5mm double amplitude, reaches 2h in each direction of X, Y, Z				
Impact (durable)	500m/s² double amplitude, 10 times in each direction of X, Y, Z				
Protection structure	IP67				
Link method	Wire lead type (standard 2m)				
Material – Housing	Copper plating				
Material – Detection surface	PBT				
Material – Fastening nut	Brass plating				
Material – Washer with teeth	Ferrous plating				

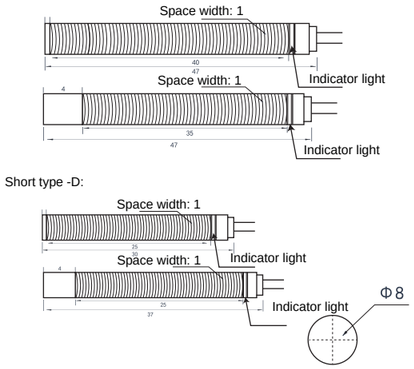
Slotted sensor
Optical fiber sensor
Displacement sensor
Safety sensor
Photoelectric sensor
Proximity sensor
Specialized sensor

Dimension diagram (unit: mm)

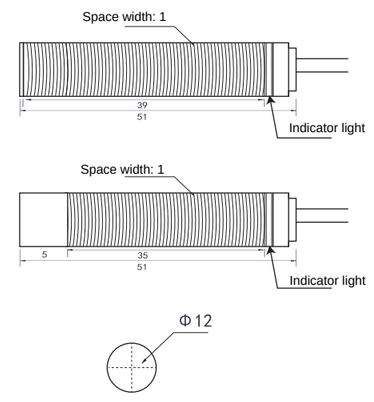
EB-M05KS/KN



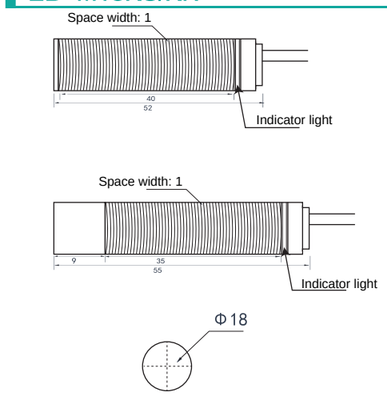
EB-M08KS/KN



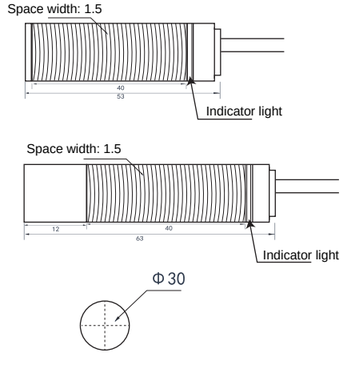
EB-M12KS/KN



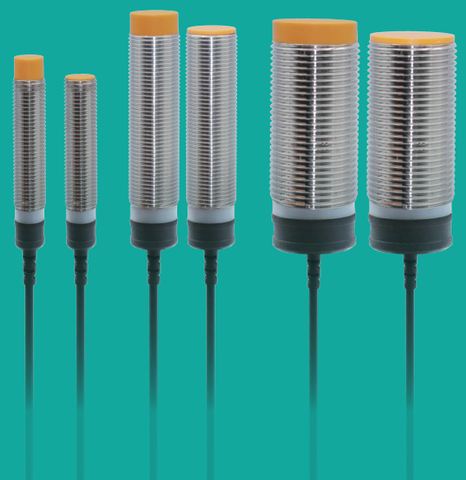
EB-M18KS/KN



EB-M30KS/KN



EB-M DOUBLE DISTANCE CYLINDRICAL PROXIMITY SENSOR



Cylindrical proximity sensor

Complete category

The product specification is complete in size, and the model can be selected according to the installation requirements.

Quality assurance

Adopts specialized IC for longer service life.

Protection circuit

Surge protection circuit, short circuit protection, reverse polarity protection.

Protection level IP67

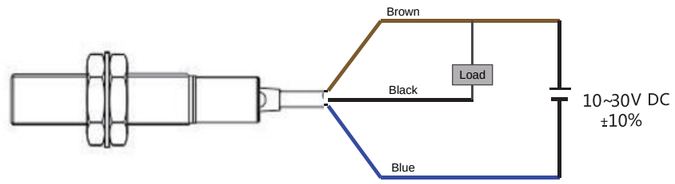
Realizes IP67 protective construction, excellent resistance to water and oil.

Selection rule

EB – M 30 KN 20 N C –

- Dimension: standard body length (default not written) C2= wire length 2m (default not written)
- Output: O= normally open (default not written) C= normally closed
- Signal: N=NPN P=PNP
- Distance: 1, 2, 4, 8, 10, 15, 20
- Convex header: KN non-flush KS flush LN double non-flush LS double flush
- Diameter: 5, 8, 12, 18, 30
- Shape: M Threaded cylinder S Unthreaded cylinder Q Square front W Square top
- Category: EB= Inductive proximity EB-DR= Capacitive proximity

Connection diagram



Category

Double distance type

Category	Dimension	Detection distance	NPN type	PNP type	Output action
Flush	M5	1.5mm	EB-M05LS015N	EB-M05LS015P	Normally open
			EB-M05LS015NC	EB-M05LS015PC	Normally close
Flush	S6	2mm	EB-S06LSO2N	EB-S06LSO2P	Normally open
			EB-S06LSO2NC	EB-S06LS02PC	Normally close
Non-flush	S6	4mm	EB-S06LN04N	EB-S06LN04P	Normally open
			EB-S06LN04NC	EB-S06LN04PC	Normally close
Flush	M8	2mm	EB-M08LSO2N	EB-M08LSO2P	Normally open
			EB-M08LS02NC	EB-M08LS02PC	Normally close
Non-flush	M8	4mm	EB-M08LN04N	EB-M08LN04P	Normally open
			EB-M08LN04NC	EB-M08LN04PC	Normally close
Flush	M12	4mm	EB-M12LS04N	EB-M12LS04P	Normally open
			EB-M12LS04NC	EB-M12LS04PC	Normally close
Non-flush	M12	8mm	EB-M12LN08N	EB-M12LN08P	Normally open
			EB-M12LN08NC	EB-M12LN08PC	Normally close
Flush	M18	8mm	EB-M18LS08N	EB-M18LS08P	Normally open
			EB-M18LS08NC	EB-M18LS08PC	Normally close
Non-flush	M18	15mm	EB-M18LN15N	EB-M18LN15P	Normally open
			EB-M18LN15NC	EB-M18LN15PC	Normally close
Flush	M30	15mm	EB-M30LS15N	EB-M30LS15P	Normally open
			EB-M30LS15NC	EB-M30LS15PC	Normally close
Non-flush	M30	25mm	EB-M30LN25N	EB-M30LN25P	Normally open
			EB-M30LN25NC	EB-M30LN25PC	Normally close

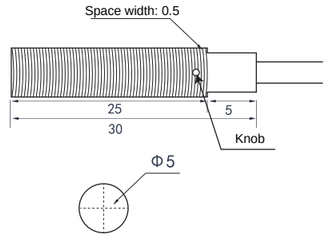
Product parameters

Item \ Model						
Category						
	EB-M05LS	EB-M08LS EB-M08LN	EB-M12LS EB-M12LN	EB-M18LS EB-M18LN	EB-M30LS EB-M30LN	
Outer diameter size	5mm	8mm	12mm	18mm	30mm	
Detection distance	1.5mm±10%	2mm±10%	4mm±10%	8mm±10%	15mm±10%	25mm±10%
Setting distance	0~1.2 mm	0~1.6 mm	0~4 mm	0~8 mm	0~14 mm	0~14 mm
Detecting objects (iron)	8×8x1mm	12×12x1mm	15×15×1 mm	18×18x 1mm	30×30x1mm	54x54x1mm	54x54x1mm
Answer frequency	1KHZ			500HZ		
Repeated accuracy	0.01mm					
Detecting objects	Magnetic metal (reduced detection distance for non-magnetic metal)					
Hysteresis distance	Less than 10% of detection distance					
Power supply voltage	10~30VDC					
Current consumption	10mA or below					
Control output	Load power supply current 100mA or below (residual voltage 1V or below)					
Indicator light	Action indicator light (red)					
Motion form	NO: Normally open NC: Normally close					
Protection circuit	Surge protection circuit, short circuit protection, reverse polarity protection					
Ambient temperature	In action: -25 to +70°C In storage: -40 to 85°C (no icing)					
Environmental humidity	In action, in storage: 35-90% RH each (non-frosting)					
Temperature effect	Temperature range -25~70℃, detection distance changes within ±15% for every 23℃ difference.					
Voltage effect	When the rated power supply voltage fluctuates within +15%, the detection distance changes within +1%					
Insulation impedance	50MΩ or above (DC500 megohmmeter) between the charging part and housing					
Voltage-resistant	AC1000V or above at 50/60Hz for 1min between the charging part and housing					
Vibration (durable)	10~55Hz,1.5mm double amplitude, reaches 2h in each direction of X, Y, Z					
Impact (durable)	500m/s² double amplitude, 10 times in each direction of X, Y, Z					
Protection structure	IP67					
Link method	Wire lead type (standard 2m)					
Material	Housing	Copper plating				
	Detection surface	PBT				
	Fastening nut	Brass plating				
	Washer with teeth	Ferrous plating				

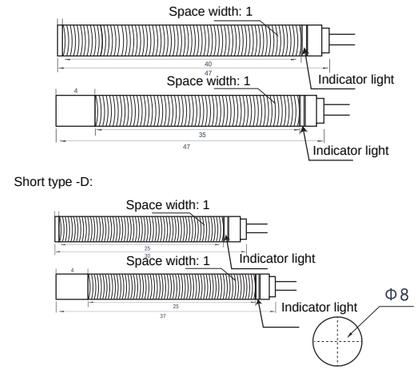
Slotted sensor
Optical fiber sensor
Displacement sensor
Safety sensor
Photoelectric sensor
Proximity sensor
Specialized sensor

Dimension diagram (unit: mm)

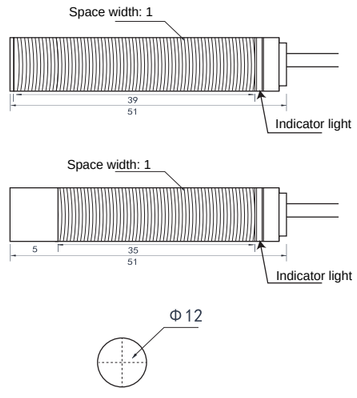
EB-M05LS/LN



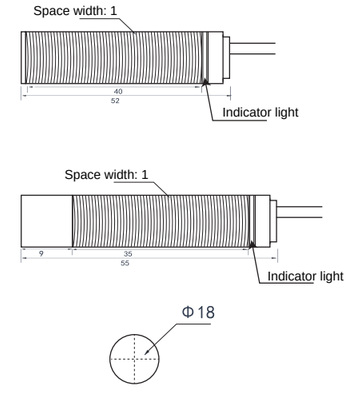
EB-M08LS/LN



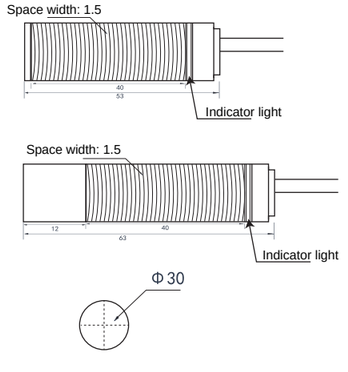
EB-M12LS/LN



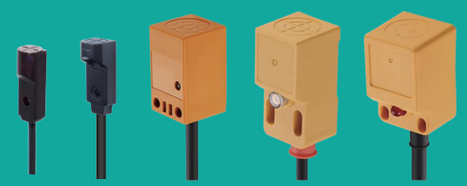
EB-M18LS/LN



EB-M30LS/LN



EB SQUARE PROXIMITY SENSOR



Complete category

A wide range of products are available for a variety of limiting control, counting control, etc. Models can be selected according to installation requirements.

Quality assurance

Adopts specialized IC for longer service life.

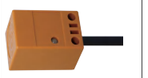
Easy installation

Easy to install and can be used for high-speed pulse generators, high-speed rotary controllers, etc.

Cost advantage

Realization of high-performance, cost-effective standard proximity sensors.

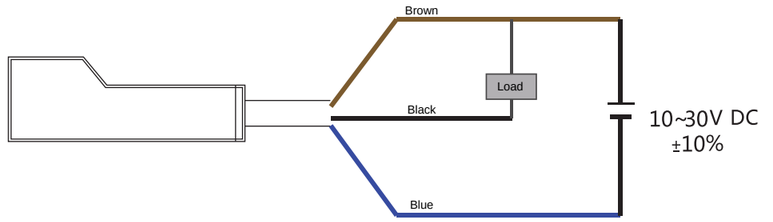
Category

Shape			Detection distance	Output form	Model: Action mode NO	Model: Action mode NC
Unshielded		□ 8	2mm	NPN	EB-Q2N	EB-Q2NC
		□ 12	3mm		EB-Q3N	EB-Q3NC
		□ 17	4mm		EB-Q4N	EB-Q4NC
		□ 17	5mm		EB-Q5N	EB-Q5NC
		□ 25	10mm		EB-Q10N	EB-Q10NC

Product parameters

Item model		EB-Q2N	EB-Q3N	EB-Q4N	EB-Q5N	EB-Q10N
Detection distance		2mm	3mm	4mm	5mm	10mm
Setting distance		0-1.5mm	0-2.5mm	0-3.5mm	0-4.5mm	0-9mm
Hysteresis		Less than 10% of detection distance				
Detectable object		Magnetic metal				
Standardized detecting object		Iron 8×8×1mm	Iron 15×15×1mm			
Response time		--	2ms or below			
Response frequency		500 Hz				
Power supply voltage (service voltage range)		DC12~24V Ripple (P-p) 10% or below (DC10~30V)				
Current consumption		15mA or below (at DC24V, no load)			10mA or below (when DC24V)	
Control output	Switching capacity	NPN open collector 100mA or below (DC30V or below)			NPN open collector, 50mA or below (DC30V or below) PNP open collector, 50mA or below (DC30V or below)	
	Residual voltage	1V or below (at load current of 100mA and wire length of 2m)			1V or below (at load current of 100mA and wire length of 2m)	
Indicator light		Detection display (red)				
Action mode (when detecting the proximity of object)		NO			NO	
		Metal detection only				
Protection circuit		Reverse connection protection, surge absorption				
Ambient temperature range		When operating and storage: -10~+60℃ each (no icing or condensation)			When operating and storage: -25~+70℃ each (no icing or condensation)	
Ambient humidity range		When operating and storage: 35~95% RH each (no condensation)				
Temperature effect		Within ±10% of the detection distance at +23℃ in the temperature range of -10~+60℃			Within ±20% of the detection distance at +23℃ in the temperature range of -25~+70℃	
Voltage effect		Within ±10% of rated power supply voltage, ±2.5% or below of detection distance at rated power supply voltage				
Insulation resistance		50MΩ or above (DC500V megohmmeter) between the whole charging part and housing			50MΩ or above (DC500V megohmmeter) between the whole charging part and housing	
Voltage-resistant		AC1,000V 1min between the whole charging part and housing			AC500V50/60Hz 1min between the whole charging part and housing	
Vibration (durable)		10~55Hz upper and lower amplitude 1.5mm 2h in each direction of X, Y, Z				
Impact (durable)		1,000m/s² 10 times in each direction of X, Y, Z			200m/s² 10 times in each direction of X, Y, Z	
Protection structure		IEC standard IP67, intracompany standard oil resistance			IEC standard IP67	
Connection method		Direct outgoing wire 2 meters				
Quality (after packaging)		Approx. 60g			Approx. 90g	
Material	Housing	Heat-resistant ABS				
	Detection surface					

Wiring diagram



EB FLAT PROXIMITY SENSOR

Installation Method

There are top detection/front detection types.

Can be installed anywhere

The sensor is only the size of a fingertip and is not limited by any installation space.

Cost advantage

Realization of high-performance, cost-effective standard proximity sensors.

Bend-resistant cable type available

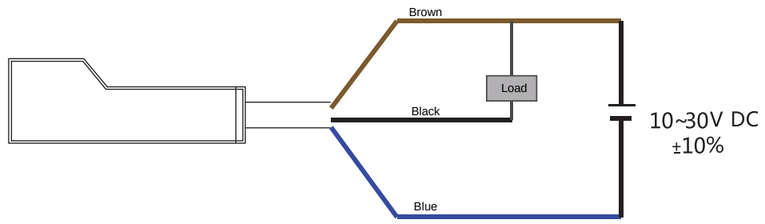
Improves bending resistance by 10 times (note: -GR)。 Best suited for movable parts such as robot arms.

Shape			Detection distance	Output form	Model	
					Action mode	
					NO	NC
Unshielded		□8	2mm	NPN	EB-W2N	EB-W2NC
		□8	2mm		EB-WS2N	EB-WS2NC
		□10	3mm		EB-W3N	EB-W3NC
		□12	4mm		EB-W4N	EB-W4NC
		□17	5mm		EB-W5N	EB-W5NC

Product parameters

Item model		EB-W2N EB-WS2N	EB-W3N EB-W4N	EB-W5N
Detection distance		2mm	3mm	5mm
Setting distance		0-1.5mm	0-2.5mm	0-4.5mm
Hysteresis		Less than 10% of detection distance		
Detectable object		Magnetic metal		
Standardized detecting object		Iron 8×8×1mm	Iron 15×15×1mm	
Response time		--	2ms or below	
Response frequency		500 Hz		
Power supply voltage (service voltage range)		DC12~24V Ripple (P-p) 10% or below (DC10~30V)		
Current consumption		15mA or below (at DC24V, no load)	10mA or below (when DC24V)	
Control output	Switching capacity	NPN open collector 100mA or below (DC30V or below)	NPN open collector, 50mA or below (DC30V or below) PNP open collector, 50mA or below (DC30V or below)	
	Residual voltage	1V or below (at load current of 100mA and wire length of 2m)	1V or below (at load current of 100mA and wire length of 2m)	
Indicator light		Detection display (red)		
Action mode (when detecting the proximity of object)		NO	NO	
Protection circuit		Metal detection only		
Ambient temperature range		Reverse connection protection, surge absorption		
Ambient humidity range		When operating and storage: -10~+60℃ each (no icing or condensation)	When operating and storage: -25~+70℃ each (no icing or condensation)	
Temperature effect		When operating and storage: 35~95% RH each (no condensation)		
Voltage effect		Within ±10% of the detection distance at +23℃ in the temperature range of -10~+60℃	Within ±20% of the detection distance at +23℃ in the temperature range of -25~+ 70℃	
Insulation resistance		Within ±10% of rated power supply voltage, ±2.5% or below of detection distance at rated power supply voltage		
Voltage-resistant		50MΩ or above (DC500V megohmmeter) between the whole charging part and housing	50MΩ or above (DC500V megohmmeter) between the whole charging part and housing	
Vibration (durable)		AC1,000V 1min between the whole charging part and housing	AC500V50/60Hz 1min between the whole charging part and housing	
Impact (durable)		10~55Hz upper and lower amplitude 1.5mm 2h in each direction of X, Y, Z		
Protection structure		1,000m/s² 10 times in each direction of X, Y, Z	200m/s² 10 times in each direction of X, Y, Z	
Connection method		IEC standard IP67, intracompany standard oil resistance	IEC standard IP67	
Quality (after packaging)		Direct outgoing wire 2 meters		
Material	Housing	Approx. 60g	Approx. 90g	
	Detection surface	Heat-resistant ABS		

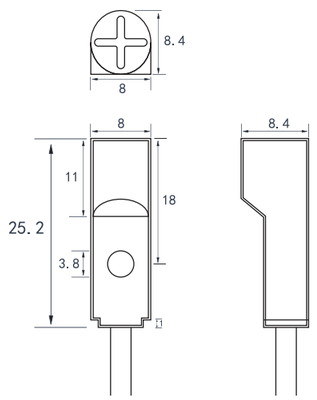
Wiring diagram



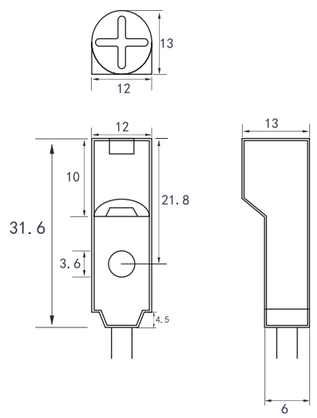
Square proximity sensor

Dimension diagram (unit: mm)

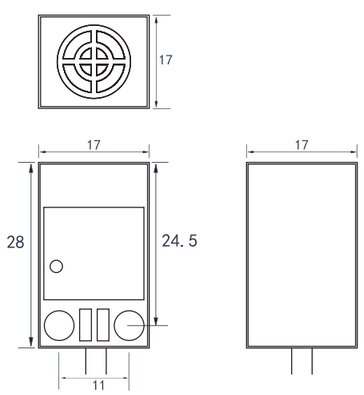
EB-Q2N



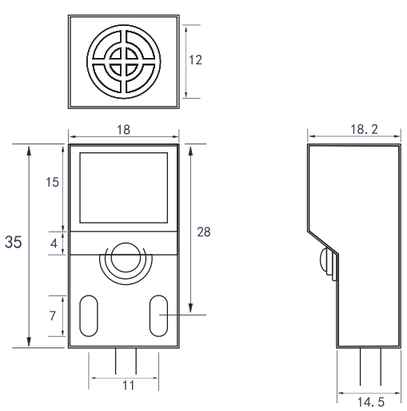
EB-Q3N



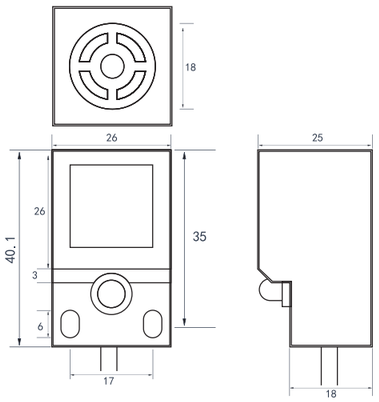
EB-Q4N



EB-Q5N

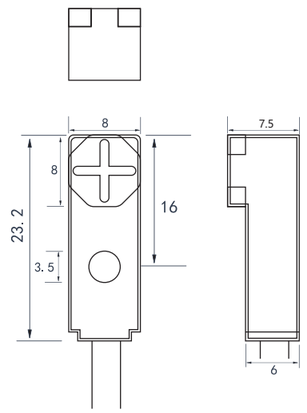


EB-Q10N

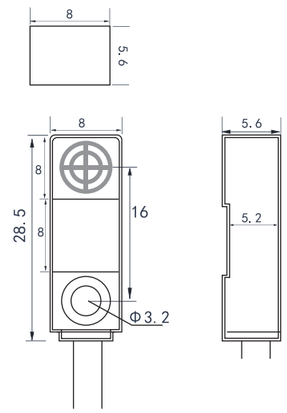


Dimension diagram (unit: mm)

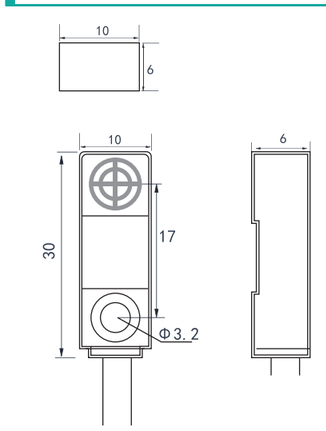
EB-W2N



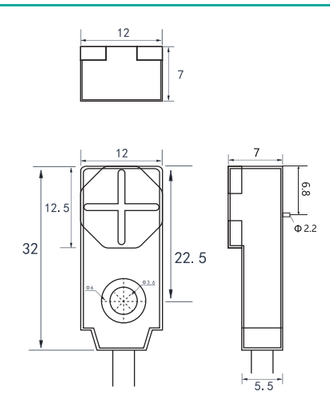
EB-WS2N



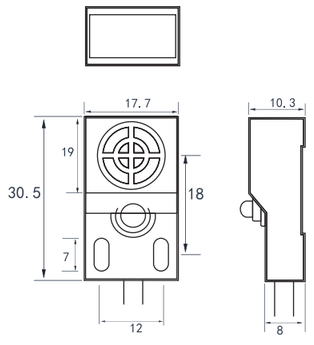
EB-W3N



EB-W4N



EB-W5N

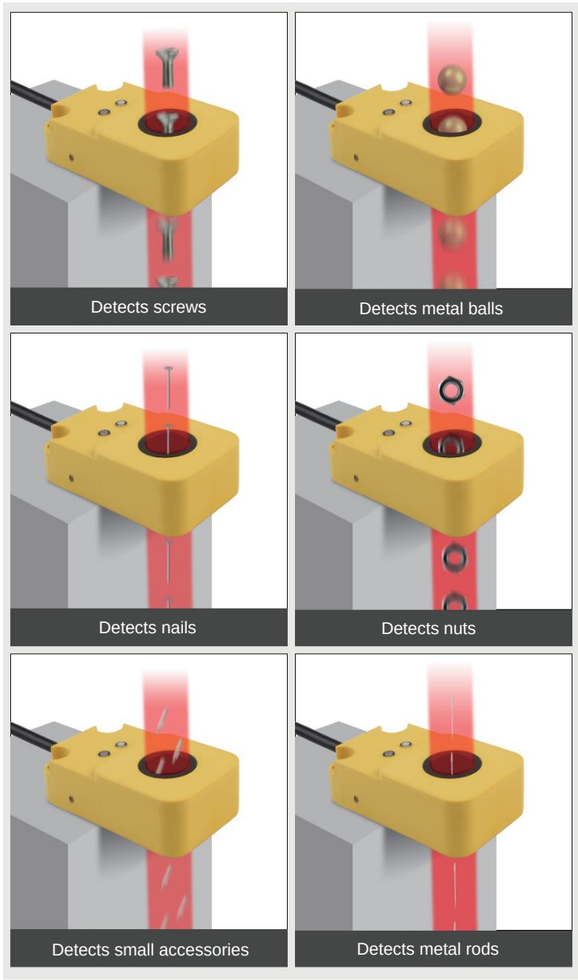


EB-C 3-WIRE RING PROXIMITY SENSOR

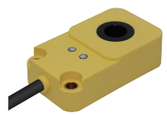
Characteristics

- Non-contact position detection, wear-free and highly reliable
- High sensitivity, high repeated accuracy, product service life up to 8 years
- A wide range of housing materials, from stainless steel and nickel-copper alloys to plastics and Teflon coatings
- Complete range of sizes, covering almost all sizes
- IP67 protection level design, excellent water and oil resistance

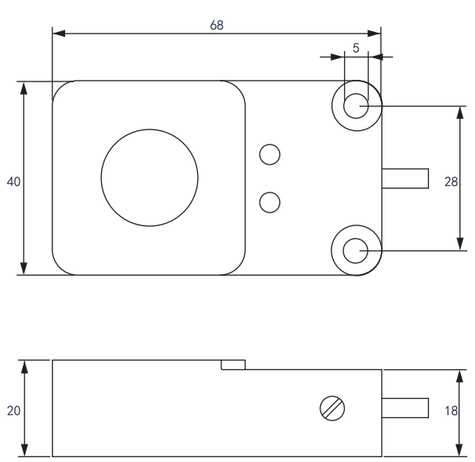
Application scenario



Product parameters

Appearance			
Model	EB-C06	EB-C10	EB-C15
Hole diameter	6mm	10mm	15mm
Hole height	20mm		
Operating voltage	10~30VDC (voltage fluctuation <10%)		
Residual voltage	<1.5V		
Max. carry current	150mA		
Current consumption	<15mA		
Leakage current	<10mA		
Switching frequency	2 KHz	1.5 KHz	1 KHz
Minimum detected object	D=2.5mm;L=4mm	D=3mm;L=6mm	D=6mm;L=12mm
Repeated accuracy	<2.0%(Sr)		
Hysteresis	<15%(Sr)		
Housing material	PBT		
Operating temperature	-25℃~+75℃		
Protection circuit	Short circuit protection/reverse polarity protection		
Protection level	IP67		

Dimension diagram (unit: mm)



EB-DRM CAPACITIVE PROXIMITY SENSOR

Characteristics

Able to sense any object


Metallic conductor


Insulator


Non-metallic plastic

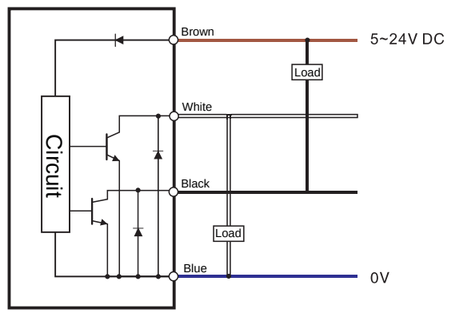

Liquid

- Sensitivity adjustable
- Detects all objects such as water, plastics, human body, etc.
- Strong anti-interference, adaptable to various complex industrial environments

The detection distance varies depending on the conductivity and dielectric constant of different materials.

Material	Water	Alcohol	Glass	Wood	Paper	Rubber	Crystal	Nylon
Action distance	100%	85%	40%	30%	25%	30%	20%	20%

Circuit

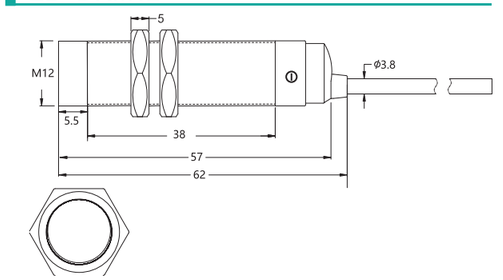


Product parameters

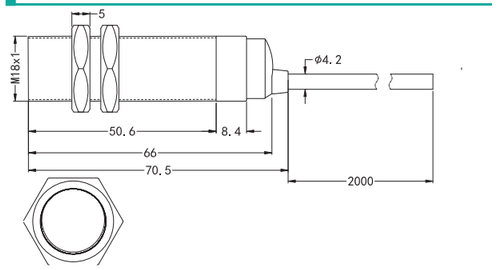
Appearance		
Model	EB-DRM12	EB-DRM18
Dimension	M12 Front sensing	M18 Front sensing
Detection distance	0~6mm Distance adjustable	0~12mm Distance adjustable
Detectable object	Metal, water, oil, glass, plastic, paper	
Operating voltage	12~24VDC (voltage fluctuation <10%)	
Residual voltage	<1.5V	
Max. carry current	100mA	
Current consumption	<22 m	
Leakage current	<1.1mA	
Response time	≤14ms	
Isolation resistance	≥20MΩ(500VDC)	
Hysteresis	<10%(Sr)	
Insulation and voltage resistance	AC 1000V 60Hz for 60 Sec	
Operating temperature	-20℃~+60℃	
Protection level	P66	
Wire outgoing method	φ4.2*2m 4-core wire	
Weight	Approx. 78g	

Dimension diagram (unit: mm)

EB-DRM12



EB-DRM18



EB-DRF CAPACITIVE PROXIMITY SENSOR

Characteristics

Able to sense any object


Metallic conductor


Insulator


Non-metallic plastic

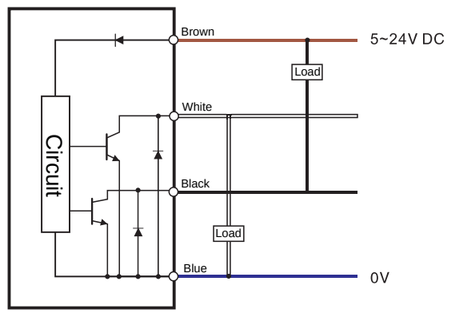

Liquid

- Sensitivity adjustable
- Detects all objects such as water, plastics, human body, etc.
- Strong anti-interference, adaptable to various complex industrial environments

The detection distance varies depending on the conductivity and dielectric constant of different materials.

Material	Water	Alcohol	Glass	Wood	Paper	Rubber	Crystal	Nylon
Action distance	100%	85%	40%	30%	25%	30%	20%	20%

Circuit

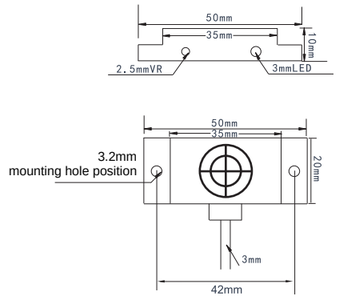


Product parameters

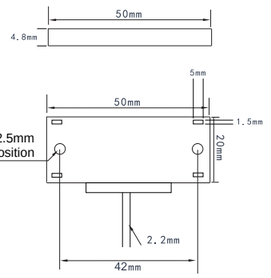
Appearance		
Model	EB-DRF10	EB-DRF05
Dimension	Flat top sensing	Flat top sensing
Detection distance	0~10mm Distance adjustable	0~5 mm
Detectable object	Plastic, Black/Blue	
Operating voltage	24VDC (Ripple<10%)	
Residual voltage	≤1.5V@1L=50mA	
Max. carry current	NPN or PNP-NO/NC	
Current consumption	≤50mA	
Leakage current	≤100mA	
Response time	100 Hz	
Isolation resistance	<5%	
Hysteresis	0℃~+60℃	
Insulation and voltage resistance	≤20%	
Operating temperature	-30℃~+75℃	
Protection level	Reverse polarity protection, pulse overvoltage protection, short circuit protection	
Wire outgoing method	IP67	
Weight	50g	

Dimension diagram (unit: mm)

EB-DRF10



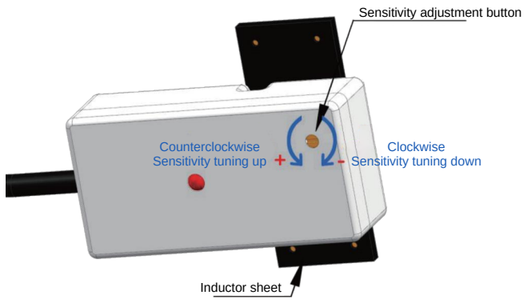
EB-DRF05



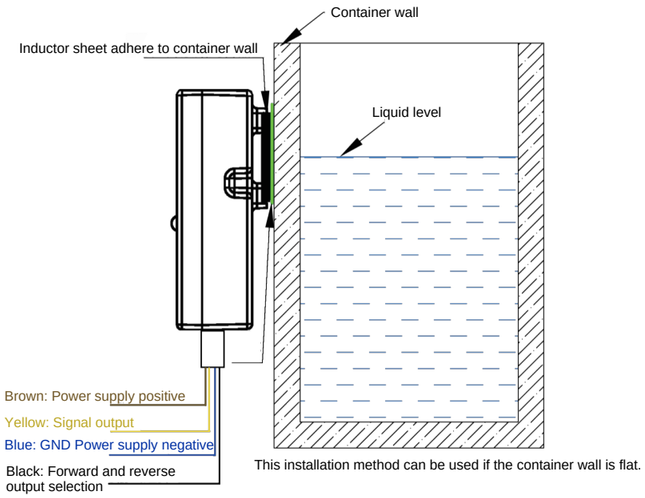
EB-DRY CAPACITIVE LIQUID LEVEL SENSOR

Characteristics

- Intelligent non-contact liquid level sensor (hereinafter referred to as liquid level sensor)
- Adopts advanced signal processing technology and a high-speed signal processing chip,
- Realizes truly non-contact detection of liquid level height in closed containers.



Wiring method



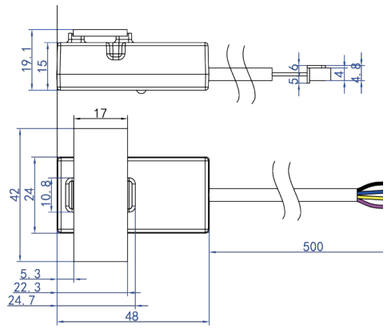
This installation method can be used if the container wall is flat.

Note: Yellow default output relay signal
Black and blue shorted to output NPN signal
Black and brown shorted to output PNP signal

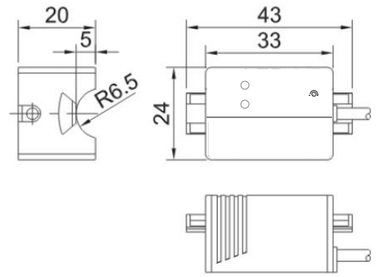
Product parameters

Project name	EB-DRY Capacitive Liquid Level Sensor			
Product specifications	EB-DRY28NO	EB-DRY28NC	EB-DRY15N	EB-DRY15P
DC Input voltage	5-24VDC	5-24VDC	5-24VDC	5-24VDC
Output method	Normally open	Normally close	NPN	PNP
Current consumption	13mA			
Output current	DC24V/2A			
Response time	500mS			
Working environment temperature	-20~105°C			
Inductive sensitivity	Pipe outer diameter D(mm)	Inductive pipe wall thickness L(mm)		
	D≥100	20±3		
	100>D≥80	15±2		
	80>D≥60	12±1.5		
	60>D≥40	7±1.0		
	40>D≥30	5±1.0		
	30>D≥20	3±1.0		
	20>D≥10	1.5±0.5		
Applicable pipe diameter range	≥11mm			
Liquid level accuracy	±1.5mm			
Humidity	5%~100%			
Wire length	500MM(±10MM)(customizable for batch)			
Line end definition	Brown (power supply positive), yellow (signal output)			
	Blue (power supply negative), black (COM terminal)			
Material	PC-VO fireproof material			
Waterproof performance	IP65			
Safety standard certification	CE			
Environmental certification	ROHS2.0			

Dimension diagram (unit: mm)



EB-DRY28



EB-DRY15

EB-HE
HALL PROXIMITY SWITCH

Characteristics

Hall proximity switch working principle:

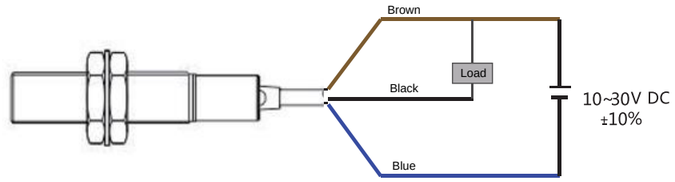
When a piece of metal or semiconductor sheet with current is placed perpendicularly in the magnetic field, the two ends of the sheet will produce a potential difference, this phenomenon is called the Hall effect, the sensitivity degree of the Hall effect and the magnetic induction strength of the applied magnetic field is in proportional relationship.

Hall switch is such active magnetoelectric conversion device, it is based on the principle of Hall effect, using integrated packaging and assembly process, it can be convenient to convert the magnetic input signal into the actual application of the electrical signal, but also practical use in industrial applications with easy operation and reliability requirements. Hall switch has characteristics of no electric shock, low power consumption, long service life, high response frequency, and internal epoxy resin sealing and irrigation into integration, so it can work reliably in all kinds of harsh environments.

Outline dimensions: M8 M12 M18 etc.

Detect polarity: N-pole S-pole unipolar or all-pole (default)

Connection diagram



Product parameters

Appearance		
Model	EB-HEM08N EB-HEM08P	EB-HEM12N EB-HEM12P
Output method	NPN/PNP	
Detection distance	10mm (the detection distance mainly depends on the magnetic force of the magnet)	
Working frequency	3000HZ	
Load current	<200mA	
Circuit protection	Polarity protection output short circuit protection (200mA or above)	
Indicator light	With	
Temperature drift	<±10%	
Housing material	Nickel plated brass	
Cable length	Standard 2m	
Type	Embed	
Standard object	Magnetic steel	
Voltage drop	Less than 1.5V	
Operating temperature	-20℃~70℃	
Operating voltage	-20℃~70℃	
Protection level	12~30V DC	
Current consumption	Less than 15mA	
Detection surface material	Nickel plated brass	