Sensor	Communication	Motor Driver	Control	Appendix
>2D LIDAR SENSOR +360° FE series +360° LE series	>Optical communication +OPCA series +OPT series	>Servo Integrated servo motor Server driver	>Auxiliary Interconnect Controller +MFIO series	>Motor >Wire >Voice player
+320° HE series +270° SE series +120° DE series	+OPS series	>Brushless +BLDC +Hybrid drive		>RFID tag
>Position sensor +IPS series		7		
>Vision sensor +TDCS series				
>Optical distance sensor +SPR series				
+PHR series >Magnetic sensor				
+Magnetic navigation series +Magnetic ruler series +Magnetic landmark series				
+Magnetic tape >RHD sensor				
+RFID series +RH series				
+RFID card writer				





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ø www.hinson-xs.com

fiona@hinson-xs.com

· +86-150 1834 8435

Note: Due to improvements of products, specifications and extrinsic feature may be changed. For newest products information or after-sale questions please contact us or visit Hinson website. The scope of supply and product services are subject to the terms of the contract, and the right to technical changes and modification of documents is reserved.

Cuangdong Hinson Technology Co.,Ltd.



Sensor Industrial automation sensor solution provider Communication Ranging Driver Control Appendix























sensor

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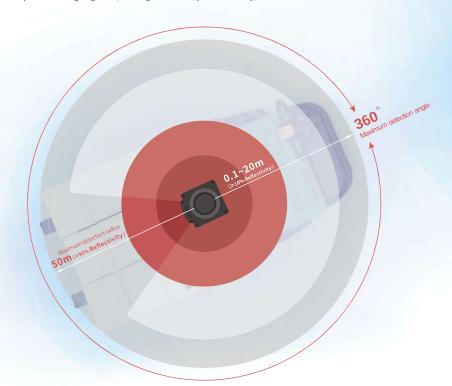
M

FE Series 360°-50m/312°-35m PRT LIDAR Sensor

FE series laser sensor adopts (PRT) pulse ranging technology, which has high resolution, anti-interference, anti tailing, 360° all-round scanning, maximum scanning radius of 50m@resolution of 1mm, new optical circuit and algorithm, measuring frequency up to 540Khz, meeting the needs of positioning mapping, navigation and obstacle avoidance in various application environments.

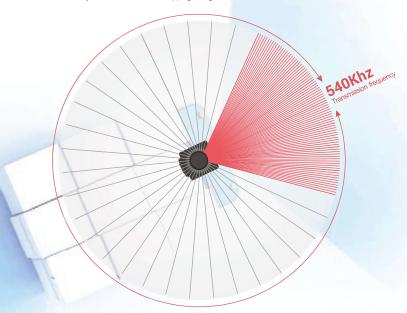
(optional scanning range: 360°, scanning radius: 50m (optional scanning range: 312°, scanning radius: 35m)

Maximum scanning angle: 360°, minimum angle resolution: 0.025°, detection distance: 50m (@90% Reflectivity), optional scanning range: 312°, scanning radius: 35m (@90% Reflectivity).



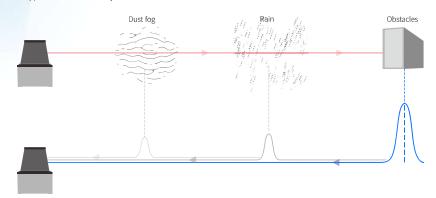
High transmission frequency

The transmission frequency is as high as 540Kz. The high transmission resolution can better output the dense poin cloud data of the detected object, and better realize mapping, navigation and obstacle avoidance.



Multiple echo technology

Multiple echo technology can detect multiple echo signals for each measuring beam, so that echoes caused by rain dust, fog, complex structure objects, etc. in the middle of the transmission beam operation cycle can be identified and filtered and suppressed when necessary.

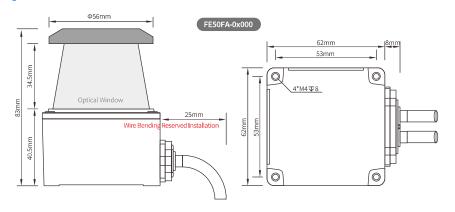


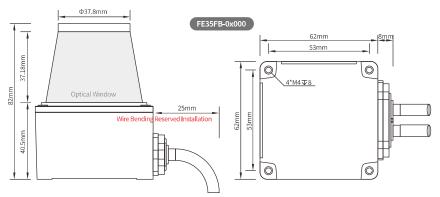
© Support 64 channel selection

Configured through Hinson software, up to 64 channel selections are provided (each channel provides 3 independent detection



Technical parameters









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Series

360

laser sensor

Product Model	FE50FA-0x000	FE35FB-0x000		
eatures				
Detection distance	0.05~50m (≥90% Reflevtivity)	0.05~35m (≥90% Reflevtivity)		
Detection distance	0.05~20m (≥10% Reflevtivity)	0.05~12m (≥10% Reflevtivity)		
Detection angle	360°	312°		
Measurement Frequency	540Khz			
Measurement method	PRT			
	12.5Hz: 750r/min (0.025°	°、0.05°、0.1°、0.25°、0.5°)		
Scanning motor speed	25.0Hz:1500r/min (0.05°、0.1°、0.25°、0.5°)			
	50.0Hz:3000r/min (0.1°, 0.2°, 0.5°)	-		
Identify object shape	Any shape, reflectivity calculated by detection distance			
Measurement resolution	1mm			
Absolute accuracy	±20mm			
Repeat accuracy	±10r	mm		
Scan filter level	±20r	mm		
nterfaces				
Switch input	4*NPN	4*NPN		
Switch output	4*NPN	4*NPN		
CAN	•			
Ethernet	•			
Multi-echo technology	3 (First, Second, Last,	, Maximum Energy)		
Output raw test data	•			
Obstacle-avoidance channels	64 (communication), 16 (IO) - (each channel can provide 3 independent detection ranges)			
1echanics/electronics				
Voltage	DC 10~	~30V		

Voltage	DC 10~30V	
Rated power	< 3.4W	
Laser class	905nm Class 1 (IEC 60825-1:2014)	
Indicator light	4*LED (Green,Yellow, Orange, Red)	
Protection level	IP65	

Ambient data

Object reflectivity	2~1000%
Ambient light	< 80000Lux
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)

Up control

Controller	S≡⊒R ₩IX#	♥ 資本行		
			 Support 	- Not Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550

LE Series 360° TOF laser sensor

LE series adopts 360° full square scanning, a maximum measurement radius of 50 meters, and high-speed optical communication technology to achieve fast and stable data transmission. It has an industry-leading measurement frequency of up to 600KHZ and a minimum angular resolution of 0.018°. The innovative object surface smoothing algorithm and noise jitter filtering level design provide better feedback on the true contour of the tested environment. The simple debugging interface and navigation obstacle avoidance are integrated, making it the best choice for contour scanning, navigation positioning, and safe obstacle avoidance.

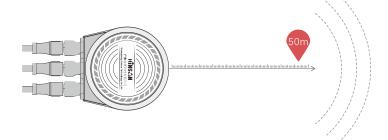


Maximum scanning angle: 360°, minimum angle resolution: 0.018°



Scan radius:50m

Detection distance: minimum 0.1m, maximum 50m (@90% Reflectivity)





Noise filter level

Close, simple, middle, strict can be set

Motor speed

10Hz、15Hz、20Hz、25Hz、30Hz

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laser

sensor

(a) Measurement frequency

50KHz、100KHz、150KHz、200KHz、600KHz

Low power consumption

High speed optical communication technology

 $\label{thm:continuous} Embedded with high-speed optical communication technology, high-speed data transmission, supporting high bandwidth and low latency.$

🔍 Wireless power

The new "wireless power supply" technology, combined with brushless motors, reduces mechanical friction failures during operation and ensures smoother motor operation.



☐ Scan window LED display

Support scanning window LED data display, which can be set to display current IP, motor speed, scanning frequency, etc. Additionally, it supports scrolling/static display of ASCII characters in Simplified Chinese(GB2312).

Friendly operation interface

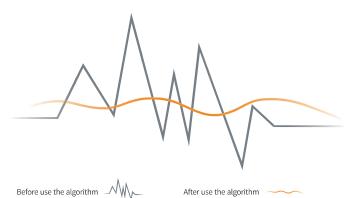
The software UI provides a variety of quick debugging functions, whether it is to quickly draw the sensing range or software simulation, HINSON configuration software can help you complete complex debugging and settings.

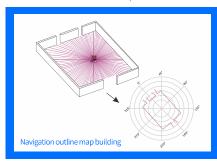


Hinson software visual operation interface

Noise filter

Supports Hinson's unique smoothing filtering algorithm, with extremely low noise and jitter





***** Application

Products are widely used in: AGV vehicle navigation, obstacle avoidance, safe area protection, contour profile environment identify, over-limitation detection, overflow control and counting











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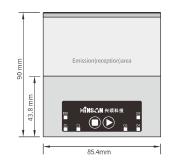
er. M S

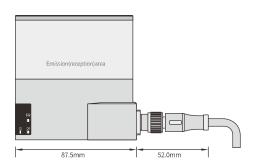
60

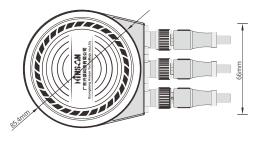
laser

sensor

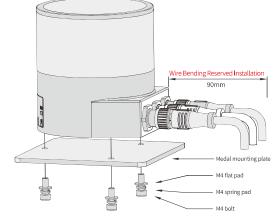
Technical parameter











Note: 1. The bolt length can be adjusted by itself

2. The laser sensor can better dissipate heat by using the metal mounting plate















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	170	1511	170			100		
Product Model	LE-50621	LE-50821	LE-50711	LE-50621FA	LE-50821FA	LE-50711FA		
Features								
Detection distance			0.05~50m (≥9	0% Reflevtivity)				
Detection distance	0.05~20m (≥10% Reflevtivity)							
Detection angle		360°						
Measurement Frequency	50K、100K、	0K						
Scanning motor speed	10Hz、15Hz、20Hz、25Hz、30Hz							
Single point sampling	1~50(Settable)							
Angle resolution			Minimu	m 0.018°				
Identify shape		Any sha	pe, reflectivity calcu	ılated by detection	distance			
Measurement resolution			1m	nm				
Absolute accuracy			±20)mm				
Repeat accuracy			< 10	mm				
Scan filter level	±10mm							
Interfaces								
Switch input	1*6	IPN	-	6*1	IPN	-		
Switch output	1*1	NPN	-	4*1	NPN	-		
RS485 (Modbus RTU)	•	-	•	•	-	•		

Switch input	6*N	IPN	-	6*1	-	
Switch output	4*N	IPN	-	4*1	-	
RS485 (Modbus RTU)	•	-	•	•	-	•
CAN OPEN	•	-	•	•	-	•
Ethernet port	TCP/UDP					
Multi-echo technology		-		3 (First, Se	econd, Last, Maximu	ım Energy)
Obstacle-avoidance channels	64 (each channel can provide 3 independent detection ranges)					

Mechanics/electronics

Voltage	DC 18~60V
Rated power	<7W
Laser class	905nm Class 1 (IEC 60825-1:2014)
Indicator light	6*LED (Green、Red、Red、Yellow、Orange、Orange)
Windows display light	24*360Pixel(Red)
Connection port	M12-4 Female cable, Ethernet port, M12-6 Female cable, power and communication port M12-12 Female cable, IO port
Protection level	IP65

Ambient data

Object Reflectivity	2~1000%
Ambient light	< 80000Lux
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)

Up control

Controller	-	S==R	-	-	-	-	-	-	-
Controller	-	○ 管施行 RUIXINXINS	-	-	-	-	-	-	-
							Suppo	rt – No	ot Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550 sensor

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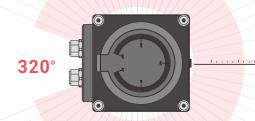
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HE Series 320° TOF laser sensor

HE series laser sensor scanning angle 320., Maximum measuring radius of 30 meters, minimum angular resolution of 0.025°, support for multiple echo functions (HE-3081, HE-3091FA), hardware integrated LED display screen (HE-3051, HE-3061, HE-3081), support for displaying multiple real-time status information, support for setting object surface noise filtering levels, ensure stable output of real point cloud data, suitable for mobile robot navigation, positioning, and obstacle detection.

Maximum scanning radius 30m

Maximum scanning radius 0.1~30 meters (@90% reflectivity).





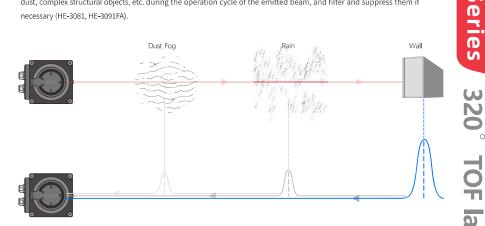
Angular resolution 0.025

Maximum scanning angle: 320°, minimum angle resolution: 0.025°

Minimum angular resolution: 0.025° (optional resolution: 0.025°/0.05°/0.1°/0.25°/0.5° is related to the scanning frequency).

Multiple echo technologies

Multiple echo technology can detect multiple echo signals of each measurement beam, identify echoes caused by rain or dust, complex structural objects, etc. during the operation cycle of the emitted beam, and filter and suppress them if necessary (HE-3081, HE-3091FA).



(iii) High scanning accuracy and small ranging accuracy error

Up to 432KHZ laser scanning frequency, absolute accuracy: ±20mm (30m@90% reflectivity).



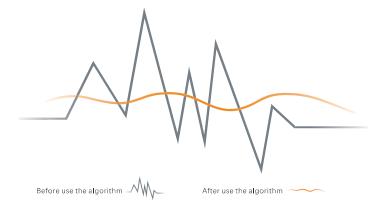
Invisible protective layer

Invisible nano electroplating protective layer to reduce electrostatic adsorption of dust.



W Noise filter

The software and hardware are continuously upgraded to add a smoothing filtering algorithm to solve the problem of scanning contour jitter and tailing, and support the setting of object surface noise filtering level.









AGV identification and navigation Navigation and positioning of service robot

Logistics and warehousing

Support obstacle avoidance area setting

Supporting HINSON visual operation software, the software has comprehensive functions, and the hardware parameter setting is simple. It is suitable for connecting to the upper computer to obtain and call various hardware detection, setting and debugging of scanning data, and supports up to 64 channel selection through software each channel can provide 3 channels. Independent detection range.

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sensor



High resolution LED display intelligent hardware status detection

The LED display window supports scrolling or static display of temperature, motor speed, current IP, gateway, current channel, voltage value and other information (HE-3051, HE-3061, HE-3081).



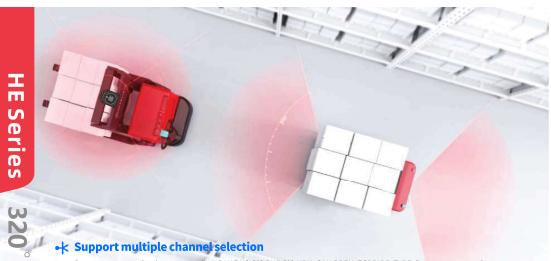
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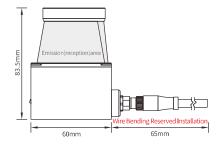
Series

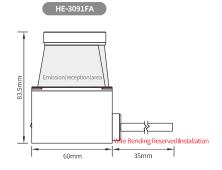


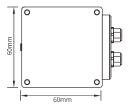
Supports communication ports such as CAN BUS, I/O PNP, I/O NPN, CAN OPEN, TCP/UDP, TYPE-C, etc., to meet various communication needs.



















Product Model	HE-3051	HE-3061	HE-3081	HE-3091FA				
Features								
Detection distance		0.05~30m (≥90	0% Reflevtivity)					
Detection distance		0.05~10m (≥10% Reflevtivity)						
Detection angle		320°						
Measurement points		144KHz 432KHz						
Scanning frequency		10Hz、20Hz		15Hz、30Hz				
Angle resolution	0.0	25°/0.05°/0.1°/0.25°/0.5°(Min	nimum resolution of obstacles ().5°)				
Identify object shape		Any shape, reflectivity calcu	lated by detection distance					
Systematic error		±30mm						
Statistical error		±20mm						
Scan filter level		±10mm						
Detection output time delay		0~500ms(Unfiltered)						
Detection output time delay		0~500ms(Unfiltered)						
Interfaces								
Switch input	-	6*PNP	-	4*NPN				
Switch output	4*NPN	4*PNP	3*NPN	4*NPN				
Configuration port	TCP/UDP	TYPE-C	TCP/UDP	TCP/UDP				
CAN BUS	-	-	CAN OPEN	-				
Multi-echo technology	-	-	3 (First, Second, Las	st, Maximum Energy)				
Obstacle-avoidance channels	64(each channel	can provide 3 independent	detection ranges)	64(communication), 16(IO)				
Mechanics/electronics	5							
Voltage		DC 12~30V						
Rated power		< 3W						
Laser class		905nm Class 1 (IEC 60825-1:2014)						
Indicator light		4*LED (Green,Yell	ow, Orange, Red)					
Protection level		ĮPi	65					

Ambient data

Object reflectivity	2~1000%
Ambient light	< 80000Lux
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)

Up control

Controller	SEER	-	-	SEER
Controller	▽ <香芯行	-	₹.	新 植行 uxuoxuos
			Supple	ort – Not Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550

SE Series 270°TOF laser sensor

The laser scanning sensor adopts TOF technology, which reflects the laser when it encounters an object. After receiving the reflected laser beam, the scanning sensor measures the distance between the sensor and the object by calculating the time difference. It continuously performs two-dimensional scanning within the maximum scanning angle, establishes an environmental contour map through algorithms, and establishes an area protection range. When the environment changes within the set area, the upper computer obtains data and makes further judgments and processing.

270°scanning range Scanning radius:5m/10m

Maximum scanning angle: 270, Minimum angle resolution: 0.1, Maximum detection distance: 10m(@90% Reflectivity).



Support 64 channel selection

Through Hinson software configuration, support 64 channel selection (each channel support 3 independent detection range).



Multiple echo technology

Multi-echo technology can detect multiple echo signals of each measurement beam, so that echoes caused by rain or dust mist, complex structural objects, etc. during the operation cycle of the emitted beam can be identified, and filtered and suppressed when necessary.

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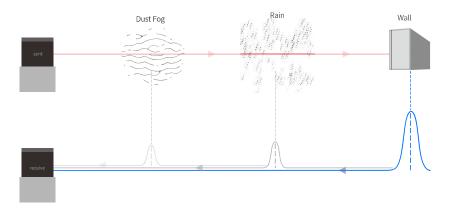
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sensor



Support multiple communication method

Supports communication methods such as RS485, RS232, I/O PNP, I/O NPN, CAN BUS, CAN Open, TCP/UDP, USB (Micro), etc., to meet various communication needs.



™ Invisible protective layer

Invisible nano electroplating protective layer to reduce electrostatic adsorption of dust.



Self-check analysis

Intelligent hardware self-check analysis function, avoid unstable work status, ensure safe operation.



Hinson software visual operation interface





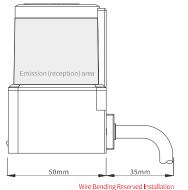
It is widely used in industrial robots (AGV/AMR) intelligent obstacle avoidance, contour construction, navigation, mapping and positioning, etc.

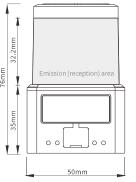
* Application

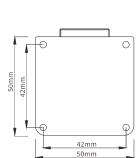
Products are widely used in: AGV vehicle navigation, obstacle avoidance, safe area protection, contour profile environment identify, over-limitation detection, overflow control and counting.



Technical parameter







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Series

laser

sensor

Product Model	SE-0522	SE-0526	SE-0533	SE-0535	
Features					
		0.05~5m (≥Re	flevtivity90%)		
Detection distance		0.05~2m (≥Re	flevtivity10%)		
Detection angle		270	O°		
Angle resolution	0.5°(Mini	mum resolution of obstac	les 0.5°)	0.1° / 0.2°	
Scanning frequency	20Hz				
Identify object shape	Ar	ny shape, reflectivity calcu	lated by detection distance		
Systematic error		±30	mm		
Statistical error		±30	mm		
Scan filter level		±10	mm		
Detection output time delay		0~50	0ms		
Detection hold time-delay		0~50	0ms		
nterfaces					
Switch input	6*NPN	6*PNP	-	-	
Switch output	4*NPN	4*PNP	2*NPN	4*NPN	
Micro-USB	•	•	•	-	
RS232	-	-	•	-	
RS485	-	-	RS485(Modbus RTU)	-	
CAN BUS	-	-	Free Protocol	CAN Open	
Ethernet	-	-	-	•	
Output raw test data	-	-	•	•	
Multi-echo technology	-	-	-	-	
Obstacle-avoidance channels	64(ea	ch channel can provide 3	independent detection rang	ges)	
Mechanics/electronics					
Voltage		DC18-	~32V		
Laser class		905nm Class1 (IE	CC 60825-1:2014)		
Indicator light		4*LED (Green,Yello	ow, Orange, Red)		
Cable		1r	n		
Optical cover coating	-	-	-	-	
Ambient data					
Object reflectivity		2-100	00%		
Ambient light		< 8000	00Lux		
Working environment	In	door -10~50°C <80% RH(No condensation, No frost)		
Jp control					
	-	-	-	SEER	

Controller Support Not Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550

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Product Model	SE-1022	SE-1026	SE-1033	SE-1035		
Features						
Detection distance		0.05~10m (≥F	Reflevtivity90%)			
Detection distance		0.05~6m (≥R	eflevtivity10%)			
Detection angle		2	70°			
Angle resolution	0.5°(Mini	0.1° / 0.2°				
Scanning frequency	20Hz					
Identify object shape	Ar	ny shape, reflectivity calc	ulated by detection distance	9		
Systematic error		±3)mm			
Statistical error		±3)mm			
Scan filter level		±10)mm			
Detection output time delay		0~5	00ms			
Detection hold time-delay		0~5	00ms			
Interfaces						
Switch input	6*NPN	6*PNP	-	-		
Switch output	4*NPN	4*PNP	2*NPN	4*NPN		
Micro-USB	•	•	•	-		
RS232	-	-	•	-		
RS485	-	-	RS485(Modbus RTU)	-		
CAN BUS	-	-	Free Protocol	CAN Open		
Ethernet	-	-	-	•		
Output raw test data	-	-	•	•		
Multi-echo technology	-	-	-	-		
Obstacle-avoidance channels	64(ea	ch channel can provide 3	independent detection ran	iges)		
Mechanics/electronics						
Voltage		DC18	3~32V			
Laser class		905nm Class1 (l	EC 60825-1:2014)			
Indicator light		4*LED (Green,Yel	ow, Orange, Red)			
Cable		1	m			
Optical cover coating	-	-	-	-		
Ambient data						
Object reflectivity		2-10	000%			
Ambient light		< 800	00Lux			
Working environment	In	door -10~50°C <80% RH	(No condensation, No frost)		
Up control						
Combanillari	-	-	-	SEER		
Controller	_	-	-	≪資施行		

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550 S

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Product Model	SE-0522F11	SE-0526F11	SE-0533F11	SE-0535F11	
Features					
		0.05~5m (≥Re	eflevtivity90%)		
Detection distance		0.05~2m (≥Re	eflevtivity10%)		
Detection angle		27	0°		
Angle resolution	0.5°(Min	imum resolution of obstac	cles 0.5°)	0.1° / 0.2°	
Scanning frequency	20Hz				
Identify object shape	А	ny shape, reflectivity calcu	lated by detection distance	e	
Systematic error		±30	lmm		
Statistical error		±30	lmm		
Scan filter level		±10	ımm		
Detection output time delay		0~50	0ms		
Detection hold time-delay		0~50	0ms		
nterfaces					
Switch input	6*NPN	6*PNP	-	-	
Switch output	4*NPN	4*PNP	2*NPN	4*NPN	
Micro-USB	•	•	•	-	
RS232	-	-	•	-	
RS485	-	-	RS485(Modbus RTU)	-	
CAN BUS	-	-	Free Protocol	CAN Open	
Ethernet	-	-	-	•	
Output raw test data	-	-	•	•	
Multi-echo technology		3 (First, Second, Las	t, Maximum Energy)		
Obstacle-avoidance channels	64(ea	ach channel can provide 3	independent detection ran	nges)	
lechanics/electronics					
Voltage		DC18	~32V		
Laser class		905nm Class1 (I	EC 60825-1:2014)		
Indicator light		4*LED (Green,Yell	ow, Orange, Red)		
Cable		1	m		
Optical cover coating	•	•	•	•	
mbient data					
Object reflectivity		2-10	00%		
Ambient light		< 800	00Lux		
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)				
Jp control					
	_	_	_	SEER	

Controller Support Not Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550

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	Product Model	SE-1022F11	SE-1026F11	SE-1033F11		
Maria I	Features 0.05~1					
Detection distance		0.05~10m (≥Reflevtivity90%)				
		0.05~6m (≽Reflevtivity10%)				
Detection angle		270°				
Angle resolution		0.5°(Minimum resolution of obstacles 0.5°)				
Scann	ing frequency	20Hz				

Identify object shape	Any shape, reflectivity calculated by detection distance

Systematic error \pm 30mm ±30mm Statistical error

Scan filter level $\pm 10 \text{mm}$ Detection output time delay 0~500ms Detection hold time-delay 0~500ms

Interfaces

Switch input 6*NPN 6*PNP - - Switch output 4*NPN 4*PNP 2*NPN 4*NPN Micro-USB ● ● - -
Micro-USB ● —
RS232
RS485 RS485(Modbus RTU) -
CAN BUS Free Protocol CAN Open
Ethernet
Output raw test data – – •
Multi-echo technology 3 (First, Second, Last, Maximum Energy)
Obstacle-avoidance channels 64(each channel can provide 3 independent detection ranges)

Mechanics/electronics

Voltage	DC18~32V				
Laser class	905nm Class1 (IEC 60825-1:2014)				
Indicator light	4*LED (Green, Yellow, Orange, Red)				
Cable	lm				
Optical cover coating	•	•	•	•	

Ambient data

Object reflectivity	2-1000%			
Ambient light	< 80000Lux			
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)			

Up control

Combroller	-	-	-	S≡≡2
Controller	-	-	-	○ 資芯行

Support - Not Supported

SEER SRC-2000/SRC-3000/SRC-880 RUIXINXING XMC100/XMC300/XMC500/XMC550 laser

sensor

(4 Line scan)

S

erie

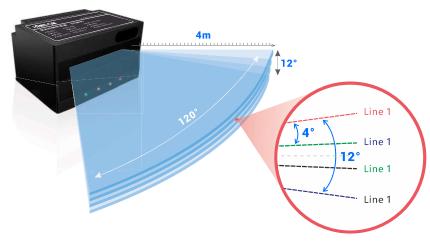
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DE Series 120°TOF Laser sensor (4 Line scan)

Newly upgraded DE series

120° Scan angle

Scan angle: 120°, minimum angle resolution: 0.1°

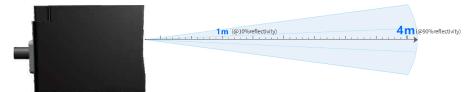


4 Line scan

4-line scan, the interval angle between adjacent scan lines: 4°, the maximum angle that can be scanned by 4 lines: 12°, the thread channel can be configured by software.

Scan distance: 4m

Detection range: 0.25~1m (@10%reflectivity), 0.25~4m (@90%reflectivity).



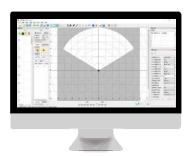


Low power consumption

Static power<1.2W, Suitable for a variety oflow-power applications.

Real time data output

Support Ethernet to output four-line point cloud data, flexibly respond to various complex scenarios.

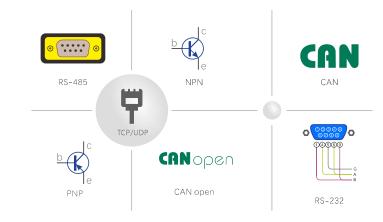


Hinson software visual operation interface



Multiple communication method

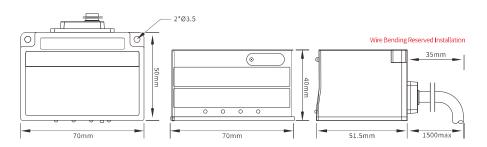
IO PNP、IO NPN、RS232、RS485、CAN、CANopen、Ethernet TCP/UDP,Support multiple channel switch



Maximum Support 64 channel selection

Through Hinson software configuration, support 64 channel selection (each channel support 3 independent detection range)





Product Model	DE-4211	DE-4611	DE-4311	DE-4511	
Features					
Detection distance		0.05~4m (≥Re	eflevtivity90%)		
Detection distance	0.05~1.5m (≥Reflevtivity10%)				
Detection angle	120°(4 Thread -Maximum thread angle 12°)				
Angle resolution	0.5° (Minimum resolution of obstacles 0.5°) 0.1° / 0.2°				
Scanning frequency	10Hz*4				
Identify object shape	Any shape, reflectivity calculated by detection distance				
Measurement accuracy	±40mm				
Scan filter level	±10mm				
Detection output time delay	0~500ms				
Detection hold time-delay	0~500ms				

Interfaces

Switch input	4*NPN	4*PNP	-	-
Switch output	4*NPN	4*PNP	4*NPN	4*NPN
Configuration port		TYPE-C		TCP/UDP
RS232	-	-	RS232-HS	-
RS485	-	-	RS485-HS/RS485-Modbus	-
CAN	-	-	CAN-HS/CANOPEN	
Output raw test data	=	-	•	•
Obstacle-avoidance channels	16(each channel can provide 3	independent detection ranges)	64(each channel can provide 3	independent detection ranges)

Mechanics/electronics

Voltage	DC 12~30V
Rated power	< 2W
Laser class	905nm Class 1 (IEC 60825-1:2014)
Indicator light	4*LED (Green, Yellow, Orange, Red)
Cable	1.5m

Ambient data

Object reflectivity	2-1000%
Ambient light	< 80000Lux
Working environment	Indoor -10~50°C $<$ 80% RH(No condensation, No frost)

Up control

Carrierllan	-	(i) 1-	-	S≡≡R
Controller	-	-	-	-

- Not Supported Support

SEER SRC-2000/SRC-3000/SRC-880 S

erie

S

laser

sensor

(4 Line scan)

senso

Se

IPS Series Inductive positioning sensor

The positioning sensor adopts non-contact high-precision and continuous detection of targets (detection pieces), with an accuracy of up to 0.1mm within the detection range. It accurately outputs the intensity and frequency of inductance fluctuations, deviation from the average center position, and real-time output of current position analog information. The positioning sensor has the characteristics of simple communication, no wear and tear, strong anti pollution, anti vibration, and high temperature resistance.

Measuring range

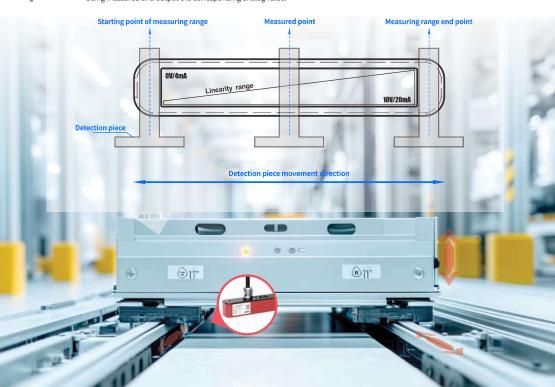
Distance between sensor and detection piece: Max3mm, maximum motion measurement range: $0\sim104$ mm (Linearity range $1\sim103$ mm), Linearity error: ±1 mm.

Measurement accuracy

Repeatability: ±0.1mm, resolution: 104mm (accuracy and resolution are based on the detection distance between the sensor and the detection piece 1~3 mm).

Analog output

When the detection piece passes through the sensor, eddy current will be generated inside, which will affect the AD value of the coil and finally reach the MCU. The MCU only needs to detect the AD value of each coil to calculate the position of the object being measured and output the corresponding analog value.



Product Model	IPS104-UI0100
Features	
Measurement range	0~104mm
Linearity range	1~103mm
Object distance 1	Max 3mm
Repeat accuracy	$\pm 2 \text{ mm}(\text{Measure})/\pm 1 \text{ mm} \text{ (Linear)}$
Repeat accuracy	±0.1mm
Resolution	104μm
Operating principle	Analog current or voltage output
Interfaces	
Output type	Current output 4-20mA voltage Output 0 ~10V DC, programmable

Output type	Current output 4-20mA voltage Output 0 ${\sim}10\text{V}$ DC , programmable
Load resistor	Current output: ≤4000 . Voltage output: ≥10000

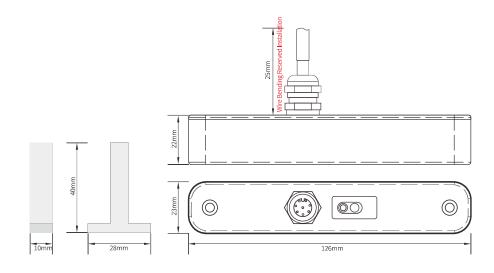
Mechanics/electronics

Operating voltage	DC 18~30V
Light source	< 50mA
Rated power	≤1W
Idling current	≤40mA
Indicator light	1*LED (Green)
Material	ABS
Protection level	IP67

Ambient data

Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)

 $[\]hbox{^*1.} The detection accuracy and resolution are related to the distance between the sensor and the detection piece. The standard distance is 1-3 mm.$



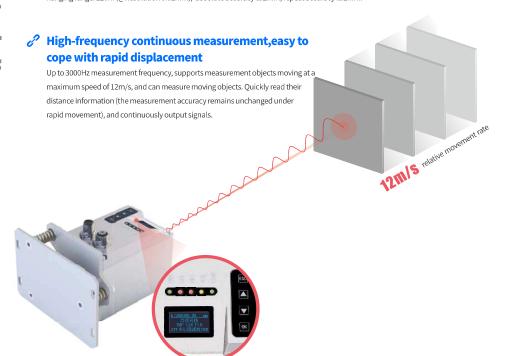
distance sensor

PHR Series Laser distance sensor

The PHR series adopts the principle of phase distance measurement, which uses the phase difference between emitted light and reflected light to measure distance when propagating in space. The accuracy can reach millimeter level, with high measurement frequency, the rapid movement of measuring objects. It can also accurately measure distance information for moving objects (the supporting measurement accuracy remains unchanged under rapid movement), and continuously output measurement data.

- Ranging range 120m, millimeter level accuracy

Ranging range: 120m (@Resolution 0.01mm), absolute accuracy $\pm 2mm$, repeat accuracy $\pm 1mm$.



The body screen and operation buttons make debugging and setting easier

The OLED screen display makes sensor operation simple and intuitive, simplifying the parameter and function setting process, and is not limited to PC device debugging.



Product Model	PHR-080100	PHR-080200	PHR-080300	PHR-080500	PHR-120100	PHR-120200	PHR-120300	PHR-12050
Features								
Detection distance		0.3~	80m			0.3~1	120m	
Spot diameter		101mm	(@80m)			149mm(@120m)	
Measurement resolution				0.01	mm			
Absolute accuracy				±2i	mm			
Repeat accuracy				±11	mm			
Measurement frequency				3K	Hz			
Maximum movement rate				12r	n/s			
Interfaces								
TCP/IP	•	•	•	•	•	•	•	•
CAN OPEN	•	•	•	•	•	•	•	•
SSI	•	-	-	-	•	-		
PROFINET	-	•	-	-	-	•	-	-
EtherNET/IP	-	-	•	-	-	-	•	-
ModbusTCP	-	-	-	•	-	-	-	•
Mechanics/electroni	cs							
Voltage				DC 9	~32V			

Voltage	DC 9~32V
Rated current	<3.6W
Wavelength	650nm (可见激光)
Measurement methods	相位测距法
LED	5*LED(PWR、LM1/LM2、SSI/BUS、LINK)
Display	OLED屏幕(128*64像素)
GPIO	M12*4芯(母直头)、M12*12芯(公直头)
Reflective film	600*500mm、600*650mm、800*800mm
Material	铝合金
Protection level	IP65

- Not Supported Support

Z

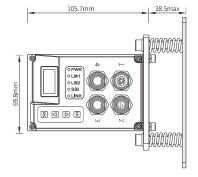
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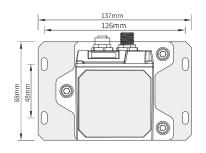
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distance

sensor





Optical

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OPCA series **Optical communication sensor**

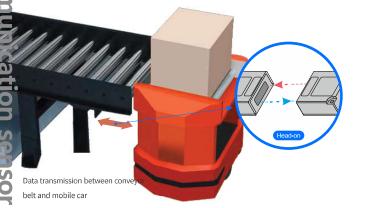
By using optical communication, fixed devices (workbenches/conveyor belts) can be wirelessly connected to mobile devices (such as AGV carts) to transmit data and issue processing instructions without physical contact, guiding equipment data transfer, reducing wear and loss caused by traditional mechanical contact, shortening transmission time, optimizing raw data processing, and the equipment has extremely high noise resistance and strong light interference resistance, further ensuring communication stability and improving operational efficiency.

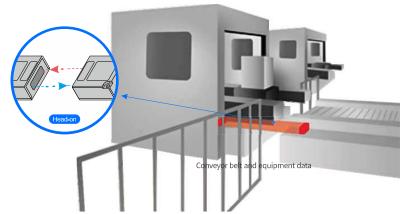
Contactless bidirectional data transfer

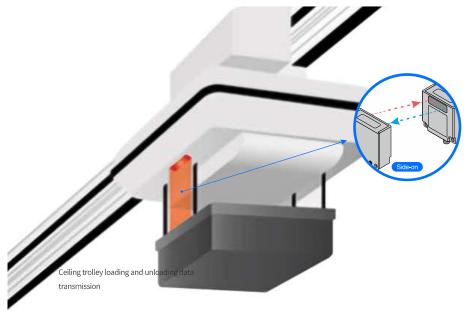
Contactless bidirectional data transfer, Full-duplex communication mode, near infrared carrier, communication setup time < 25ms, communication delay < 20ms.

Transmit distance and transmit angle

Transmit distance: 4m, transmit angle: $\pm 15^{\circ}$.





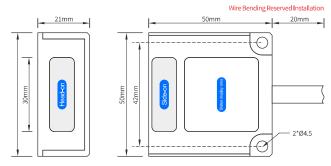


Support Ethernet networking, simpler connection and safer transmission

 ${\sf OPCA-ETF/ETS}\ series\ supports\ Ethernet\ networking\ by\ setting\ different\ IP\ addresses,\ eliminating\ the\ need\ to\ add\ communication$ conversion modules on site, and supports optical communication docking with different types of communication methods (including switch, RS485 and RS232), A complete communication verification mechanism ensures data integrity, and the preset cache has the ability to disconnect and reconnect within a certain period of time without losing packets.



- * The number of optical communication connected to the switch is related to the network port and IP allocation of the switch;
- * Different types of optical communication docking, the transmission rate is based on the low-speed equipment



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Product Model	OPCA-CNF	OPCA-CNS	OPCA-N8F	OPCA-N8S	OPCA-P8F	OPCA-P8S	OPCA-ETF	OPCA-ETS	
Features									
Transmission distance		0~4 m							
Transmit angle				±	15°				
Communication build time				< 25	5ms				
Communication time-delay				< 20	Oms				
Communication speed				9600	0bps				
Transmit window	Head-on	Side -on	Head-on	Side-on	Head-on	Side-on	Head-on	Side -on	
Interfaces									
RS232	-								
RS485	•	•				=			
Switching quantity		-	8*NPN (Input)		8*PNP	(Input)		-	
omtoming quartery		-	8*NPN (Output)		8*PNP (Output)		-		
RJ45				-			TCP/IP(100m Server)		
Mechanics/electronics	5								
Voltage				DC 10	0~30V				
Rated current	< 2	5mA			< 50)mA			
Wavelength				940	Onm				
Debug method		Pulse modulation							
LED	6*LED 18*LED 7*LED					.ED			
Material	ABS								
Protection level	IP54								

•	Support	 Not Supported 	
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Ambient light Working environment

Ambient data

Product Model	OPCA-N8F-A20	OPCA-N8S-A20	OPCA-P8F-A20	OPCA-P8S-A20		
eatures						
Transmission distance	0~4 m					
Transmit angle		±	15°			
Communication build time		< 2	5ms			
Communication time-delay		< 2	0ms			
Communication speed		960	0bps			
Transmit window	Head-on	Side -on	Head-on	Side -on		
Interfaces						
RS232			-			
RS485			_			
Cuitabing quantity	8*NPN	(Input)	8*PNF	(Input)		
Switching quantity	8*NPN ((Output)	8*PNP (Output)			
RJ45			_			
Mechanics/electronics						
Voltage		DC 10	0~30V			
Rated current		< 50	0mA			
Wavelength		940	Onm			
Debug method		Pulse me	odulation			
LED		18*	LED			
Material		A	BS			
Protection level	IP54					
Ambient data						
Ambient light		< 400	00Lux			
Working environment		Indoor -10~50°C <80% RH	I(No condensation, No frost)		

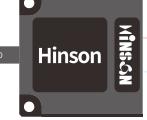
Other

OPCA Series

Optical

communication

sensor



< 4000Lux

Indoor -10~50°C <80% RH(No condensation, No frost)

OPCA-N8F-A20/OPCA-N8S-A20/OPCA-P8F-A20/OPCA-P8S-A20

OPT Series Optical Data Transmission

Optical data transmission use infrared lasers as information carriers and do not require optical fibers or networks. Wireless communication that directly transmits information over the air through wired media such as wires. Realize ultra-high-speed, high-security, high-reliability, and low-latency wireless optical communications, optical communication. As the next generation of new information technology, information technology is more suitable for logistics, warehousing. Application requirements in various scenarios such as warehouses, loading and lifting equipment, military industry, aerospace, etc.

Long transmission distance

Cross detection transmission distance 0.1~150 meters.

Ultra-high-speed data transfer

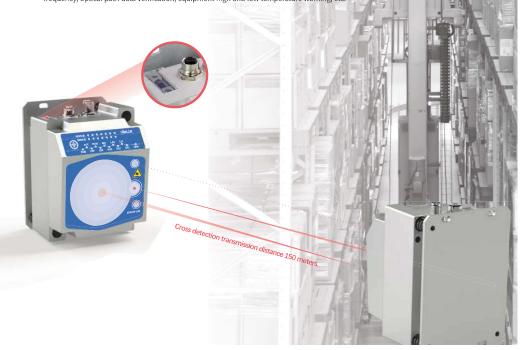
It supports up to 100Mbit/s bandwidth transmission, full-duplex communication, signal strength display, and automatic adjustment of transmission power.

Easy installation and commissioning

Integrating laser-assisted calibration, level gauge calibration, and back fixing plate adjustment to achieve precise docking and minimize installation and calibration time.

integrated remote maintenance control

Support monitoring the status and signal strength of both connected devices, optical path interruption frequency, optical path data verification, equipment high and low temperature warning, etc.



Product Model	OPT-1080	OPT-1150		
Features				
Transmission distance	0.05~80m	0.1~150m		
Aperture Angle(Transmitter)	±	0.5°		
Receiving angle	±	1.5°		
Communication setup time	Initial setup time <2.5s Re	-2.5s Re-establishment time <50ms		
Communication bandwidth	h 100M			
Interfaces				
Communication interface	Eth	ernet		
Communication protocol	Unli	mited		
Mechanics/electronics				
Operating Voltage	DC 1	.0~30V		
Transmission light source	la la	aser		

650nm

3B (IEC 60825-1:2014) 2*M12(M12-4Pin、M12-12Pin

IP65

Ambient data

Emission light*

frequency

Wavelength

Laser class

Connector

Protection level

Ambient light	< 80000Lc	IX
Working environm	ent Indoor -10~50°C <80% RH(No	condensation, No frost)

^{*1.}Different optical frequencies must be selected for interconnection between communication devices.

Support

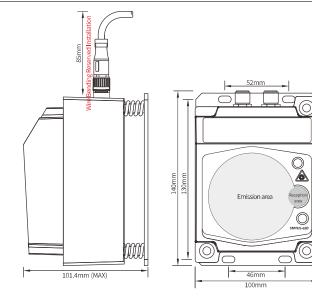
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OPS Series Optical Data Transmission

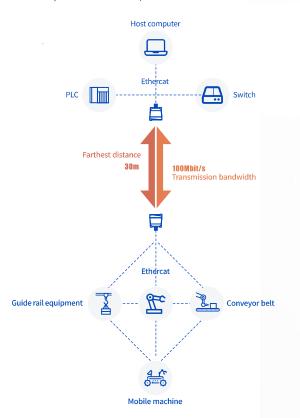
Optical data transmitter uses laser as an information carrier to replace wired media such as fiber optic cables and network cables for wireless communication data transmission in situations where wiring is inconvenient. Supporting direct transmission and reception of Ethernet interface data without protocol restrictions, with advantages such as ultra-high speed, high security, high reliability, and low latency, laser communication technology, as the next generation of new information technology, is more suitable for various application needs in logistics warehousing, vertical storage, loading and lifting equipment, military industry, aerospace and other scenarios.

Long transmission distance

Cross detection transmission distance 0.1~30 meters. (Optional specifications 2m/5m/10m/30m)

O Ultra-high-speed data transfer

It supports up to 100Mbit/s bandwidth transmission, full-duplex communication, and automatic adjustment of transmission power.



		The second second				The state of the s		The state of the s
Product Model	OPS A87800100	OPS A88500100	OPS 027800100	OPS 028500100	OPS 057800100	OPS 058500100	OPS 107800100	OPS 108500100
Features	7.4	The state of the last			N. Bircan	11		
Transmission distance	0.1~0.8m	0.1~0.8m	0.1~2m	0.1~2m	0.1~5m	0.1~5m	0.1~10m	0.1~10m
Vertical divergence angle	±7.6°	±11.9°	±7.6°	±11.9°	±1.44°	±1.92°	±0.95°	±1.31°
Vertical receiving angle	±9°	±8.5°	±0.9°	±0.9°	-	-	-	-
Horizontal divergence angle	±13.6°	±17°	±13.6°	±17.0°	±3.12°	±3.6°	±2.02°	±2.26°
Horizontal receiving angle	±9°	±9°	±1.6°	±1.6°	-	-	-	-
Communication setup time			Initial setup	time <2.5s Re-	establishment	time <50ms		
Communication bandwidth				10	MOC			
Communication panamatin								

Interfaces

Communication interface	Ethernet
Communication protocol	Unlimited

Mechanics/electronics

Voltage		DC 10~30V									
Transmission	light source					La	ser				
Emission light ¹	780nm	•	-	•	-	•	-	•	-	•	-
frequency	850nm	-	•	-	•	-	•	-	•	-	•
Laser class		3B (IEC 60825-1:2014)									
Material		Aluminum alloy									
Cable		2m									
Protection level						IΡ	65				

Ambient data

Ambient light	< 80000Lux
Operating environment	Indoor -10~50°C <80% Rh(No condensation, No frost)

Up control

Control SEC-2000/SEC-3000/SEC-880

*1.Different optical frequencies must be selected for interconnection between communication devices.

• Support – Not Supported

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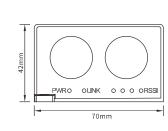
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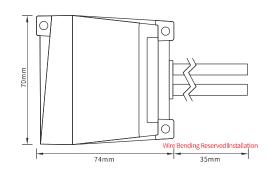
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Optical

Transmissio





accuracy magnetic navigation sensor

MGS series (Line following sensor)

High accuracy magnetic navigation sensor

Hinson series high-precision magnetic navigation sensor has a detection accuracy of 1mm, which is especially suitable for high-precision magnetic stripe navigation.

The relative position of the detected magnetic field is used for the auxiliary positioning and docking of the AGV to obtain higher navigation, positioning and parking accuracy.MGS series magnetic navigation sensors support fork road selection instructions, sensitivity settings,

magnetic field polarity selection, etc. At the same time, the bus can obtain the point quantity data of each detection point and provide information output, which is the best choice in magnetic navigation



(1) 1mm displacement output

When a magnetic field is detected, the relative position between the strongest point of the magnetic field and the sensor center (can be set) is output with 1mm.

P Support fork choice

The upper computer sends a fork road selection command to the sensor, and the sensor automatically shields the magnetic strips in the non-selected direction, so that the AGV can smoothly bend without jitter.

Sensitivity detection

The detection sensitivity of the sensor can be set through the configuration software to adapt to the detection requirements at different installation heights.

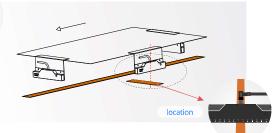
Magnetic field polarity setting

The sensor can sense only S pole or N pole or both N/S pole according to the navigation magnetic strip setting.

(III) AGV high accuracy auxiliary positioning docking

1mm high-accuracy detection data, more suitable for fine positioning and docking of AGV.





Product Model	CNS-MGS-080N	CNS-MGS-160N		
Features				
Detection height	0~50	Dmm		
Detection range ²	±70mm	±75mm		
Detection accuracy ³	3mm	1mm		
Output switch points ¹	16 Switc	ch Points		
Detection point distance	20mm	10mm		
Sensing polarity	N 、S 、NS (Softwa	are Is Configurable) 5 Gauss		
Detecting magnetic field strength	1.5~95			
Sensor sensitivity	Level 0~9 (Softwa	re Is Configurable)		
Number of magnetic stripes		3		
Magnetic field strength detection data	•	•		
Magnetic stripe position deviation data	•	•		
Route selection	Right, Left	And Straight		
Interfaces				
RS232-HS	•	•		

S

D T e

accuracy magnetic

navigation

sensor

RS232-HS	•	•
RS485-HS	•	•
RS485-MODBUS	•	•
CAN-HS	•	•
CANOPEN	•	•

Mechanics/electronics

Working environment

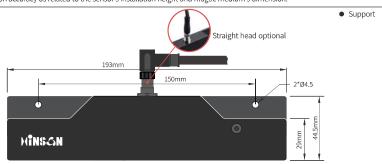
Voltage	DC 10~32V (24V±10%)
LED	1*LED
Cable length	1.5m / 3m /6m (Optional)
Protecting Class	IP65

Ambient data

*1.CNS-MGS-080N inside detection	n points is 8, The 16-bit switch signal is simulated by software, and the inside detection
points of CNS-MGS-160N are 16	ĥ:

^{*2.}Taking the detection center of the sensor as the zero point, the left and right detection ranges of CNS-MGS-080N are 70mm each, and the left and right detection ranges of CNS-MGS-160N are 75mm each;

^{*3.} Detection accuracy os related to the sensor's installation height and magtic medium's dimension.



Indoor -10~50°C <80% RH(No condensation, No frost)

MLS series High accuracy magnetic navigation sensor

Track Guidance

Navigation Magnetic track guidance, grid positioning

Magnetic Nail Correction

Suitable for indoor and outdoor operation inertial navigation magnetic nail correction

Direction Selection

Support straight, left fork, right fork navigation magnetic stripe selection

Multiple signal output

Support switch signal and magnetic nail position deviation signal output, support magnetic field strength signal output

Wider Detection Range

160-640mm detection range, more than 1 length (model) can be selected, More suitable for large and heavy-duty handling AGV

The sensor can detect the magnetic field strength value of each point, and the sensor sensitivity level 0-9 can be configured by software

Magnetic pole induction (S pole/N pole)

The sensor can only sense S pole or N pole according to the navigation magnetic strip setting, N/S pole software can be configured

Magnetic field interference filtering

After detecting the magnetic field signal of the magnetic point, define the minimum value to control the magnetic field intensity threshold and sensitivity of the detected magnetic point, so as to filter the magnetic field interference16.8mm

More suitable for large and heavy-load handling AGV guidance and positioning and magnetic nail correction for inertial navigation

Detection range length can be selected

160mm/320mm/480mm/640mm



Product Model	CNS-MLS-160N	CNS-MLS-320N	CNS-MLS-480N	CNS-MLS-640N
Features				
Detection height	0~50mm			
Detection range ¹	±75mm	±155mm	±235mm	±315mm
Detection accuracy ²	1mm			
Output switch points	16	32	48	64
Detection point distance	10mm			
Sensing polarity	N 、S 、NS (software Is Configurable)			
Detecting magnetic field strength	1.5~165 Gauss			
Sensor sensitivity	Level 0~9 (software Is Configurable)			
Number of magnetic stripes	3			
Magnetic field strength detection data	•	•		•
Magnetic stripe position deviation data	•	•		•
Route selection	Right, Left And Straight			
Interfaces				

RS232-HS	•	•
RS485 - HS	•	•
RS485-MODBUS	•	•
CAN-HS	•	•
CANOPEN	•	•

High accuracy magnetic

navigation

sensor

Mechanics/electronics

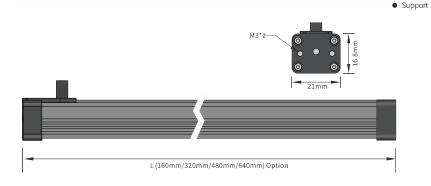
Voltage	DC 10~32V (24V±10%)
LED	1*LED
Cable length	1m (5m-Optional)
Protecting Class	IP65

Ambient data

Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)

^{*1.}Taking the detection center of the sensor as the zero point, the detection range is right/left;

^{*2.}Detection accuracy is related to the sensor's installation height and magtic medium's dimension.



RFID

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eries

RFID sensor (Industrial grade)

Operating frequency 13.56MHz, implementation protocol ISO15693, maximum card reading distance 150mm (Related to tag size and environment)

Multiple reading modes

Support inquiry mode, card reading trigger mode, and scheduled broadcast mode

Number of bytes read and write

Number of bytes to read: 4Byte/13ms, 8Byte/16ms, Number of bytes to write 8Byte/15ms, 8Byte/32ms.

Solution High speed read/write card

Supports accurate card reading at a maximum relative speed of 3m/s without missing a read, meeting the card reading needs of most application environments.

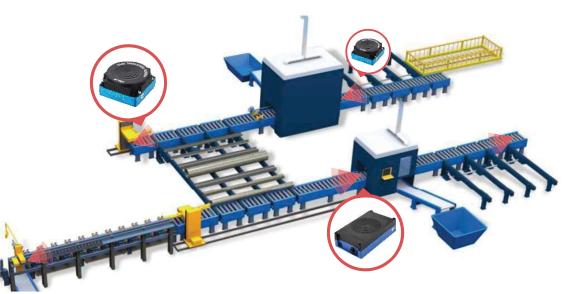
[→[] Support card reading signal strength detection

Supports tag sensing signal strength RSSI output (level0~7), RSSI filtering, etc., which can be used to assist positioning to make device positioning more accurate.

Support multiple interface protocols

 $Supports\ multiple\ communication\ protocols:\ RS232-HS,\ RS485-HS,\ RS485-Modbus,\ CAN-HS,\ CANopen,\ etc.$

Hinson industrial-grade RFID sensors have high stability and meet various industrial environments. They can be used in: production automation management, material transportation management, automatic guided vehicle site positioning, etc.



Product Model	CNS-RFID-1S	CNS-RFID-1SN	CNS-RFID-01	CNS-RFID-01N
Features				
Reading and writing distance		0-150mm (Depends on	label size and environment)	
Operating frequency	13.56MHz			
Execution Agreement	ISO15693			
Read and write bytes	4Byte/8Byte			
Allow label movement speed	≤3m/s			
Signal strength detection	Level 0~7 RSSI card reading signal strength			
Interfaces				
RS232-HS	•	•	•	•
RS485-HS	•	•	•	•
RS485-MODBUS	•	-	•	-
CAN-HS	•	-	•	-
CANOPEN	-	•	-	•

Ambient data

Mechanics/electronics

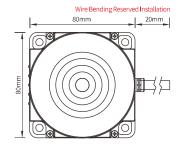
Voltage

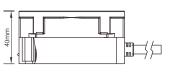
Protecting Class

molent data		
Working environment	Indoor -10~50°C <80% RH(No condensation, No frost)	
	 Support 	 Not Supported

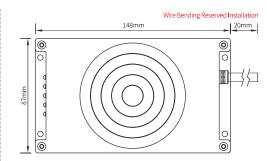
DC 18~30\

5*LED





CNS-RFID-1S x





CNS-RFID-01 x