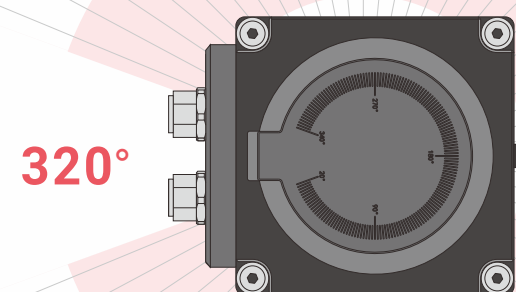


HE Series 320° TOF laser sensor

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).



30m

90% Reflectivity

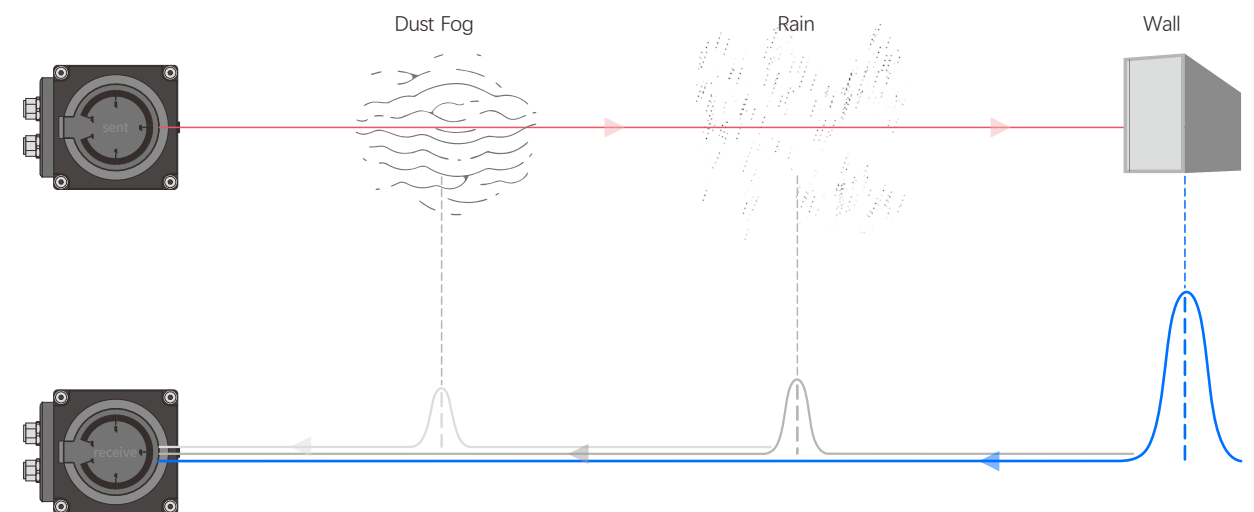
Angular resolution
0.025°

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

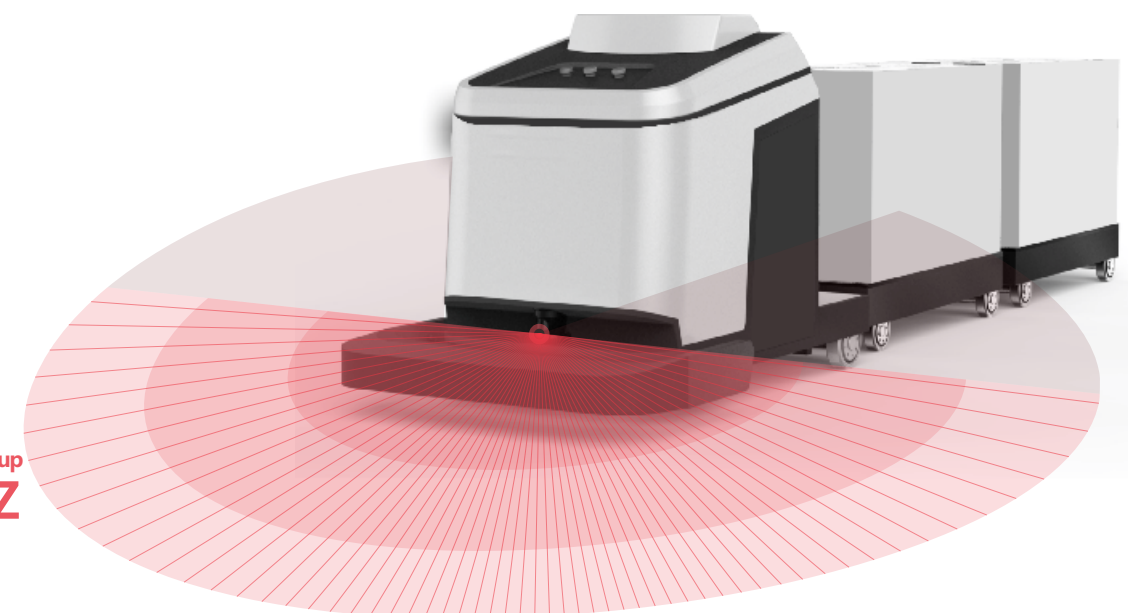
Multiple echo technology can detect multiple echo signals of each measurement beam, identify echoes caused by rain or dust, complex structural objects, etc. during the operation cycle of the emitted beam, and filter and suppress them if necessary (HE-3081, HE-3091FA).



High scanning accuracy and small ranging accuracy error

Up to 432KHZ laser scanning frequency, absolute accuracy: $\pm 20\text{mm}$ (30m@90% reflectivity).

Scan frequency up
432KHZ



Invisible protective layer

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

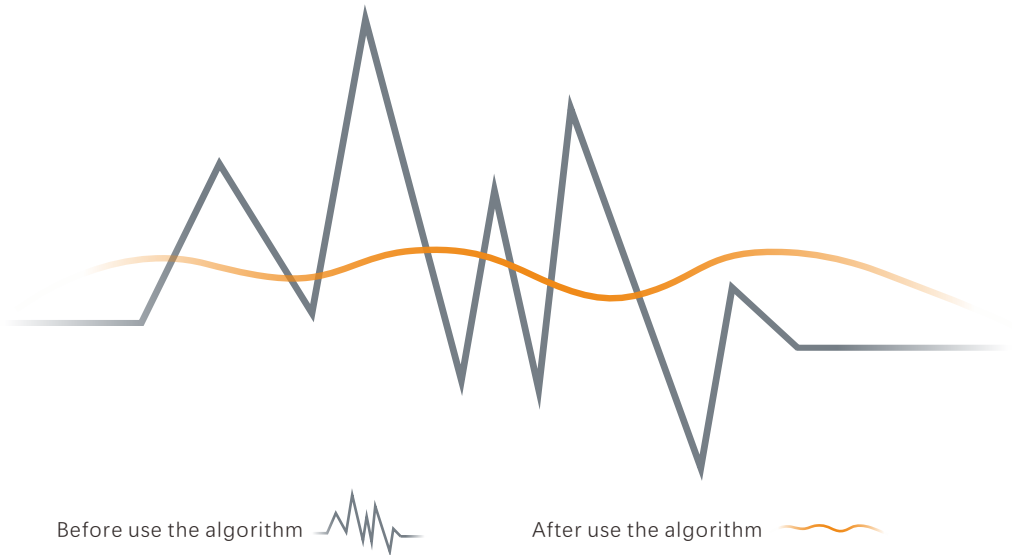


HE-3081

HE-3091F

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



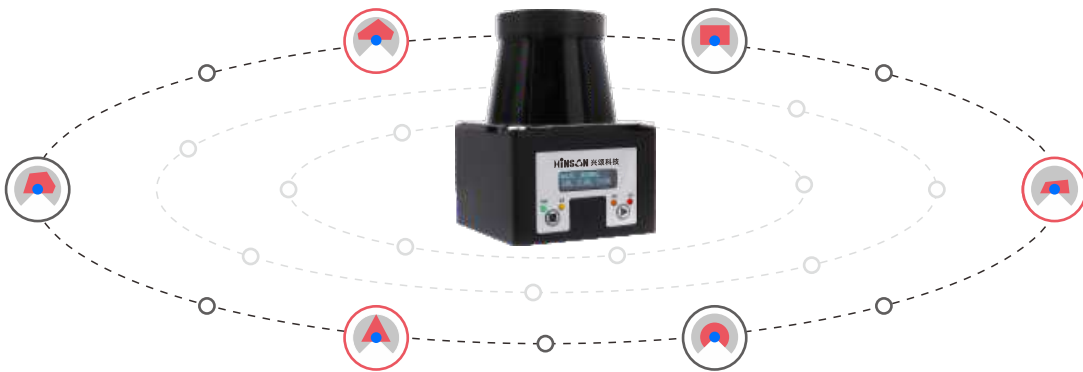
Navigation and positioning of service robot



Logistics and warehousing

Support obstacle avoidance area setting

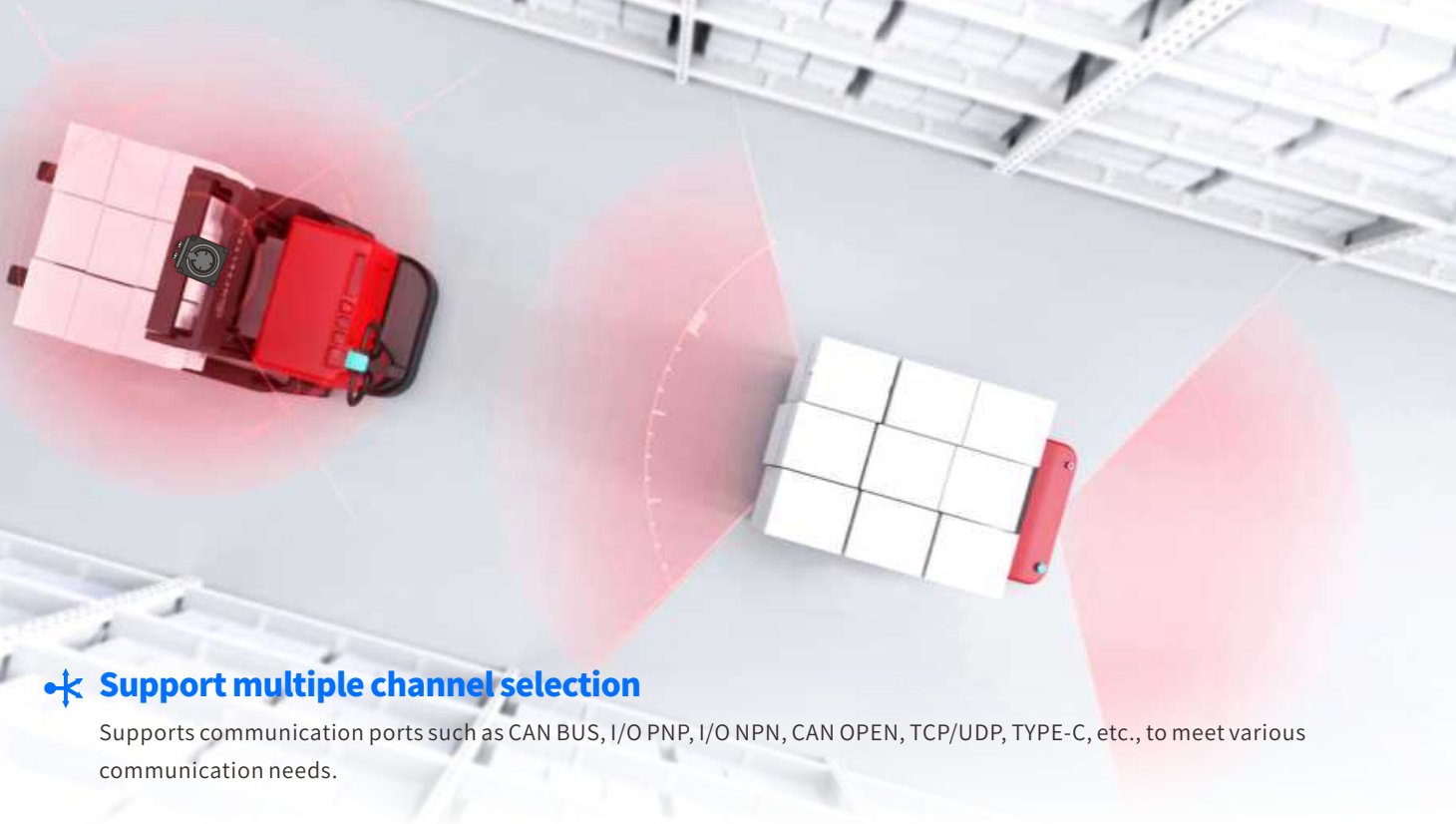
Supporting HINSON visual operation software, the software has comprehensive functions, and the hardware parameter setting is simple. It is suitable for connecting to the upper computer to obtain and call various hardware detection, setting and debugging of scanning data, and supports up to 64 channel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



High resolution LED display intelligent hardware status detection

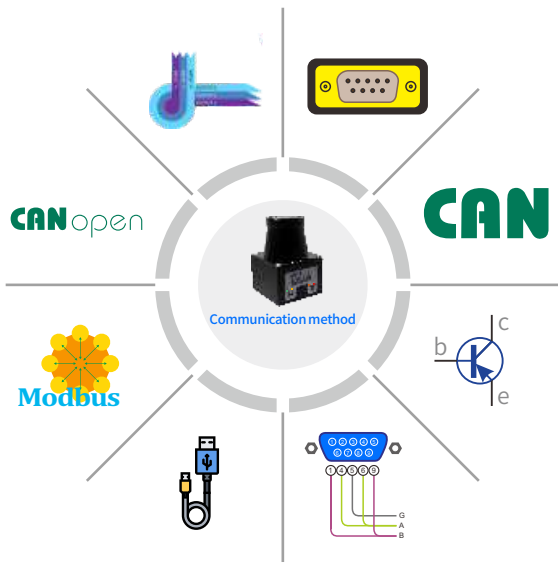
The LED display window supports scrolling or static display of temperature, motor speed, current IP, gateway, current channel, voltage value and other information (HE-3051, HE-3061, HE-3081).



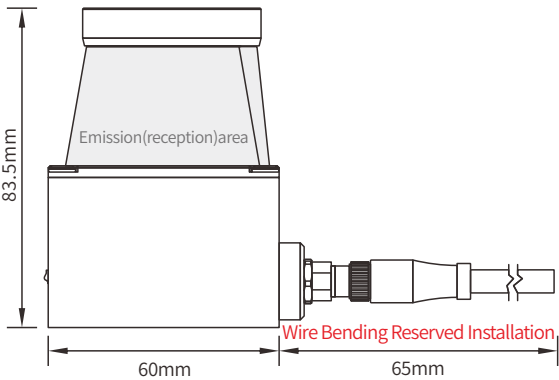


✦ Support multiple channel selection

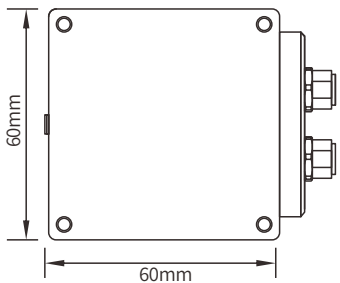
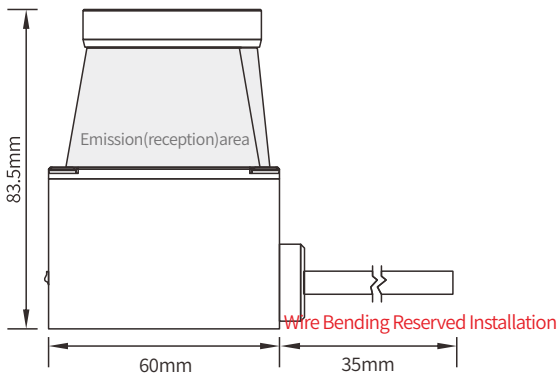
Supports communication ports such as CAN BUS, I/O PNP, I/O NPN, CAN OPEN, TCP/UDP, TYPE-C, etc., to meet various communication needs.



HE-3051、HE-3061、HE-3081



HE-3091FA



Product Model	HE-3051	HE-3061	HE-3081	HE-3091FA
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Features

Detection distance	0.05~30m (≥90% Reflevtivity)			
	0.05~10m (≥10% Reflevtivity)			
Detection angle	320°			
Measurement points	144KHz			432KHz
Scanning frequency	10Hz、20Hz			15Hz、30Hz
Angle resolution	0.025°/0.05°/0.1°/0.25°/0.5°(Minimum resolution of obstacles 0.5°)			
Identify object shape	Any shape, reflectivity calculated 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, Last, Maximum Energy)	
Obstacle-avoidance channels	64(each channel can provide 3 independent detection ranges)			64(communication), 16(IO)

Mechanics/electronics

Voltage	DC 12~30V			
Rated power	< 3W			
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℃ <80% RH(No condensation, No frost)			

Up control

Controller	SEER	-	-	SEER
	睿芯行 RUIXINXING	-	睿芯行 RUIXINXING	

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

● Support - Not Supported