

LGA60 Series

320° Scan High-performance 2D Laser Radar

LGA60 is a small size and high performance laser scanner, with a Max 30m detection radius and a Min 0.025° angle resolution; Support for obstacle avoidance and navigation; Special algorithm filter surface dust and oil influence; Excellent performance in anti-glare, waterproof, chilling resistance ensure it can be used indoor and outdoor.



320° scanning angle

Up to 320° scanning range.



0.025° angular resolution

Option 0.025°, 0.05°, 0.1°, 0.25°, 0.5°.



Surface coating technology

Greatly reduce dust adhesion and ensure accurate operation.



High speed sampling capability

Max frequency 432KHz for high speed sampling and precise profile.



Navigation & obstacle avoidance

Integrate function of navigation and obstacle avoidance to maximize the satisfaction of development needs.



Multiple echo processing technology

Performs well in complex environments.



Response quickly

33ms quick scanning speed.



Strong vibration resistance

Special internal design ensure its stable performance in vibrate environment.

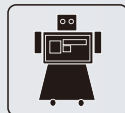
Applications



AMR



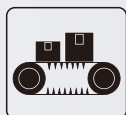
Forklift



Robots



Roboticarm



AGV



Area protection for electric vehicle



Battery change



Technical Parameter

Model	LGA60N4	LGA60N5
Working range	0.1m~6m (@ 1.8%)	
	0.1m~10m (@ 10%)	
	0.1m~30m (@ 90%)	
Working angular	320°	
Working principle	PRT (pulse ranging technology)	
Laser class	Class 1 (IEC60825-1:2014)	
Laser wavelength	905nm	
Pulse time	5ns	
Sampling rate	144 KHz	432KHz
Scan frequency	10Hz、20Hz	15Hz、30Hz
Ambient light immunity	<100000 Lux	<80000 Lux
Measurement accuracy	±20mm	
Repeatability	±20mm	
Angular resolution	0.025°, 0.025°, 0.05°, 0.1°, 0.25°, 0.5°	
Measurement resolution	1mm	
Power supply	DC 10V~30V	DC 15V~30V
Working current	90 mA	120 mA
Rated consumption	<3W	<3W
Interface	3 NPN output signal or fault of red & orange area)	4NPN input, 4 NPN output (output signal or fault of red & orange & yellow area)
	Ethernet TCP/ UDP	
Working indicator	Green	
Output indicator	Red, yellow, orange	
Ambient temperature	-10°C~55°C	-25°C~50°C
Ambient humidity	Less than 80%RH	
Storage temperature	-25°C~70°C	
Mechanical protection	IP65	
Wire port	Rj45 ethernet	
Material	Aluminum alloy (base)	
	PUMA (Scanning window)	
Sine vibration testing	10Hz-1000Hz, 5g; 10 cycles for each axis (GBT2423.10-2019)	
Vibration resistance	50-250Hz, RMS-42.4m/s², 5h testing for each axis (GBT 2423.56-2018)	
Shock resistance	50g, 3ms, 5000 times impacts on each axis;(G8T2423.5-2019)	
Product size	60*60*83.5mm	60*60*83.9mm
Cable length	2m ethernet cable, 1.5m cable of power & IO	1m ethernet cable, 1m cable of power & IO

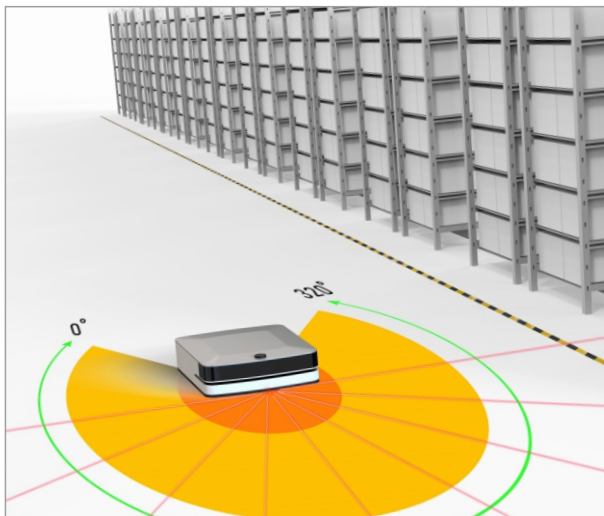
LGA60 Laser Scanner

Application case



Battery change station

Outdoor use for vehicle guidance, battery positioning.



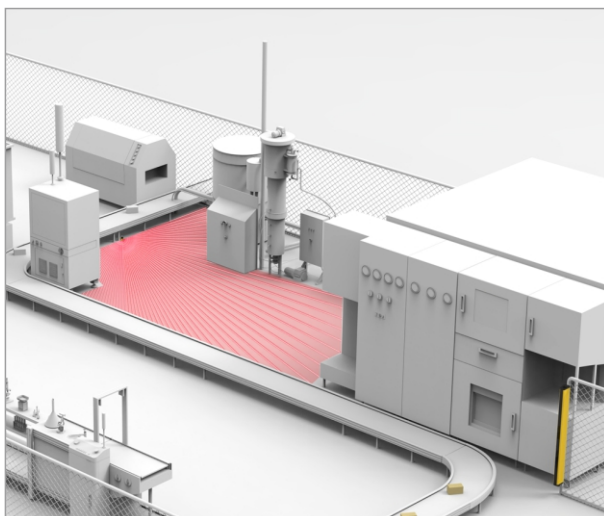
AGV navigation/obstacle avoidance

AGV trolley, navigation and obstacle avoidance integrated.



Industrial automation safety protection

Area protection and warning in industrial automation application.



Area safety protection

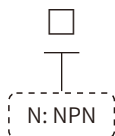
Area protection and warning in large and complicated application.

Laser scanner model description (eg, LGA60N4-UB)

Series

LGA60

Output mode



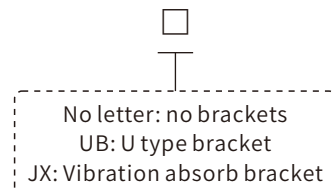
Communication

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4: Ethernet & NPN output
5: Ethernet & NPN output & NPN input

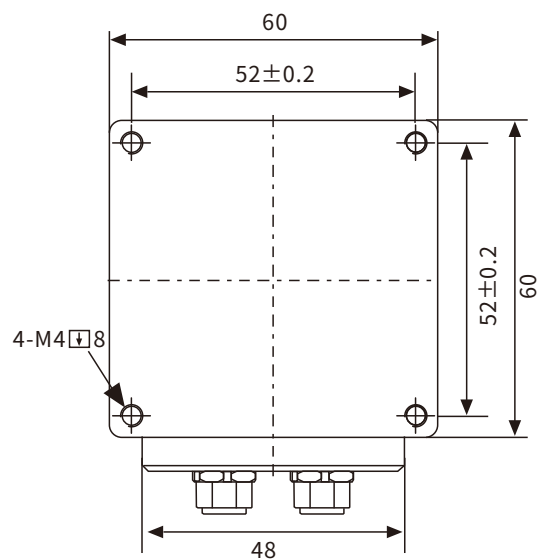
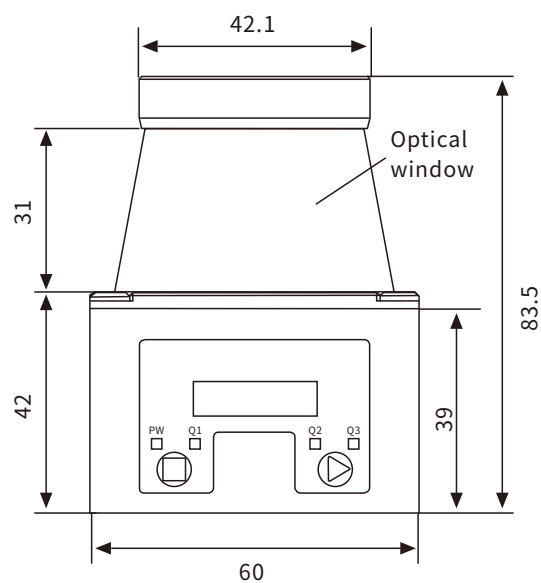
Options of bracket

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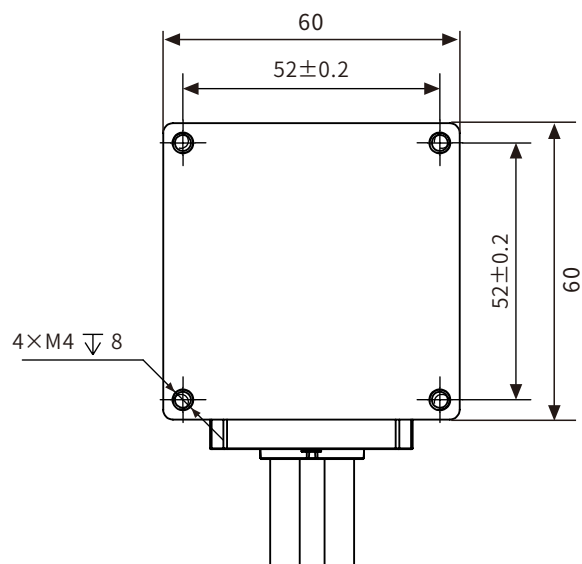
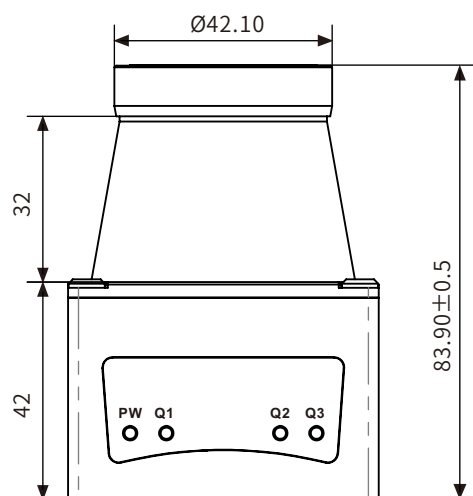


Product size

LGA60N4

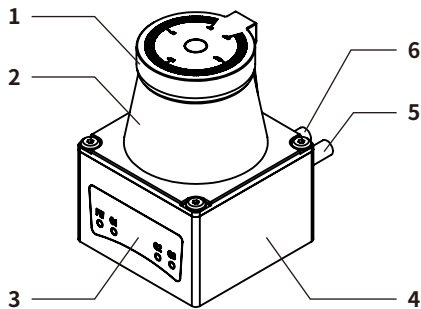


LGA60N5



LGA60 Laser Scanner

Assembly unit specification



Serial NO	Function	Remark
1	Upper cover	Mark the scanning range and angular position
2	Sensor detection window	Sensor detection window
3	LED indicator	Status of working
4	Base	Installation position
5	Wire 1	For ethernet
6	Wire 2	For power supply and IO

Brackets option

Serial NO	Brackets	Picture
1	U shape brackets-UB	
2	Vibration absorb-JX	

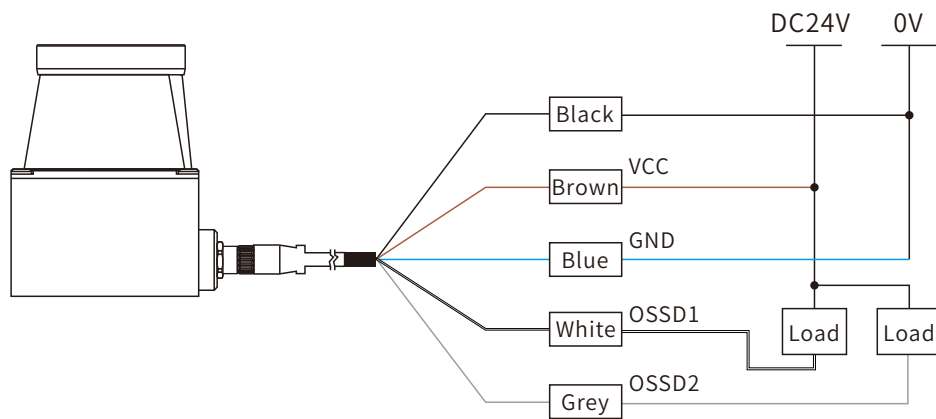
Wire definition

Ethernet port (LGA60N4/LGA60N5)

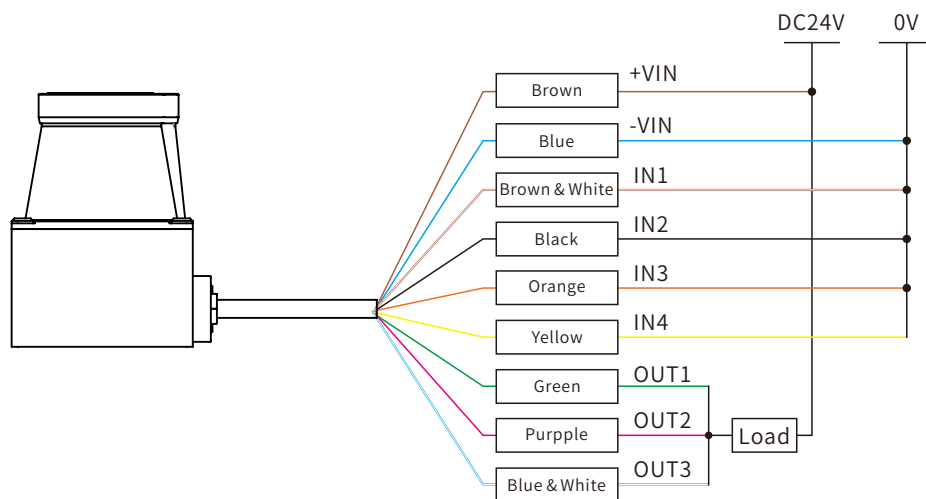
Port	RJ45	Symbol	Color	function	 Pin Assignment RJ45 Front View
Ethernet wire	Pin1	ETH Tx+	Red & white	Ethernet output +	
	Pin2	ETH Tx-	Red	Ethernet output -	
	Pin3	ETH Rx+	Green & white	Ethernet output +	
	Pin6	ETH Rx-	Green	Ethernet output -	

Connection diagram

LGA60N4



LGA60N5

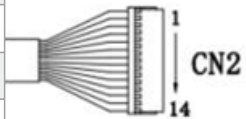


LGA60 Laser Scanner

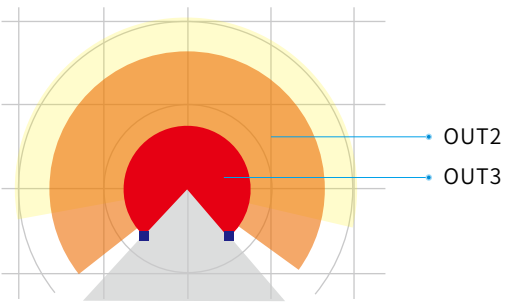
Power & IO signal port (LGA60N4)

Port	Color	Symbol	Function
Power & IO signal port	White	OUT2	Corresponding to the output 2 of software
	Brown	VCC+	Positive of power
	Orange	C-H	CAN-BUS
	Yellow	C-L	CAN-BUS
	Grey	OUT3	Corresponding to the output 3 of software
	Black	OUT-COM	Output com port
	Blue	VCC-	Negative of power
	Red	OUT4	Output 4

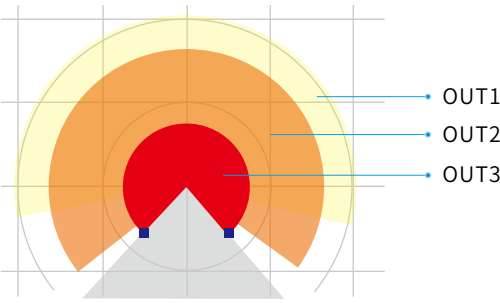
Power & IO signal port (LGA60N5)

Port	Serial NO	Symbol	Color	Function	
Power & IO signal port	Pin1	+VIN	Brown	Positive of supply & com input	
	Pin2	-VIN	Blue	Negative of supply & com input	
	Pin3	IN1	Brown & White	Input 1	
	Pin4	IN2	Black	Input 2	
	Pin5	IN3	Orange	Input 3	
	Pin6	IN4	Yellow	Input 4	
	Pin7	OUT1	Green	Output 1	
	Pin8	OUT2	Purple	Output 2	
	Pin9	OUT3	Blue & White	Output 3	
	Pin10	OUT4	Grey	Output 4	

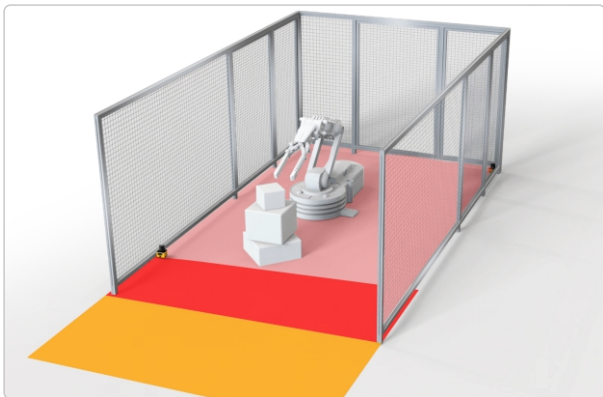
Output signal connection (LGA60N4 NPN output)

Port	Function	Output logic
OUT2	Slow speed area	Default: normally close, can be changed to normally open through software
OUT3	Emergency stop area	Default: normally close, can be changed to normally open through software
OUT4	Output fault state of sensor	Default: normally close, can be changed to normally open through software
OUT-COM	Com output	
The output port corresponds to the graph drawn of software		

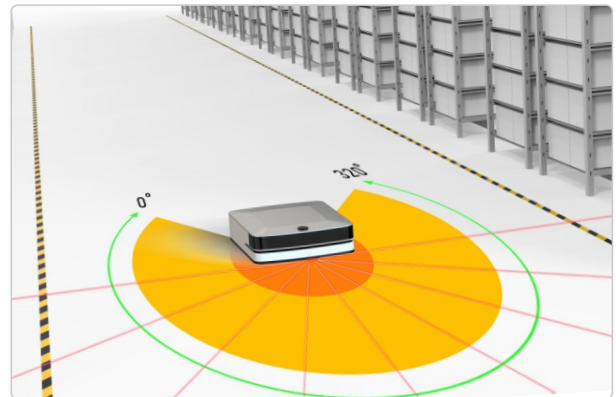
Output signal connection (LGA60N5 NPN output)

Port	Function	Output logic
OUT1	Warning area	Default: normally close, can be changed to normally open through software
OUT2	Slow speed area	Default: normally close, can be changed to normally open through software
OUT3	Emergency stop area	Default: normally close, can be changed to normally open through software
OUT4	Output fault state of sensor	Default: normally close, can be changed to normally open through software
The output port corresponds to the graph drawn of software 		

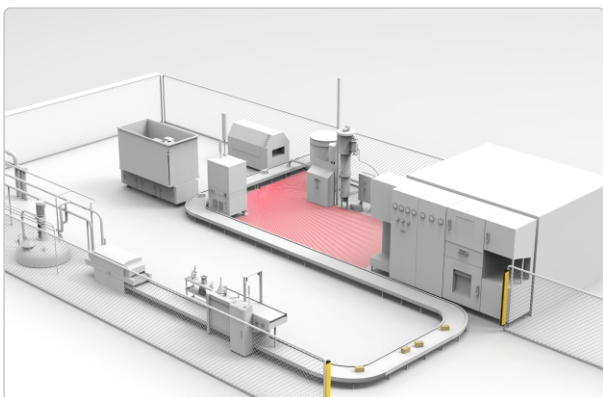
Application



Small space and complex protection area.



Movable protection area, AGV trolley, gantry crane.



Large protection area, high accuracy requirement.



Safety protection of welding application, even though various interference.