

CE30-C is one of the Planar arrays solid-state ToF IR LiDAR in our CE30 series. CE30-C may provide detailed real-time 3D point cloud data that widely used to detect, location, or avoid objects. CE30-C is fully solid-state, which mean it contains no mechanical rotating component, has much higher reliability and stability than other single-point scanners.



Features

- Complete solid-state LiDAR
- IP65 enclosure level
- Large field of view

Applications

- AGV obstacle avoidance
- Robot obstacle avoidance
- Subway/elevator door security check

■ Technical specifications

CE30-C has two different versions, standard version and Extended version. Extended version's detection range is approximate one and half times of standard version's.

Table 1 Main parameters of CE30-C

Parameters		Standard version	Extended version
Product performance	Detection range ¹	0.1-4m@90% reflectivity 0.1-1.5m@10% reflectivity	0.1-6m@90% reflectivity 0.1-2m@10% reflectivity
	Error distribution within 4M ²	≤3cm: ≥53%; ≤5cm: ≥85%; ≤8cm: ≥97%; ≤10cm: ≥98%	
	Distance resolution	1cm	
	Pixel resolution ³	Original output: 320*24 SDK output: 660*24	
	Frame rate	20Hz	
	Ambient light immunity	60Klux	
	Operation temperature	0°C~50°C	
	Enclosure rating	IP65	
Optical parameters	Light source	LED	
	Central wavelength	850nm	
	Photobiological safety	Exemption level (EN62471)	

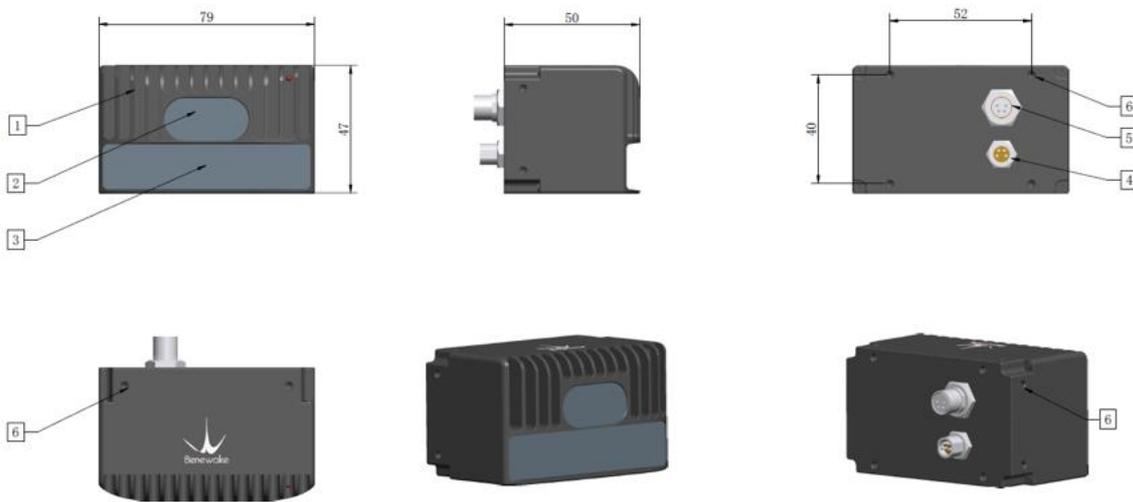
¹ The ambient light doesn't affect the detection range of CE30-C. Please refer to 'Benewake CE30-C user manual' for detailed information.

² Error distribution is measured with white board (90% reflectivity) and will be different in case of different reflectivity or light sensitivity.

³ The pixel resolution of CE30-C's original data output is 320*24. The specialized SDK can calibrate the original data output and slightly increase the pixel resolution. Please refer to 'Benewake CE30-C user manual' for detailed information.

	FoV ⁴	132°*9°	
Electrical parameters	Supply voltage	DC 12 V±5% (≥2A)	
	Average current	≤500mA	≤670mA
	Power consumption	≤6W	≤8W
	Communication interface	TCP	
Others	Dimension	79mm*47mm*50mm (L*W*H)	
	Enclosure material	Aluminum alloy	
	Storage temperature	-30°C~70°C	
	Weight	219g	
	Cable length	100cm	

■ Product dimensions



- | | |
|-----------------------------------|-------------------------------------|
| 1. Shell | 4. Power supply (M8 aerial socket) |
| 2. Receiving panel (working area) | 5. Ethernet port (M8 aerial socket) |
| 3. Emitting panel (working area) | 6. Equipment installing hole (M3) |

Figure 1 CE30-C dimension figure (Unit: mm)

⁴FoV (Field of View), the horizontal angle is different with vertical angle. The FoV listed in the parameters table is the horizontal angle, the bigger one.

■ Communication interface

Since CE30-C's data output is a point cloud with 320*24 points, Ethernet is the best communication interface for it. Check the following diagram of CE30-C's connectors.

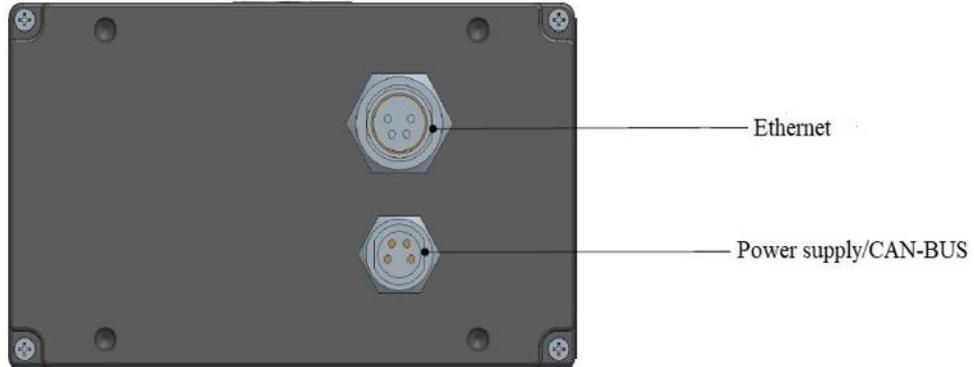


Figure 2 Diagram of CE30-C's connectors

Check the following tables for the PIN definition of the two connectors.

Table 2 Pin definition of CE30-C's power supply connector

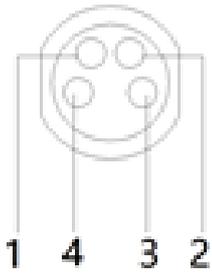
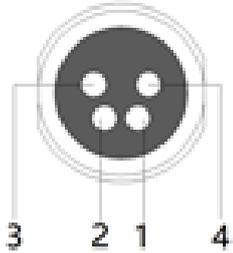
Diagram	PIN number	PIN definition
	1	CAN_L
	2	CAN_H
	3	GND
	4	12V

Table 3 Pin definition of CE30-C's TCP connector

Diagram	PIN number	PIN definition
	1	ETH_RX_P
	2	ETH_RX_N
	3	ETH_TX_P
	4	ETH_TX_N

■ Detecting area

The detecting area of CE30-C is an irregular sector. Check the diagram below:

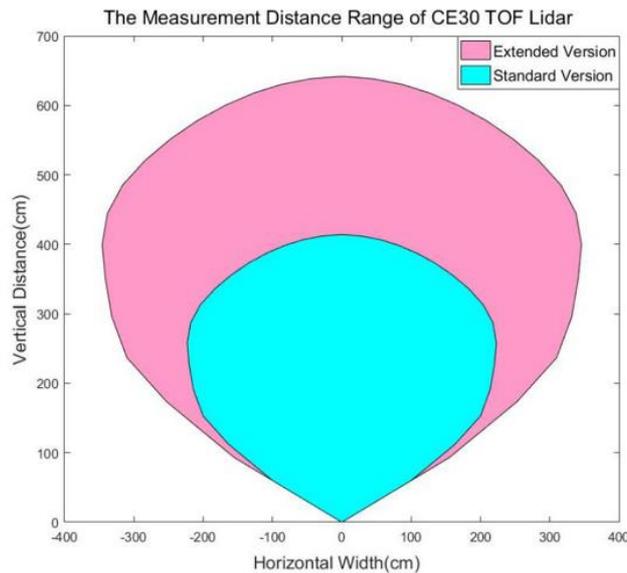


图 1 CE30-C 测量范围示意图

The irregular sector is the detecting area of CE30-C, the other area is the blind zone of CE30-C. In blind zone, CE30-C cannot steadily and reliably detect.

■ Configurable parameters

In order to meet the needs of actual scenarios, CE30-C opens some common parameters. By configuring these parameters, CE30-C is more suitable for use scenarios.

Table 4 Configurable parameters of CE30-C

Configurable parameters	Description	Default
Output switch	Enable or disable the output with command	Enabled
Frame rate	Frame rate could be configured by related command.	20Hz
IP address	Change the IP address of CE30-C	192.168.1.80

Note: More configurable parameters and commands could be found in the production manual.

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