LiDAR Auto-focus Application

Benewake

Application Overview

Infrared thermal imagers can't detect iris because of their small depth of field and limited focusing accuracy. Benewake LiDAR is installed on the side of the camera, the distance between the device and the iris of human body can be accurately measured to assist in focusing. Generally, LiDAR assists the camera to focus accurately within the range of 1-2m. Over 4-5m range, camera will not focus on the eye of human.

LiDAR is a non-contact, based on Time of Flight principle measurement equipment. Single beam of light can be used for eye to camera detection. It is totally no harm to human eyes. LiDAR is becoming a auto-focus sensor for camera and any other devices.

LiDAR Auto-focus Advantages

Customer Benefits

Assist camera to focus automatically, Integrate face iris recognition and other functions, Save the total cost of temperature measurement system.

Add trigger photo taking function, and the retail price of 8m range is cost-effective.

Small spot size without false alarm, and the installation position is very flexible. It's as small as a 1 Dollar Coins.

Power consumption is lower than 1W. Save energy and power. LiDAR accept low-power mode as well.

Performance

Product	 TF-Luna	 TFmini-S	 TFmini Plus
Range	0.2-8m@90%%reflectivity	0.1-12m@90%%reflectivity	0.1-12m@90%%reflectivity
Accuracy	±6cm@(0.2-3m) ±2%@(3-8m)	±6cm@(0.1-6m) ≤1%@(6-12m)	±5cm@(0.1-5m) ±1%@(5-12m)
FoV	2°	2°	3.6°
Interface	UART、I²C	UART、I²C、I/O	UART、I²C、I/O
Power	≤0.35W	≤0.7W	≤0.55W
Frequency	1-250Hz	1-1000Hz	1-1000Hz
Protection	N/A	N/A	IP65
Volume	35mm*21.25mm*12.5mm (L*W*H)	42mm*15mm*16mm (L*W*H)	35mm*18.5mm*21mm (L*W*H)

For more details, please visit en.benewake.com

Case Study

The real-time measuring ability of Benewake LiDAR Sensor is remarkable. Its' FoV is small and the energy is concentrated, There is no mechanical movement structure inside with high accuracy and reliability. Its' service life is more than 3 years. At present, Benewake LiDAR Sensor is widely used in airport, buildings, shopping mall to help camera realize auto-focus or trigger photo taking functions.

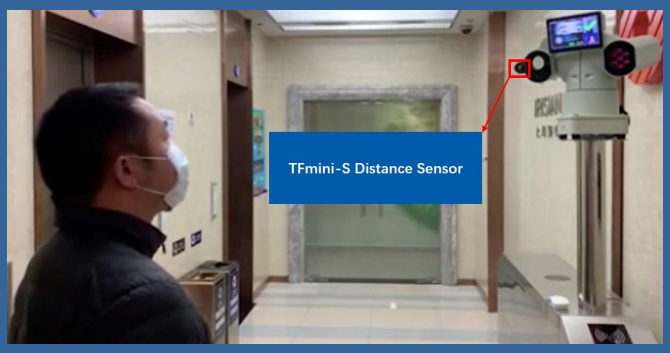
Sci-Tech Park

LiDAR is installed on the side of the infrared camera, and it is measured towards the direction of people to assist the camera auto-focus and measure temperature.

Office building

LiDAR is installed on the side of the infrared camera, and it is measured towards the direction of people. Auto-focus will help camera realize iris recognition.

Installation



LiDAR is installed on the side of one lens of the infrared thermal imager, and the ranging light source is facing the pedestrian side. The LiDAR emits invisible light source. Please do not cross overlap with the camera or other 850nm light source to avoid affecting the ranging effect. This application mode does not need accurate measurement of human iris, and requires relatively low accuracy.

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