

Coupled with unique optical and electrical design, the product is based upon ToF (Time of Flight) and adopts 850nm infrared light source so as to measure distance with stability, precision, high sensitivity, and high speed.

The product is built with algorithms adapted to various application environments so as to offer excellent distance measurement performances with low cost and small size. The product adopts multiple adjustable configurations for flexible use by the client, which is better to satisfy the end-users' demand.



**Main product features** ●Small size ●Light weight ●Low power consumption

**Main application scenario** ●Pedestrian detection ●Vehicle detection ●Intelligent barrier gate

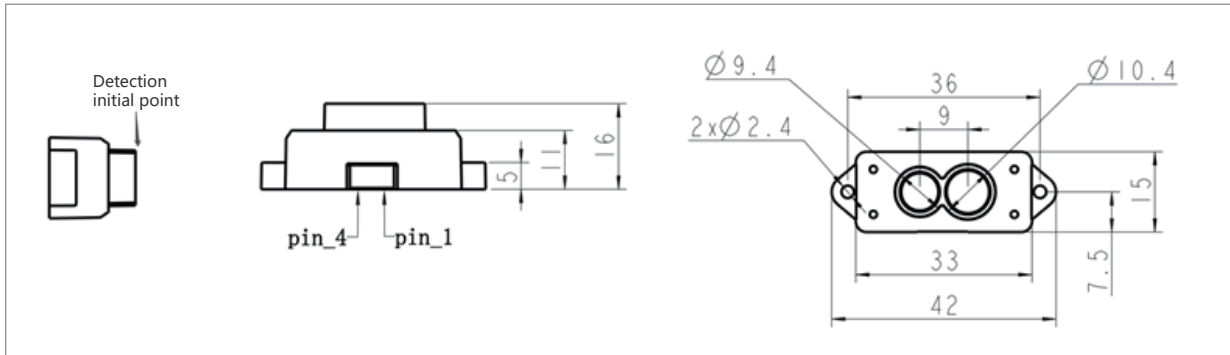
### Technical Specifications and Parameters

|                       | Description                     | Parameter value              |
|-----------------------|---------------------------------|------------------------------|
| Product performance   | Operating range                 | 0.3m~12m <sup>①</sup>        |
|                       | Accuracy                        | ±6cm@ (0.3m-6m) <sup>②</sup> |
|                       |                                 | ±1%@ (6m-12m) <sup>③</sup>   |
|                       | Distance resolution             | 1cm                          |
|                       | Frame rate                      | 100Hz                        |
|                       | Default unit of distance output | cm                           |
|                       | Ambient light immunity          | 70klux                       |
|                       | Operation temperature           | 0~60°C                       |
| Enclosure rating      | /                               |                              |
| Optical parameters    | Light source                    | LED                          |
|                       | Central wavelength              | 850nm                        |
|                       | Photobiological safety          | Exemption level(EN62471)     |
|                       | FOV                             | 2.3°                         |
| Electrical parameters | Supply voltage                  | 5V±0.1V                      |
|                       | Average current                 | ≤140mA                       |
|                       | Power consumption               | ≤0.7W                        |
|                       | Peak current                    | 800mA                        |
|                       | Communication level             | LVTTL (3.3V)                 |
|                       | Communication interface         | UART                         |
| Others                | Dimension                       | 42mm*15mm*16mm(L*W*H)        |
|                       | Housing                         | ABS+PC                       |
|                       | Weight                          | 5g±0.3g                      |
|                       | Storage temperature             | -20°C~75°C                   |
|                       | Cable length                    | 10cm                         |

Note: ① Range based on the indoor test with the standard white board (90% reflectivity) at 25°C as the detection object;

② ③Accuracy based on the indoor test with the standard white board (90% reflectivity) at 25 °C as the detection object.

### Product Appearance and Structure



TFmini dimensions (Unit: mm)

### Communication Interface

|                         |                     |
|-------------------------|---------------------|
| Communication interface | UART                |
| Default baud rate       | 115200 (adjustable) |
| Data bit                | 8                   |
| Stop bit                | 1                   |
| Parity check            | None                |

### Configurable parameters

Before modifying the product configuration, need to enter configuration mode(42 57 02 00 00 00 01 02), and then do the relevant configuration commands in Table 4. After completing the configuration, quit the configuration mode (42 57 02 00 00 00 00 02).

| Configurable items            | Description  | Default                       |
|-------------------------------|--|-------------------------------|
| Protocol format               | Support multiple formats of output,9Bytes(cm), 9Bytes(mm),“Pixhawk” etc. | 9Bytes(cm)                    |
| Exclude threshold of Strength | When the strength is lower than the minimum threshold, the output is -1  | Default minimum threshold:20  |
| Frame rate                    | Up to 100Hz, that is, 10ms output once.                                  | 100Hz                         |
| Detection Pattern             | Automatic detection pattern/Fix detection pattern                        | Automatic detection pattern   |
| Range limit                   | Threshold of ranging limit (mm),by Maxrange-Mode and BlindMode setting   | Maxrange:12000mm; Blind:300mm |
| Baud rate                     | Support baud rate setting of 9600-2000000                                | 115200                        |
| Trigger sources               | Automatic operating and trigger operating can be set                     | Automatic operating           |
| Restore factory settings      | Restore all configurations to factory configuration                      | /                             |

Note: More configuration parameters and command could be found in the production manual.

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Product Certification