

# AI ToF People Counting Sensor

Featuring LoRaWAN®

## VS133

The Milesight logo features a stylized blue 'M' followed by the word 'Milesight' in a black, italicized sans-serif font.

VS133 is a sensor that uses second-generation ToF technology to accurately count people. This technology provides more precise depth maps and longer detection distances while maintaining an excellent privacy protection. The advanced ToF technology combined with an AI algorithm enables the sensor to handle complex scenes and distinguish non-human objects with up to 99.8% accuracy.

Combining with Milesight LoRaWAN® gateway and Milesight IoT Cloud solution, users can manage all sensor data remotely and visually. With easy installation and automatic detection of installation height, the VS133 is ideal for entrances or corridors in retail stores, malls, offices, subways, and other locations.

## ◆ Features

- Up to 99.8% accuracy combining the 2nd generation ToF technology and AI algorithm
- Working well even in low-light or completely dark environments with great lighting adaptability
- Free from privacy concerns without image capturing
- Allow to collect people counting data by differentiating between children and adults and detecting staffs via identification features for clearer people analysis
- Smart U-turn detection to filter redundant counting of people wandering in the area
- Support queuing management via dwell time detection and regional people counting
- Support Group Counting function that based on the distance, moving direction, and speed difference to gain deeper insights into customers' behaviors

- Wider field angle to obtain longer-distance depth maps and cover a larger area
- Automatically detect the optimal installation height, facilitating fast deployment and intelligent detection
- Store a million counting data locally and securely
- Easy configuration via Wi-Fi for web GUI configuration
- Function well with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud

## ◆ Specifications

People Counting	
ToF FoV	98 ° Horizontal, 80 ° Vertical
ToF Light Beam	940nm (Invisible)
Measuring Accuracy	< 3.5cm
Detection Range	0.5 to 3.5 m
Installation Height	≤ 3.5m
Recognition Rate	Up to 99.8%
Advanced Function	
Bi-Directional People Counting	Up to 4 counting lines for bi-directional people counting
U-turns Filtering	Filter redundant counting of people wandering in the bi-directional people counting areas
Regional People Counting & Dwell Time Detection	Up to 4 detection areas (up to 10 sides for each area) for regional people counting and dwell time detection
Group Counting	Support
Children/Adults Differentiation	Support
Staff Detection	Support
Wireless Transmission	
Protocol	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
Sensitivity	-137 dBm @300bps
Mode	OTAA/ABP Class C
Other Interfaces	
Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz (AP Mode for configuration)
Button	1 × Wi-Fi/Reset Button
LED Indicators	1 × RGB LED Indicator
Power Input	1 × DC Jack Connector

Physical Characteristics	
Local Storage	Store up to one million data records and supports to export csv file
Power Supply	12VDC / 2A
Power Consumption	Typical 7.8 W, max 22.2 W
Operating Temperature	-20°C ~ +50°C
Relative Humidity	0 ~ 95% (Non-condensing)
Ingress Protection	IP40
Dimension	180 × 26 × 72 mm
Weight	226g
Installation	Ceiling Mounting, Extended Ceiling Mounting & Lintel Mounting (with Optional Multifunctional Bracket)

## ◆ Monitored Area

Installation Height (m)	Monitored Area (m)	Detection Area(m)
2.5	5.75 × 4.20	1.84 × 1.34
2.6	5.98 × 4.36	2.07 × 1.51
2.7	6.21 × 4.53	2.30 × 1.68
2.8	6.44 × 4.70	2.53 × 1.85
2.9	6.67 × 4.87	2.76 × 2.01
3.0	6.90 × 5.03	2.99 × 2.18
3.1	7.13 × 5.20	3.22 × 2.35
3.2	7.36 × 5.37	3.45 × 2.52
3.3	7.59 × 5.54	3.68 × 2.69
3.4	7.82 × 5.71	3.91 × 2.85
3.5	8.05 × 5.87	4.14 × 3.02