Ultra ToF People Counter

VS135



VS135 is a high-end people counting sensor that is based on deep learning AI and second-generation ToF technology. It is capable of adapting to various complex scenarios while ensuring excellent privacy protection. This sensor possesses an impressive accuracy of up to 99.8% in people counting, fully meeting your needs, and it delivers exceptional performance for indoor applications. With high ceiling mounting of up to 6.5m, it adapts seamlessly to any environment.

VS135 offers various connectivity options (LoRaWAN®, Wi-Fi HaLow, Cellular and Ethernet) for seamless connectivity and efficient space management across applications. Additionally, the AP mode Wi-Fi simplifies device configuration. Additionally, it provides rich interfaces for versatile connection options, expanding the possibilities for integration and customization.

VS135 can be used in retails stores, airports, buildings, supermarkets, and other spaces.

◆ Features

Highly-efficient Sensing Ability

- Up to 99.8% accuracy with the 2nd generation ToF technology and AI algorithm.
- Compliant with GDPR without images collected, free from privacy concerns
- Working well even in low-light or completely dark environments with great lighting adaptability.

- Allow to collect more accurate people counting data by differentiating children / adults and detecting staffs via identification like staff lanyards 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 Multi-Device Stitching which enables the linking of multiple devices to expand coverage.
- Support advanced Heat Map function which provides deeper insights by visually representing the distribution and intensity of foot traffic.
- With radar sensor based ESG friendly working mode, it allows to experience full-speed operation when detection people occupied while switching to a power-saving sleep mode when unoccupied.
- By incorporating 3-axis sensors for automatic compensation when the device is mounted at a tilt, ensures enhanced precision and guarantees accurate data analysis.
- Automatically detect the installation height, facilitating fast deployment and intelligent detection.
- Support the counting of shopping cart with different fill levels. *(For PoE Version, Cellular Version and WiFi HaLow Version)*

Rich Connectivity Options

- Provide multiple connectivity options (Ethernet, Cellular, Wi-Fi HaLow, LoRaWAN®).
- Easy web GUI configuration via Wi-Fi.
- Milesight DeviceHub & Development Platform provide easy and centralized management of remote devices.
- Support local data storage and data retransmission to collect data securely.
- Support HTTP(s)/MQTT(s)/CGI for easily integration. *(For PoE Version, Cellular Version and WiFi HaLow Version)*
- BACnet/IP native integration for building management systems *(For PoE Version)*
- Equip with Alarm I/O. *(For PoE Version)*
- Function well with standard LoRaWAN® gateways and network servers. *(For LoRaWAN® Version)*
- Quick and easy management with Milesight IoT Cloud. *(For LoRaWAN® Version)*

◆ Specifications

Version	**PoE Version**	**Cellular Version**	**WiFi HaLow Version**	**LoRaWAN® Version**
Model Name	**VS135-P**	**VS135-L08EU**	**VS135-HL-xxxM**	**VS135-xxxM**
Sensor				
ToF FoV	Standard Version: 98° Horizontal, 80° Vertical High Ceiling Mount: 60° Horizontal, 45° Vertical			
ToF Light Beam	940nm (Invisible)			
Distance Measuring Accuracy	Standard Version: ± 3.5cm High Ceiling Mount: ± 6.5cm			

Detection Range	Standard Version: 0.5 ~ 3.5m High Ceiling Mount: 2~ 6.5m	
Installation Height	Standard Version: ≤ 3.5m High Ceiling Mount: ≤ 6.5m	
Luminous Mode	Auto / Always On / Schedule	
Advanced Function		
Bi-Directional People Counting	Up to 4 detection 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 decagon for each area) for regional people counting and dwell time detection	
Group Counting	Support	
Children/Adults Differentiation	Support	
Staff Detection	Support	
Occlusion Detection	Support	
Shopping Cart Fill Level Detection	Support	-
Heat Map	Motion Heat Map, Dwell Heat Map	
Multi-Device Stitching	Up to 8 devices stitching to expand coverage	Up to 4 devices stitching to expand coverage
Data Retransmission	Support 8 × 50000 data retransmission packets	Support 4000 retransmission packets
Video Validation	Support 1 channel video validation (the duration of 4 hours)	
Data Transmission		
VS135-P		
Ethernet Port	1 × RJ45 10/100 Mbps (PoE PD)	
Ethernet Isolation	1.5 kV RMS	
Network Protocol	HTTP, HTTPS, MQTT, MQTTS, NTP, 802.1x, SSH, LLDP, BACnet/IP, etc.	
VS135-L08EU		
Frequency Band	LTE (CAT 4): B1/B3/B7/B8/B20/B28 WCDMA: B1/B8 GSM: B3/B8	
SIM Slot	1 x Nano SIM (4FF) Slot, 1.8V/3V	
Network Protocol	HTTP, HTTPS, MQTT, MQTTS, NTP, SSH, etc.	
VS135-HL-868M/915M		
Standard & Mode	IEEE 802.11ah, STA Mode	
Frequency	863.5~867.5 MHz/902.5~927.5 MHz	

Network Protocol	HTTP, HTTPS, MQTT, MQTTS, NTP, SSH, etc.			
VS135-470M/868M/915M				
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				
Power Input	1 × DC Jack Connector			
Alarm I/O	1/1	-		
Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz (AP Mode for configuration)			
Button	1 × Reset/Wi-Fi Button			
LED Indicators	1 × RGB LED indicator			
Physical Characteristics				
Local Storage	Store up to one million data records and supports to export csv file			
Power Supply	802.3at PoE+ or DC 12V/2A	DC 12V/2A		
Operating Power Consumption	Standard Version: Avg. 8 W, Max. 17W High Ceiling Mount: Avg. 10 W, Max. 24 W	Standard Version: Avg. 8 W, Max. 17 W High Ceiling Mount: Avg. 9 W, Max. 22 W	Standard Version: Avg. 7 W, Max. 15 W High Ceiling Mount: Avg. 8 W, Max. 20 W	Standard Version: Avg. 7 W, Max. 15 W High Ceiling Mount: Avg. 8 W, Max. 20 W
Hibernate Power Consumption	5W		4W	
Operating Temperature	-20°C ~50°C			
Relative Humidity	0 ~ 95% (Non-condensing)			
Ingress Protection	IP40			
Dimension	200 x 35 x 85 mm (7.87 x 1.38 x 3.35 in)			
Weight	419g	412.8g	409.8g	409.8g
Color	White or Black (Optional)			
Installation	Ceiling Mounting, Extended Ceiling Mounting & Lintel Mounting (with Optional Multifunctional Bracket)			
Approvals				
Regulatory	FCC, CE, GDPR	CE, GDPR	FCC, CE, GDPR	FCC, CE, GDPR

◆ Monitored Area

Standard Version:

Installation Height (m)	Monitored Area[1] (m^2)	Detection Area[2] (m^2)
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

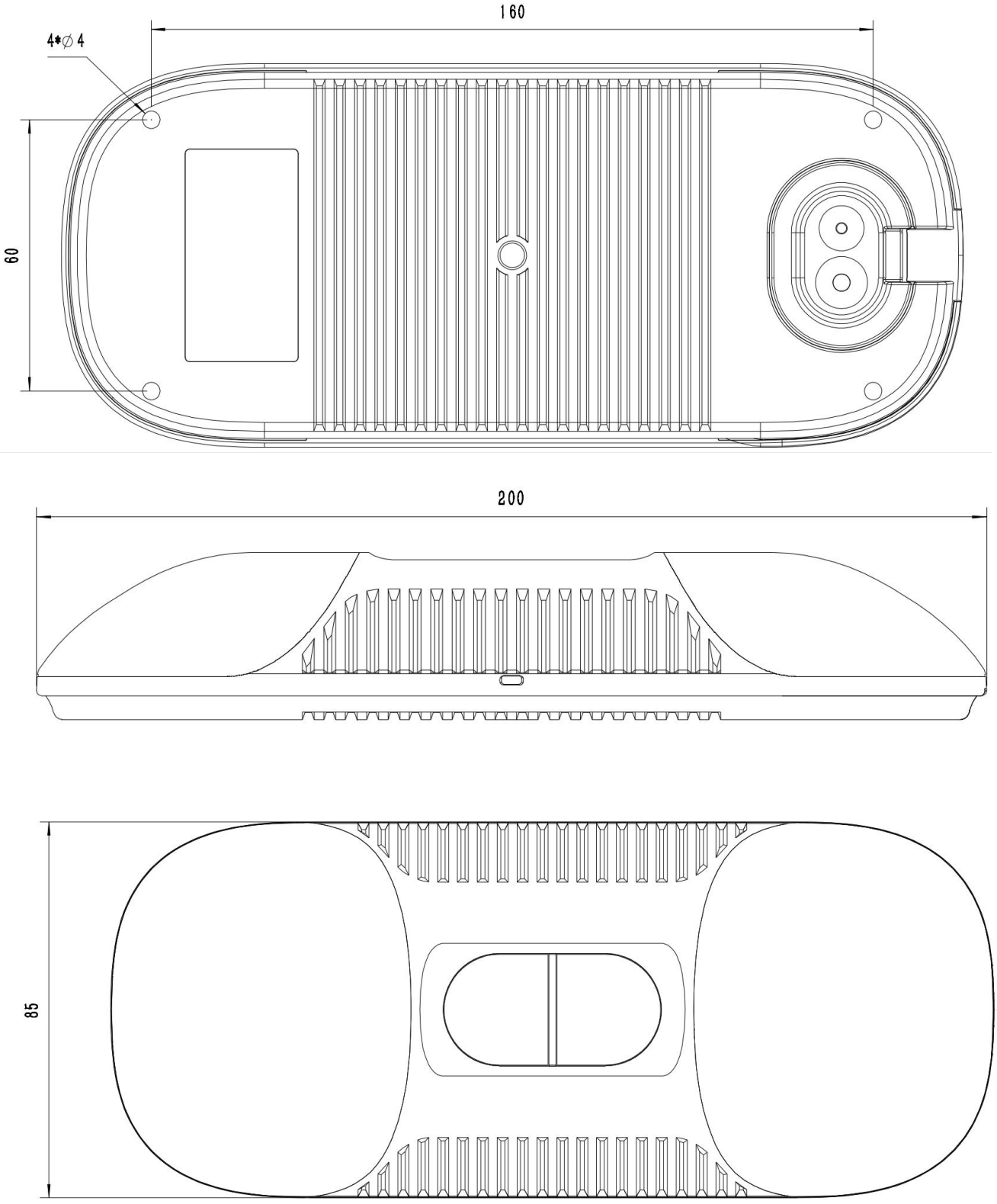
High Ceiling Mount Version:

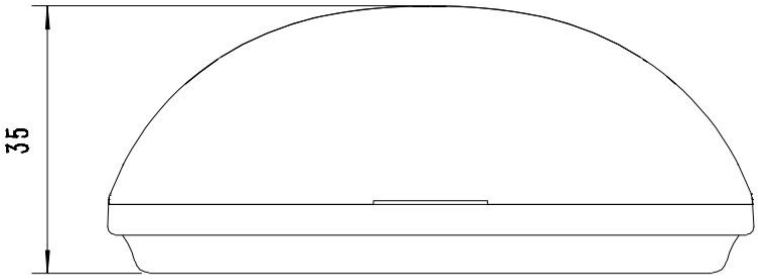
Installation Height (m)	Monitored Area[1] (m^2)	Detection Area[2] (m^2)
3.5	4.04 × 2.90	2.08 × 1.49
3.7	4.27 × 3.07	2.31 × 1.66
3.9	4.50 × 3.23	2.54 × 1.82
4.1	4.73 × 3.40	2.77 × 1.99
4.3	4.97 × 3.56	3.00 × 2.15
4.5	5.20 × 3.73	3.23 × 2.32
4.7	5.43 × 3.89	3.46 × 2.49
4.9	5.66 × 4.06	3.70 × 2.65
5.1	5.89 × 4.22	3.93 × 2.82
5.3	6.12 × 4.39	4.16 × 2.98
5.5	6.35 × 4.56	4.39 × 3.15
5.7	6.35 × 4.72	4.62 × 3.31
5.9	6.81 × 4.89	4.85 × 3.48
6.1	7.04 × 5.05	5.08 × 3.65
6.3	7.27 × 5.22	5.31 × 3.81
6.5	7.51 × 5.38	5.54 × 3.98

[1]**Monitored area:** The range visible to the device (FOV), which is displayed on the live view.

[2]**Detection area:** The range within the monitored area where the device can detect changes in the number of people.

◆ Dimensions (mm)




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