AI ToF People Counting Sensor

VS133

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. The VS133 sensor can be used in conjunction with the Milesight LoRaWAN® gateways and the Milesight IoT Cloud, as well as with the PoE version VS133-P, which allows for easy Ethernet connectivity and different data transmission options. With easy installation, the VS133 and VS133-P sensors are 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

➢ Allow to collect people counting data by differentiating between children and adults and detecting staffs via identification features for clearer people analysis

➢ Wider field angle to obtain longer-distance depth maps and cover a larger area

➢ Working well even in low-light or completely dark environments with great lighting adaptability

➢ Free from privacy concerns without image capturing

➢ Smart U-turn counting to filter redundant counting of people wandering in the area

➢ High compatibility of data transmission either from LoRaWAN® or Ethernet port (HTTP/MQTT/CGI)

➢ Various serial ports are equipped in the VS133 PoE version

➢ 4GB flash storage to store a million counting data locally and securely

➢ Easy configuration via Wi-Fi or Ethernet port for web GUI configuration

➢ Function well with standard LoRaWAN® gateways and network servers

➢ Quick and easy management with Milesight IoT Cloud or Milesight DeviceHub

◆ Applications

➢ Offices and meeting rooms occupancy monitoring

➢ Customer flow analysis on stores and shopping malls

➢ Passenger flow analysis on buses or subways

◆ Specifications

Model	VS133	VS133-P
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 Feature	Customized Multiple Counting Lines, Filter U-turns, Bi-directional Counting, Children/Adults Differentiation, Staff Detection	
LoRaWAN® 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	
Ethernet Transmission		
Ethernet Port	-	1 × RJ45 10/100 Mbps (PoE PD)
Network Protocol		HTTP, MQTT, NTP,etc.
Other Interfaces		
Wi-Fi	IEEE 802.11 b/g/n, 2.4GHz	-

	(AP Mode for configuration)	
Alarm I/O	-	1/1
Serial Interface	-	1 × RS485
Button	1 × Wi-Fi/Reset Button	1 × Reset Button
LED Indicators	1 × RGB LED Indicator	
Power Input	1 × DC Jack Connector	-
Physical Characteristics		
Local Storage	4GB Flash to store one million data	
Power Supply	12VDC / 2A	802.3at PoE
Power Consumption	Typical 7.8 W, max 22.2 W	Typical 9.4 W, max 23.8 W
Operating Temperature	-20°C ~ +50°C	
Relative Humidity	0 ~ 95% (Non-condensing)	
Ingress Protection	IP40	
Dimension	180 × 26 × 72 mm	
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