WxS 8800-060

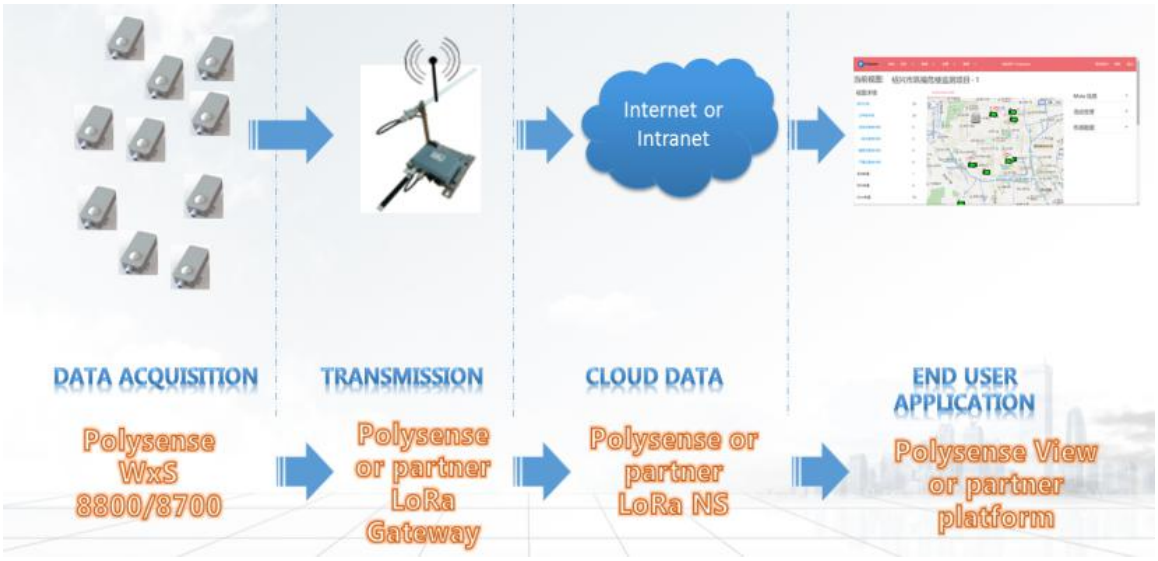
LoRaWAN Bidirectional People Counting Sensor End Node – Using Diffuse Reflection Technology

Product Highlights

- ✓ High sensitivity and accuracy bidirectional people counting sensor for retail stores, quick restaurants, SMB buildings, shopping mall, labs, sport facility, manufacturing product line
- ✓ Count exact numbers of people or object (such as bottle on assembly line) to enter or exit
- ✓ Using diffuse reflection technology, NO reflection mirror is needed. This elimination greatly simplifies the installation. Just install a single box, power up, and start counting.
- ✓ Up 2.5 meter range, enough to cover a wide double door entrance or wide assembly line
- ✓ Enables people foot traffic monitoring at wide range of locations and types of businesses
- ✓ Enables analysis of valuable statistics such as customer traffic profile such as peak/low, hour of the day, day of the week, day/week of the month, day/week of the year
- ✓ Real time bidirectional counter report (the report cycle is configurable)
- ✓ OTA (Over The Air) firmware upgrade, including to upgrade loader and application images
- ✓ Analog and digital interface for external sensor connectivity and pulse counting (MPI)
- ✓ DC 12V power source
- ✓ Integrated internal antenna, or optional external SMA/IPEX antenna
- ✓ Up to 5km reach in NLoS (Non-Line-of-Sight) and up to 18km LoS (Line-of-Sight) environments
- ✓ IP67 enclosure rating

Application Architecture and Sample Applications

- ✓ People foot traffic counting in shopping mall, retail stores, quick restaurant
- ✓ Manufacturing assembly line product counting
- ✓ SMB personnel access monitoring
- ✓ Usage and occupancy of Conference room, sport facility, lab, rest room



Specifications

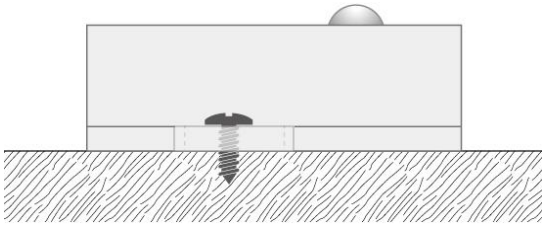
Parameter	Value
Sensor	
Valid detecting Range	0-2.5m (from one side of the doorway to the opposite side); Note: NO reflective mirror is needed (greatly simply the installation)
Response Time	< 1 second
Data Report	Normally 1 minute (user-configurable)
Wireless	
ISM Band	EU 863 – 870MHz US 902 – 928MHz China 779 – 787MHz EU 433MHz AS 923MHz CN 470 – 510MHz

Maximum Link Budget	168dB
Distance	Up to 5km in NLOS; up to 18km in LOS
Antenna	Integrated internal antenna or external 1/2 wavelength whip antenna (SMA)
Mechanical	
Dimension	Composite styles: **(1) Single Enclosure: 193mm x 90mm x 60mm** **(2) Separate enclosure for flexible placement:** 60mm x 100mm x 35mm (WxS8800) 50mm x 50mm x 18mm (IR emitter)
IP rating	IP67 (WxS8800)
Operating Temperature	-40°C to +85°C (WxS8800)
Cable length	1.5 meters or custom length
Total Weight	400 g
Electrical	
Supply Voltage	12 VDC
Compliance/Certification	
LoRa Alliance	LoRaWAN 1.0.2
FC IC CE RoHS	FCC(America): 2AO7W-WXS8000, IC(Canada): 23701-WXS8000 CE(European Union)： B1810246 ROHS(European Union): R2BJ180927F0664E

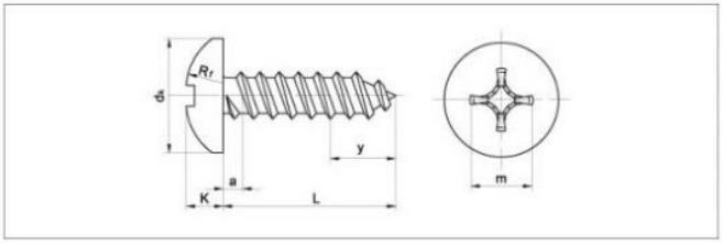
Installation Guide

All necessary components are integrated in the single enclosure for easy deployment

WxS880-060 can be installed on any flat and solid surface such as wall mount or table mount o pillar mount. For a typical doorway entrance, this can be mounted on one side of the door. This can also be simply installed on a post.

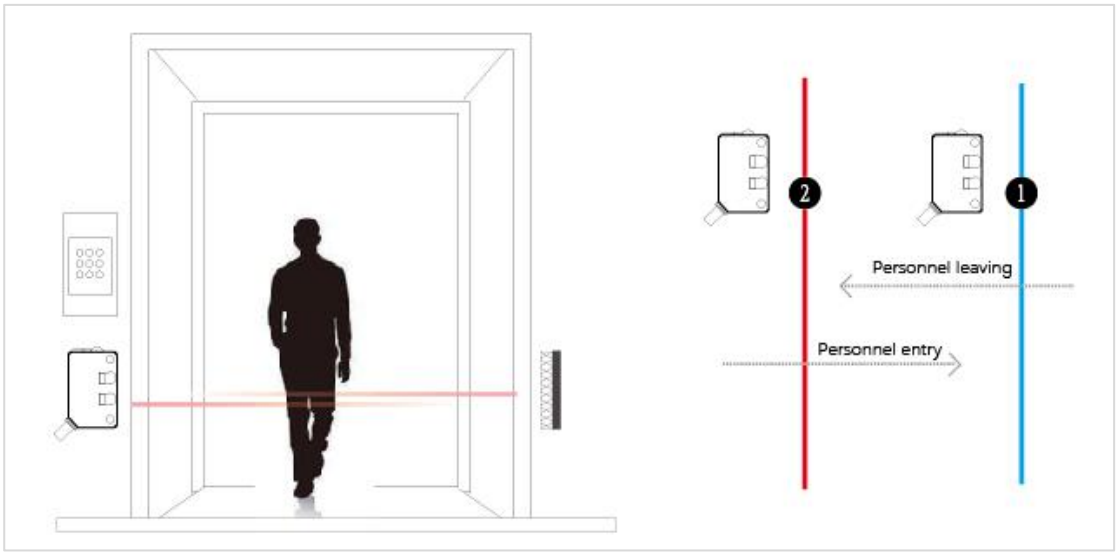


Below is the recommendation of the self-tapping screw and its sizes:



螺纹规格		ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3
dk	min	3.7	5.3	6.64	7.64	9.14	10.57	11.57
K	min	1.4	2.15	2.35	2.8	3.4	3.7	4.3
m		1.9	3	3.9	4.4	4.9	6.4	6.9
L		4.5mm–100mm						

Wide range of applications



We perform local sequence analytic to A-B or B-A to determine whether the person's direction is entering or exiting. Personnel statistics and demographics that can be widely used to monitor foot traffic in many commercial businesses or indoor hotel tenants.

In public places such as airports, shopping malls, exhibition halls, retail stores, quick restaurants, the customer foot traffic statistics is monitored in real time. Sensor reports statistics of the both directions of the people. The density of the area where the personnel are located can be analyzed accurately. Accuracy is over 95%. This enables deep data mining to extract business values such as customer foot traffic pattern, peak business hours, staffing scheduling.

Precise occupancy and usage statistics. Compare to other monitoring approach such as Motion PIR, people count sensor provides actual statistics of people entering and exiting, number of people present.

Usages of a lab, conference rooms, sport facility (basketball or racquetball, tennis court) and smart rest rooms can also be effectively counted in real time and historical data over time. This allows identifying if a facility is efficiently used, when it is idle and available. When the set number of people is reached, the cleaning staff is called to work.

In industrial applications, the product counting of the industrial assembly line ensures the quantity statistics of the product in a certain process stage. This is also of great importance to any manufacturer.

About Polysense

Polysense Technologies Inc., Located in Santa Clara, California, with offices in St. Paul, Brazil, Beijing, Luo Yang ,Shanghai and Guangzhou, China, develops Universal Sensing and communicating Solutions with Distributed Data Analytic for IoT.

Polysense focuses on fiber and wireless IoT products, solutions, and engineering services for service providers, enterprises, government agencies, and consumers, including 3G/4G LTE based WxS 6x00, Wi-Fi/BLE based WxS 7x00, LoRa based WxS 8x00, and NB-IoT/eMTC based WxS 9x00, enabling a rich array of applications such as Smart City, Industrial Internet of Things, Smart Retail and SMB, Precision Agriculture, Water Treatment, Environmental Protection, Energy and Power. Polysense currently supports over 100 sensing parameter, iEdge edge computing turnkey software,iView data visualization cloud PaaS platform, and iServer scalable Network Server, with a goal to offer the industry's broadest portfolio of sensors over 140 sensing parameters, including temperature, humidity, light, pressure, acoustic, accelerometer, tilt, vibration, displacement, environmental and industrial gases, water quality, PIR/IR motion, ultrasonic, soil sensors, thermal imaging, and 18 types gases with flammable, explosive, poisonous, or bad odor attributes.

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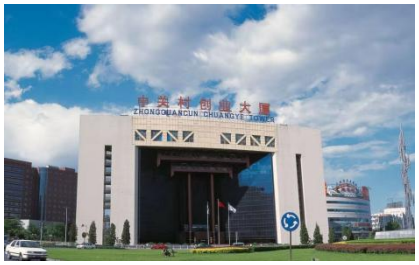

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