

WxS880-060

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

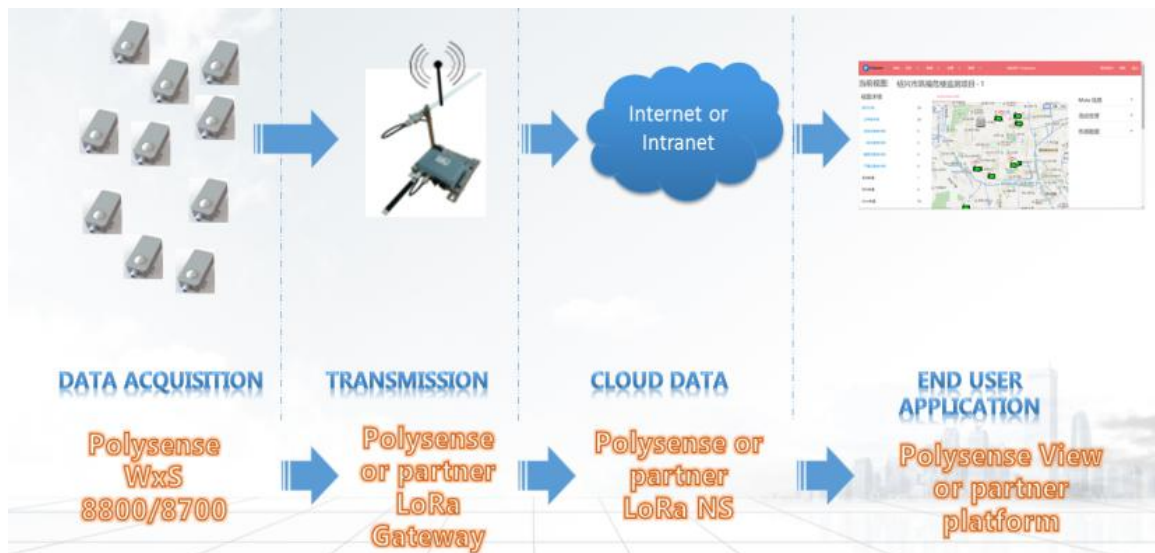
Product Highlights

- ✓ 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)
- ✓ operational life with 2 x AA Li-SOCI2 Battery
- ✓ Optional 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

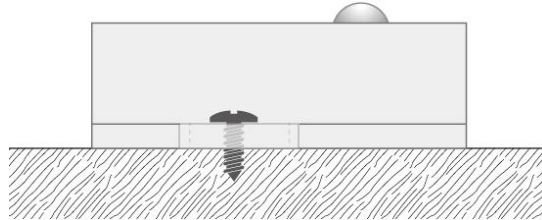
Parameter	Value
Sensor	
Valid detecting Range	0-2.5m (from one side of the doorway to the opposite side); Note: NO reflective mirror is needed (greatly simply the installation)
Response Time	< 1 second
Data Report	Normally 1 minute (user-configurable)
Wireless	
ISM Band	EU 863 – 870MHz US 902 – 928MHz China 779 – 787MHz EU 433MHz AS 923MHz CN 470 – 510MHz
Maximum Link Budget	168dB
Distance	Up to 5km NLOS; up to 18km LOS
Antenna	Integrated internal antenna or external 1/2 wavelength whip antenna (SMA)
Mechanical	
Dimension	Composite styles: (1) Single Enclosure: 158mm x 90mm x 65mm (2) Separate enclosure for flexible placement: 60mm x 100mm x 30mm (WxS8800) 50mm x 50mm x 18mm (IR emitter) 60mm x 50mm x 30mm (Reflection mirror)
IP rating	IP65 or IP67 (WxS8800) Indoor or outdoor
Operating Temperature	-40°C to +85°C (WxS8800)
Cable length	1.5 meters or custom length
Total Weight	200 g
Electrical	
Supply Voltage	12 VDC
Power Type	DC 12V
Compliance/Certification	

 LoRa Alliance	LoRaWAN 1.0.2
 IC  	FCC(America): 2A07W-WXS8000, IC(Canada): 23701-WXS8000 CE(European Union): B1810246 ROHS(European Union): R2BJ180927F0664E

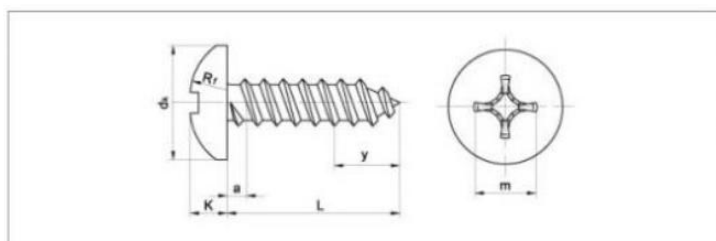
Installation Guide

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.

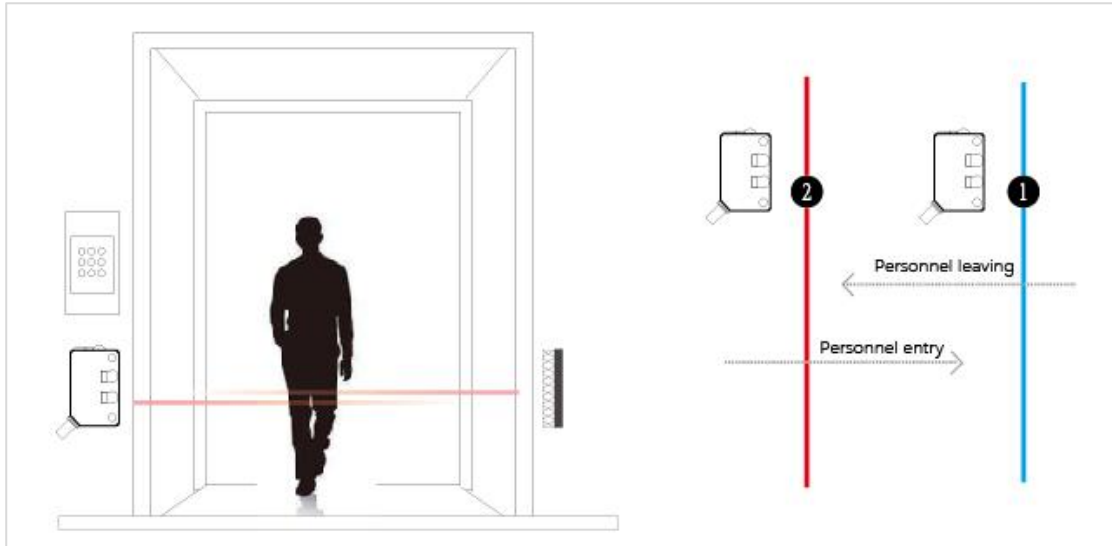


Below is the recommendation of the self-tapping screw and its sizes:



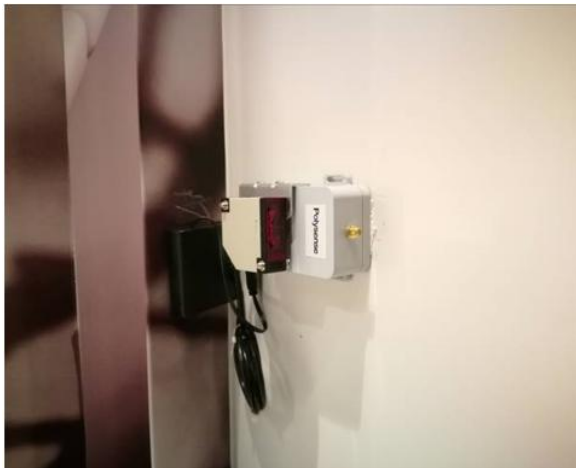
螺纹规格		ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3
dk	min	3.7	5.3	6.64	7.64	9.14	10.57	11.57
K	min	1.4	2.15	2.35	2.8	3.4	3.7	4.3
m		1.9	3	3.9	4.4	4.9	6.4	6.9
L		4.5mm-100mm						

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.

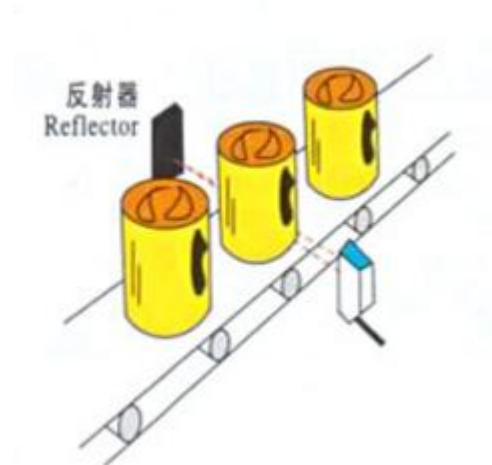


Precise occupancy and usage statistics. Compare to other monitoring approach such as Motion PIR, people count sensor provides actual statistics of people entering and exiting, number of people present.

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.





Polysense Technologies

About Polysense

Polysense develops products and solutions for Industrial IoT and smart homes, including distributed fiber sensing, LPWAN LoRa and NB-IoT based wireless IoT sensors, Passive Optical Network (PONs) and cloud based data management and analytic platform.

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