

# WxS 880-021

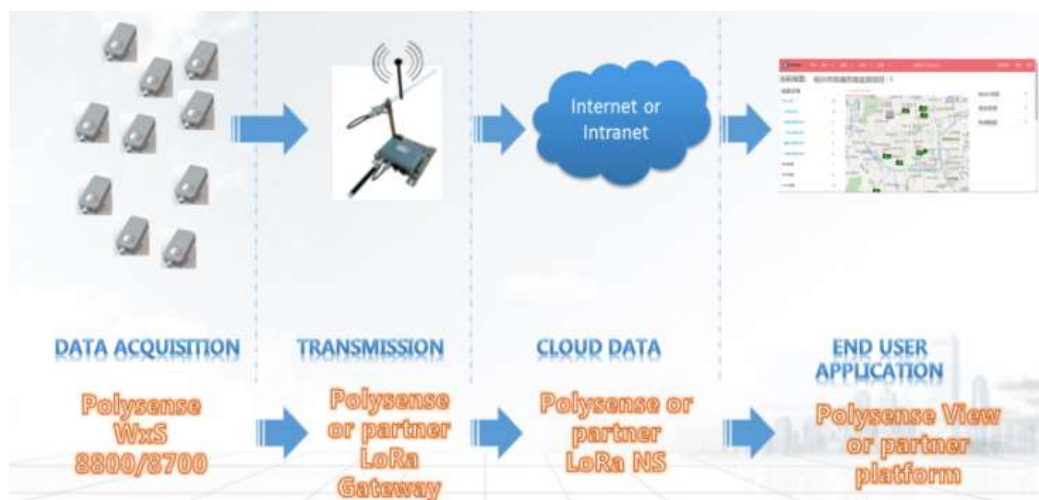
LoRaWAN Magnetic switch sensor

## Product Highlights

- ✓ Non-contact magnetic field working principle is an intrinsically safe security product.
- ✓ Intrusion behavior judgment, the alarm trigger is stable and reliable, and there is no false alarm.
- ✓ Cross-threshold report, plus periodic report every 2 hours (the threshold and the periodic report cycle are both user-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)
- ✓ Low power consumption, 5 – 10 years of battery operational life with 2 x AA Li-SOCI2 Battery
- ✓ Optional DC 5V 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





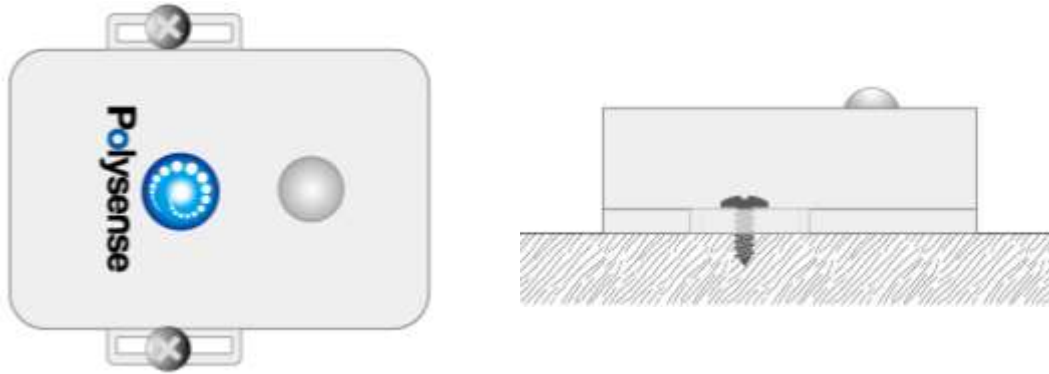
Family homes, corporate warehouses, street shops, luxury villas

## Specifications

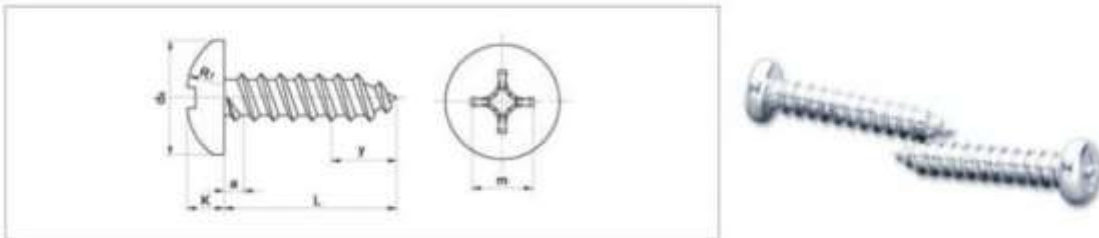
Parameter	Value
<b>Sensor</b>	
Sensing distance:	20mm - 30mm
Switch form:	normally closed, normally open, conversion
Maximum load:	10W, 100V, 0.5A
Housing material:	zinc alloy, silver gray
Lead wire:	stainless steel protective cover
Data Report	Cross-threshold report, plus periodic report every 2 hours (the threshold and the periodic report cycle are both user-configurable)
<b>Wireless</b>	
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)
<b>Mechanical</b>	
Dimension	60mm x 100mm x 30mm (WxS8800)
IP rating	IP67 (WxS8800)
Operating Temperature	-40C to +85C (WxS8800); -20C to +100C (sensor)
Cable length	0.5 meters
Total Weight	120 g
<b>Electrical</b>	
Supply Voltage	3.0 – 3.8 VDC
Power Type	Replaceable 1 or 2 AA 3.6V Li-SOCI2 Battery; DC 4.5V – 12V optional
Battery Life	5 – 10 years (assume one motion event one day)
<b>Compliance/Certification</b>	
 LoRa Alliance	LoRaWAN 1.0.2
	FCC ID: 2A07W-WXS8000, IC: 23701-WXS8000

## Installation Guide

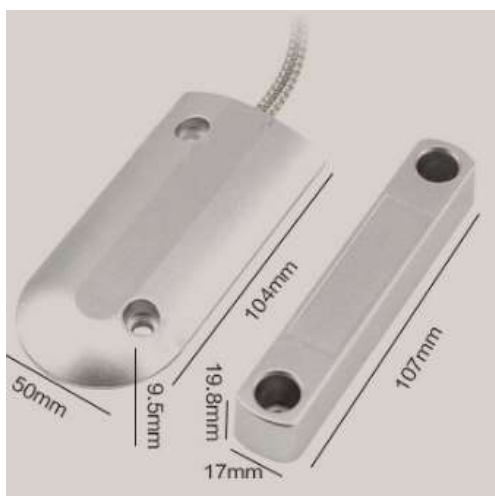
Below diagram shows the general installation guide for WxS8800, it can be installed on any flat and solid surface, the lid is contacted with the surface and fixed via 2 self-tapping screws:



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						



## Product process description

The magnetic switch is mainly composed of a switch and a magnet. The switch part is connected by a reed switch through a lead wire, and is shaped and packaged. The magnet portion is selected to respond to the magnetic field strength and is encapsulated in a plastic or alloy housing. When the two are separated or close to a certain distance, the switch is opened and closed, thereby sensing the change of the position of the object.



## 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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