

# Manhole Sensor



## Features



- Detects if manhole cover is being tampered or tilted up
- Moving Detection by G-sensor
- High sensitivity down to -140 dBm
- Optional support a wide frequency range from 862MHz to 928MHz \*see specification below for more details
- Activation switches via magnet
- 3-year normal operation with low battery alert
- IP68 waterproof

Browan has been instrumental in the development of LPWAN system solutions and is an early provider of LoRaWAN protocol-based, end-to-end LPWAN solutions. The LoRaWAN technology is designed to connect low-cost, battery-operated sensors over long distances in harsh environments that were previously too challenging or cost-prohibitive to connect. Because of its long range, high penetration and high sensitivity capabilities, it is a much more cost-effective way for service providers to deploy LoRaWAN network for sensor applications in vertical market domain.

This Manhole Sensor is designed to provide tampering monitoring of manhole covers. It is well-known that manhole is a easy target of theft, both for the cover's valuable metal content and the valuable assets down below like fiber cables, etc. This sensor detects if the manhole cover is being tilted or being lifted, and will send out alerts to the operation center. Prior to operate, the sensor is activated via magnet so to preserve battery during transportation and storage. Battery is designed for more than 3 years operation based on nominal usages.

## Specification

Model Name	WSMS-125
Frequency Band	AS923 / US915 / CN470 / EU868
Number of Channels	Configurable up to 16 channels / Nodes will select available channel to send data
WAN Protocol	LoRaWAN
Modulation	Based on LoRaWAN
RF Transceiver	SX1276
Transmit RF Power	Up to 20 dBm
Receive Sensitivity	Down to -140 dBm
Operating Temperature	-40°C ~ 70°C
Storage Temperature	-40°C ~ 70°C
Sensors	3 axis accelerometer
Power Voltage	2.2V ~ 3.3V
Battery	Non rechargeable Li-on battery 2400mAh * 2
Antenna Type	Integrated PIFA

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## Specifications (continues)

<b>Ingress Protection</b>	IP68
<b>Dimensions</b>	L:142 x W:113 x H:42.5 mm
<b>Weight</b>	318 g
<b>Security</b>	AES 128

## SKU Detail

SKU	Country	Channels	Frequency Band (MHz)
WSMS-125_AS923	Asia	16	920~925
WSMS-125_CN470	China	16	470~510
WSMS-125_EU868	Europe	8	862~870
WSMS-125_US915	USA	16	902~928