

# Manhole NB-IoT Sensor for Manhole Security and Water Level Detection

## MS102-MHWL-NB-BT8

The MS102-MHWL-NB-BT8 NB-IoT manhole detection sensor boasts a high protection IP68 enclosure, making it suitable for installation at the bottom of various manholes. Equipped with a low power ARM32 bit CPU, it can detect manhole position and the water level under up to 4 meters. It is powered by an 8500mAh Lithium battery that can last for up to 8 years with 4 daily uplinks to cloud servers like ThingsMaster OTA through NB-IoT B1/3/5/8/20/28 bands. Due to its adaptability, the manhole sensor is an ideal solution for a wide range of smart city projects designed to improve public safety.



ThingsMaster OTA



### Features & Benefits

|                             |                                             |
|-----------------------------|---------------------------------------------|
| Detection Technology        | Leveling Detection and Ultrasonic Detection |
| Water Level Detection Range | 4 Meters Vertical                           |
| Detection Object            | Manhole                                     |
| Enclosure                   | IP68                                        |
| Installation                | Bottom side of Manhole Cover                |
| Dimension                   | Φ115mm Round, 40mm depth                    |
| Wireless                    | NB-IoT (B1/3/5/8/20/28), 1 Micro SIM        |
| Weight                      | 150g                                        |
| Cloud Protocol              | TCP, MQTT                                   |
| Application Platform        | ThingsMaster OTA                            |
| Operating Temperature       | -20 to 70°C                                 |
| Power Supply                | Non-Chargeable Lithium battery 8500mAh 3.6v |
| Battery Life                | Up to 8 years (4 transactions per day)      |



## Features & Benefits

### ✓ Real Time OTA Management

- Integrated OTA platform on public Cloud
- Real-time status of manhole
- Auto-assign group IP

设备管理 > 设备列表 > 设备上报历史

| 上报时间                | 高度  | 坐标经度 | 坐标纬度 | 温度 | 设备状态 | 倾倒角度 | 满溢 | 起火 | 倾倒 | 电量 | 信号强度 | 电池电压 | RSRP | SNR | 帧计数器 |
|---------------------|-----|------|------|----|------|------|----|----|----|----|------|------|------|-----|------|
| 2019-12-26 15:11:11 | 291 |      |      | 21 | 0    | 3    | 0  | 0  | 0  | 0  | 1    | 3.63 | -828 | -8  | 14   |
| 2019-12-26 15:04:43 | 241 |      |      | 21 | 0    | 22   | 1  | 0  | 0  | 0  | 2    | 3.63 | -864 | -91 | 13   |
| 2019-12-26 13:07:52 | 297 |      |      | 21 | 0    | 3    | 0  | 0  | 0  | 0  | 1    | 3.63 | -695 | 47  | 12   |
| 2019-12-26 12:21:23 | 186 |      |      | 21 | 0    | 6    | 1  | 0  | 0  | 0  | 2    | 3.63 | -795 | -32 | 11   |
| 2019-12-26 12:17:42 | 306 |      |      | 21 | 0    | 61   | 0  | 0  | 1  | 0  | 1    | 3.63 | -898 | 48  | 10   |

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## Ordering Information

| Model                   | Description                                                 |
|-------------------------|-------------------------------------------------------------|
| MS102-MHWL-NB-BT8       | Manhole Tilt Water Level Sensor NBloT IP68, 8500mAh Battery |
| ThingsMaster OTA FL-100 | Annual Fee- ThingsMaster OTA 100 Nodes on public server     |
|                         | <b>Package List</b>                                         |
|                         | Product Unit x 1 (SIM Card not included)                    |
|                         | QIG                                                         |