



## MCF-LW12WAM

### LoRaWAN<sup>®</sup> ultrasonic 3D waste sensor

This device acquires the filling level of waste containers and ambient temperature, then sends collected data over the LoRaWAN<sup>®</sup> network with a scheduled timing or by event (eg. emptying).

Unlike other waste sensors with single transducer, the sensor developed by mcf88 reads the actual filling level on the entire container's area.

A fire alarm can be managed thanks to the temperature sensor.

This sensor can help to reduce amount of collections, which reflects in less fuel, less labor, less fleet management costs, reduced CO2 emissions and pollution, cleaner public spaces and avoiding trash cans overflow.

### Characteristics:

- CPU Cortex M0+
- EEPROM 32Kb
- Flash 64k
- Encryption AES 128 bit
- Class A LoRaWAN stack EU868, AS923, AU915, US915
- Battery powered with 5 years of life (according radio propagation effectiveness and 1 hour reading period)
- NFC for IoT node setup, FW upgrade and data Reading
- 3D filling mapping
- temperature sensor -10 ÷ 150 °C ( ±1°C)
- fire alarm
- for bins and dumpsters up to 3500 liters
- Storage temperature range -20 + 80C°
- Working temperature range -20 + 70C
- Protection class IP67

### Applications:

- Waste management