

## Product Description

**ROMA** is a smart low-power wireless signage monitoring device that provides owners and operators with a complete vision of post-based signage position, status and temperature.



Smart signal · Active maintenance

It simplifies management and maintenance of big numbers of remote, hard-to-reach signage posts.

## Product Details

Highly sensitive accelerometer

Automatic alerts for signage falling, stealing, vandalizing and others

Long wireless range

Low-power, battery lasts 3+ years

LoRaWAN 1.0.2 compatible

## Technical specifications

### Hardware

Specification	Value
Model	Waterproof box with 4 screws. Batteries not included
Protection	IP67
CPU	Low-power 8MHz
Sensitivity	-139dBm @ LoRa & 62,5 kHz & SF = 12 y 146bps - 136dBm @ LoRa & 125 Khz & SF = 12 y 293bps- 118dBm @ LoRa & 125 Khz & SF = 6 y 9380bps- 123dBm @ FSK & 5 kHz & 1,2 Kbps
RF Power	14 dBm (LoRa), 20 dBm (WiFi)
LoRaWAN	Class A only. OTAA support.
Flash memory	32 k
Consumption (Typ.)	8uA @ 3,3V
Power Supply	3x LR04 alkaline batteries
Temperature Range	-20°C to +70°C
Installation	Preconfigured plug-and-play, wall or floor mounting
Configuration	Remotely, via LoRaWAN downlink frames

## Methodology

**ROMA** is a plug-and-play IoT device. As it comes preconfigured, it only needs a power connection in a location with LoRaWAN coverage.

The device will automatically join the available network and will start monitoring the correct positioning of the mast or post where it is installed. It continuously monitors the orientation of the assembly and checks whether it falls inside a configurable threshold. An alert is sent via LoRaWAN only if the orientation is outside the allowed range or if the battery needs to be replaced.

The device also sends periodic (heartbeat) messages when not any other alert has been sent in the last 24 hours, which enables maintainers or system operators to rest assured all the signage items are in places and correctly monitored. It also enables small drifting in orientation to be captured, via this heartbeat messages, helping to diagnose terrain related problems, such as sliding or subsidence.

The low power nature of the LoRaWAN communications, paired with the ultra-low power design of the product, enables a lifetime expectancy of the batteries longer than 3 years, reducing the maintenance costs and truly unlocking a powerful value-add to users and system operators.

Device runtime settings can be adjusted via LoRaWAN downlink frames, which get sent by the network whenever the device reports to it. The following parameter can be adjusted by a LoRaWAN-compatible platform:

- Orientation alert threshold
- Battery level threshold
- Periodic heartbeat timer
- LoRaWAN Join Spread Factor

## Contact

+34 621 02 24 66

[contacto@purpleblob.net](mailto:contacto@purpleblob.net)

purpleblob.net

## Legal Disclaimer

The information on this document may contain predictive declarations, including, without limitation, Declarations related to future product portfolio, financial operatives, future technology implementations, etc. Certain specifications might differ from the results and developments here expressed or supposed in the declarations of this document. So on, the information is provided only as a reference and does not establish an offer or uptake. Purple Blob can alter this information at any time without previous notification of any kind.