



SMART SOLUTIONS

MARS

IP68 Smart Data Logger

Smart Solutions Product Catalog

MARS

Smart Mobile Data Logger

DESCRIPTION

MARS is a battery powered data acquisition device with cellular communication (2G, NB-IoT and CAT.M1, designed for operation in manholes and environments prone to flooding. It has been specifically engineered to meet the needs of district flow metering and remote reading for large consumers in an efficient and straightforward manner.

It is available in three configurations:

1. 2 digital inputs
2. 2 digital + 2 analog inputs
3. 2 digital inputs + integrated pressure sensor capable of detecting water hammer events.

The included antenna, a dipole with over 90% efficiency, offers excellent sensitivity for its operation inside manholes. For local communication and diagnostics, it has Bluetooth radio that allows these tasks to be performed continently from outside the manhole.

Thanks to its low power consumption and the use of high-capacity lithium batteries, it achieves a typical battery life of 5 years in standard operation. Replacing the batteries and the SIM card can be easily done by the user without any tools.

TECHNICAL DATA

- Power: Lithium set 3,7v 14AH
- IP Rating: IP68 (2 meters for 100 days)
- Operation temperature: -20°C to 75°C
- GSM Modem: U-blox. Available in 2G, 3G and NB-IoT
- Antenna: Dipole ½ Λ (external)
- Record memory size: > 90.000 records
- Real-time clock high accuracy +-2ppm auto sync via NTP
- Configuration and diagnosis: Bluetooth 4.0
- IO Cable length: 2M
- Dimensions: 85x78x180mm
- Pressure sensor: 1 (Optional)
- Pressure sensor range: 0-1, 0-10,0-20 bar
- Digital inputs:2
- Analog inputs: 2 (optional)

FEATURES

- Built-in pressure sensor
- Configuration and diagnosis by Bluetooth.
- Detachable high performance antenna.
- Remote firmware update.
- Easy configuration using Windows® configuration software, both locally and remotely.
- Typical autonomy of 5 years (registering 1 or 2 flows every 5 min and transmitting once a day).

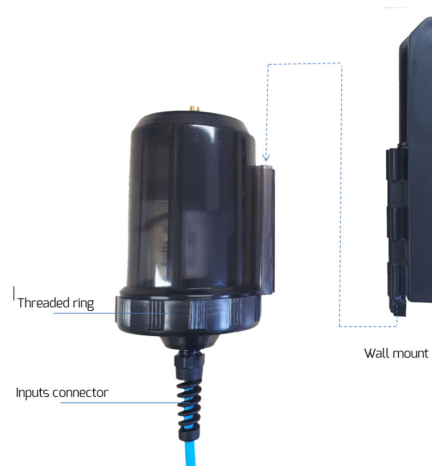
ADVANTAGES

- Simple & Quick- takes only 5 minutes to install
- Light- weight only 600g , ideal for air transportation
- Cost effective- bring great “value for money” comparing to similar product in the market.

ZEUS WEB - ZEUS Server

RAPHAEL SMART offers the ZEUS WEB service to monitor our stations from a web browser or from mobile applications, Android, and iOS.

Customers who prefer to have full control of their system without using the ZEUS WEB, can have the option of installing the ZEUS SERVER at their own premises , thus having all the advantages of ZEUS WEB and the possibility of integrating data from RAPHAEL SMART devices in external SCADAs through OPC UA.



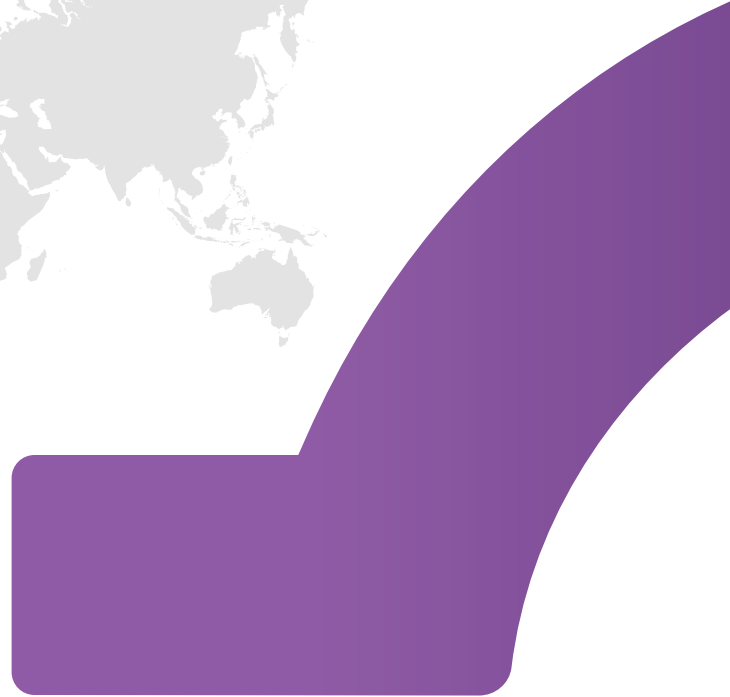
Approvals

- CE
- IP 68

Markets

- Water networks
- Water distribution
- Remote monitoring

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RAPHAEL, founded in 1949, is the first Israeli manufacturer of water control valves.

RAPHAEL's research department constantly strives to introduce new and innovative products and solutions for water control systems including water works, fire protection and irrigation systems.



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