MICROCOM
Simply More

HERMES M100 SERIES

MODULAR GSM/GPRS REMOTE CONTROL

5-year warranty

Designed for the remote monitoring of industrial facilities, the Hermes M100 series stands out for its flexibility and ease of commissioning. Together with the free Zeus monitoring platform, it offers a complete solution for managing unattended facilities.

The series includes the Hermes M103 master module, which features 4G cellular, Ethernet, and Wi-Fi connectivity, and a range of expansion modules that allow the system to be expanded by up to 128 additional inputs/outputs.

This solution offers three main functionalities:

- **Alarm transmission**
  - Advanced logic for detecting alarms based on threshold, out-of-range time, logical combinations, among others.
  - Alarm transmission via SMS, voice call or PUSH notification to the ZeusMobile application.
- **Data logger**
  - Memory for more than 150,000 input/output/event value records.
  - Transmission to the Zeus platform via 4G mobile communication or Ethernet/WiFi.
- **Automation**

  Powerful and intuitive programming language for automation with logic modules for pump control, communication between stations, twilight clock, among others.

ZEUS 6 PLATFORM

ZEUS 6, Microcom's free monitoring platform, allows you to monitor your installation through the ZeusWeb portal and the ZeusMobile mobile application for iOS and Android.

CHARACTERISTICS

- Integrated 4G and Ethernet/Wi-Fi communication.
- Expandable up to 128 inputs/outputs.
- MODBUS RTU and MODBUS TCP interfaces.
- 150,000-point data logging memory.
- Astronomical clock and logic module for pump control.
- 5-year warranty.

APPLICATIONS

- Water supply systems and pumping stations.
- Unattended industrial facilities.
- Industrial and commercial refrigeration systems.
- Lighting and energy efficiency.
- Agricultural and livestock operations.

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MASTER MODULE

HERMES M103

8 digital inputs, 4 analog inputs, 2 digital outputs, MODBUS RTU/TCP, 1-W probes

GENERALES
- Operating Voltage: 9 a 30 VDC
- Nominal consumption: 1,8 W
- Maximum consumption: 7,2 W
- Radio módem: 2G/3G/4G (default)
- 2G/NB-IoT/LTE-M (optional)
- Logging capacity: > 150000 logs
- Operating temperature: -10 a +75 ºC
- Configuration and diagnosis: USB C port
- Dimensions (without antenna): 115 x 25 x 115 mm
- Mounting: 35 mm DIN rail

DIGITAL INPUTS
- Number: 8
- Interface: IEC 61131-2 Type 1/3
- Sampling frequency: 200 Hz

DIGITAL OUTPUTS
- Number: 2
- Type: Open colector
- Maximum voltage/current: 30 VDC / 500 mA

ANALOG INPUTS
- Number: 4
- Type: 4 - 20 mA
- Precision: 0,25 %
- Resolution: 12 bits
- Impedance: 125 Ω

ETHERNET INTERFACE
- Type: 10/100Mbps
- Protocols: TCP/IP y MODBUS-TCP
- Security: TLS 1.2/1.3

WIFI
- Type: 802.11b/g/n (2.4 GHz)

COMMUNICATION BUS 1
- Protocol: MODBUS RTU / RS-485
- Maximum channels: 128

COMMUNICATION BUS 2
- Protocol: MODBUS-TCP

COMMUNICATION OPTIONS

Model	Networks	Region	Ethernet & Wifi	Comments
M103.E4G.E	2G/3G/4G	Europe, Middle East and Africa	YES	· Maximum compatibility with mobile networks in Europe, the Middle East & Africa
M103.L4G.E	2G/3G/4G	Latin America and Australia	YES	· Maximum compatibility with mobile networks in Latin America and Australia.
M103.E4G.X	2G/3G/4G	Europe, Middle East and Africa	No	· Maximum compatibility with mobile networks in Europe, the Middle East & Africa
M103.L4G.X	2G/3G/4G	Latin America and Australia	No	· Maximum compatibility with mobile networks in Latin America and Australia.
M103.W2G-NB.E *(Made upon request)*	2G/NB-IoT/LTE-M	Worldwide	YES	· Low cost and excellent coverage. · Network deployment not completed.. · SMS support nto guaranteed. · Does not allow voice calls
M103.W2G-NB.X *(Made upon request)*	2G/NB-IoT/LTE-M	Worldwide	No	· Low cost and excellent coverage. · Network deployment not completed.. · SMS support nto guaranteed. · Does not allow voice calls

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Product sheet

EXPANSION MODULES

HERMES M110

+8 digital inputs

GENERAL

Nominal consumption	0,2 W
Operating temperature	-10 a +75 ºC
Dimensions	110 x 18 x 115 mm

DIGITAL INPUTS

Number	8
Activation voltage	5 a 30 VDC
Sampling frequency	256 Hz
Impedance	2200 Ω

HERMES M120

+4 analog inputs

GENERAL

Nominal consumption	0,2 W
Operating temperature	-10 a +75 ºC
Dimensions	110 x 18 x 115 mm

ANALOG INPUTS

Number	4
Type	4 - 20 mA / 0 - 10 VDC
Accuracy	0,1 %
Resolution	16 bits
Impedance	4/20mA: 125 Ω / 0-10V: 1 MΩ

HERMES M121

+4 inputs for PT100 sensors

GENERAL

Nominal consumption	0,2 W
Operating temperature	-10 a +75 ºC
Dimensions	110 x 18 x 115 mm

INPUTS for PT100 SENSORS

Number	4
Type	PT100 DIN 43760 / 3-wire
Rated excitation current	< 1 mA
Temperature range	-200 a 800 ºC
Accuracy	0,1 ºC
Resolution	24 bits
Rejection at 50 Hz	-81 dB

HERMES M130

+6 relay outputs

GENERAL

Nominal consumption	1,5 W
Operating temperature	-10 a +75 ºC
Dimensions	110 x 18 x 115 mm

DIGITAL OUTPUTS

Number	6
Type	Relay. Potential-freee contact
Maximum voltage / current	250 VAC / 3 A

HERMES M140

+4 analog outputs

GENERALES

Nominal consumption	0,2 W
Operating temperature	-10 a +75 ºC
Dimensions	110 x 18 x 115 mm

ANALOG OUTPUTS

Number	4
Type	4 - 20 mA
Accuracy	0,2 %
Resolution	12 bits
Galvanic isolation	Yes

ACCESSORIES

UPS-2415
24 VDC and 15 W uninterruptible power supply with automatic switching.

F100-U SENSOR
Intelligent capacitive sensor for reliable detection of the presence of discharges in spillways.

VEGAPULS C11 / C21 / C22
Radar sensor to measure liquid level and bulk solids.

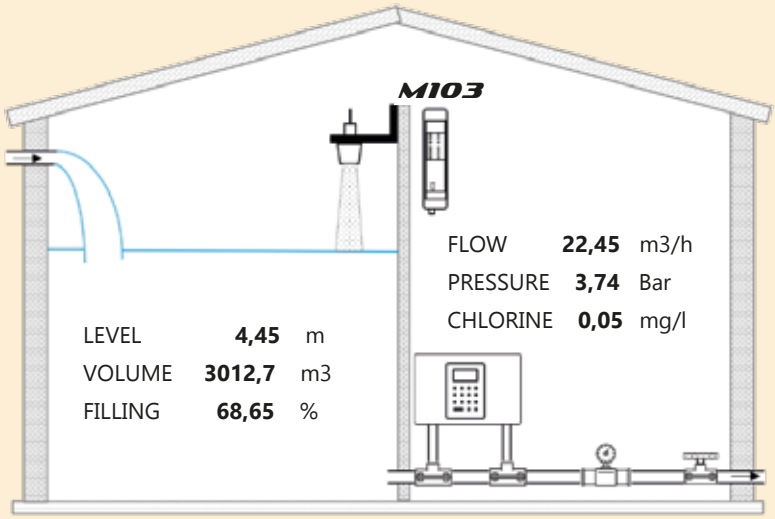
STDV01 / STDV02
Ambient temperature and humidity sensors.

Y201 / Y203 SENSORS
Ultrasonic sensor to measure liquid level without contact

HLM-25S PROBE
Submersible hydrostatic sensor to measure the level of non-aggressive liquids in pressureless tanks, wells, etc.

ANTENNAS
Antennas with different gains and extension cables.

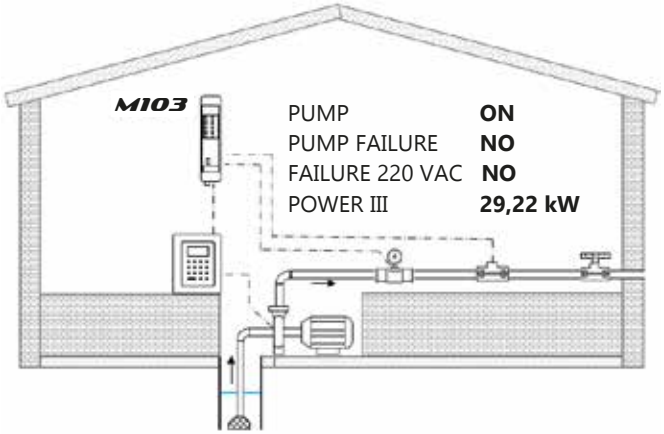
APPLICATIONS



DRINKING WATER STORAGE AND AUTOMATIC FILLING

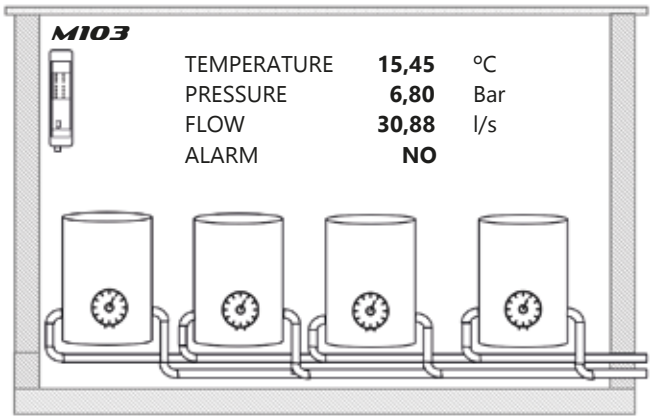
Alarms and remote monitoring of multiple parameters: level, filling percentage, flow rate, pressure, chlorine, pH, etc.

The PUBLISH/SUBSCRIBE functionality makes it possible to exchange data between different HERMES and NEMOS stations via mobile networks (2G/3G/4G/NBIOT/CAT.M1). The station that controls the pumping will have constant data indicating the level of the tanks to be filled. Accordingly, automatic activation is programmed to maintain tanks within established levels.



PUMPING STATIONS

Remote manual and automatic control by tank levels and hourly rates.

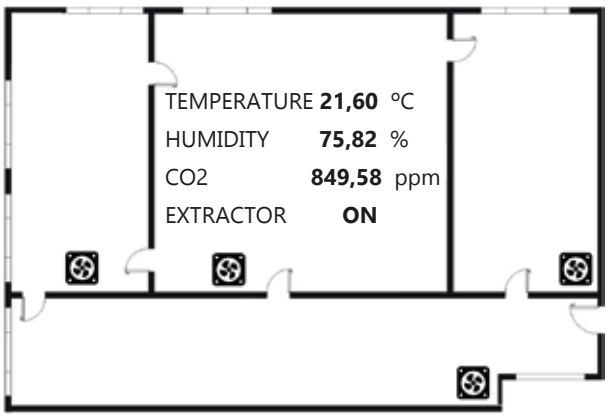


COOLING, AIR CONDITIONING AND HEAT PRODUCTION FACILITIES

Automatic temperature control and monitoring to ensure service continuity and optimisation of energy costs.

UNINTERRUPTED MONITORING OF REMOTE CONTROL CENTERS

Real time display and recording of alarms and sensors for remote installations.



INTERIOR AMBIENT QUALITY

Recording of sensors and manual/automatic activation of heaters, air extractors, lighting groups, etc., in offices and livestock holdings.

AUTOMATION - MICRO PLC II

MICRO PLC II

```
L1    #INIT
L2    REM EXAMPLE CONFIGURATION SECTION
L3    AI0 : TANK_LEVEL
L4    DO0 : PUMP
L5    #END_INIT

L6    REM EXAMPLE MAIN PROGRAM LOOP
L7    IF TANK_LEVEL >= 3.5 ; PUMP = 0
L8    IF TANK_LEVEL <= 1.5 ; PUMP = 1
```

MicroPLC-II, Microcom's new programming language for PLCs, stands out for its ease of use and unparalleled efficiency in the industry. Its simplified syntax and comprehensive set of logic modules that address the most common problems are key to this usability. The language's mathematical-logic engine supports a complete set of arithmetic, trigonometric, and logical operators, providing powerful computational capabilities. Among its most notable features are:

Pump control module

Logic module for the control of up to 6 pumps, managing alternation, hour meter, start counter, maximum continuous operating time and pump inhibition inputs.

Communication module between units

Redundant system for data exchange between stations. In case of failure of the main GPRS/TCP-IP channel, a secondary channel is established via SMS.

Twilight clock

Calculation of sunrise and sunset times based on configured geographical coordinates.

Timers

Native support for six types of timers: on, off, accumulator, pulse, weekly and cyclic.

APPLICATION LIBRARY

Microcom offers a complete set of libraries for the most common cases; some examples are:

AUTOMATED PUMPING SYSTEM – STORAGE TANK

Pump-to-tank communication via GPRS/TCP-IP with SMS redundancy. Pump alternation, start/stop thresholds according to time-of-use rates, and control of pump fault and inhibit signals.

WASTEWATER PUMPING

Pump alternation management, start/stop thresholds according to hourly rates and control of fault signals, pump inhibition and low/high level float.

PUBLIC LIGHTING

Lighting control according to an astronomical clock with configurable offset for working and non-working days.

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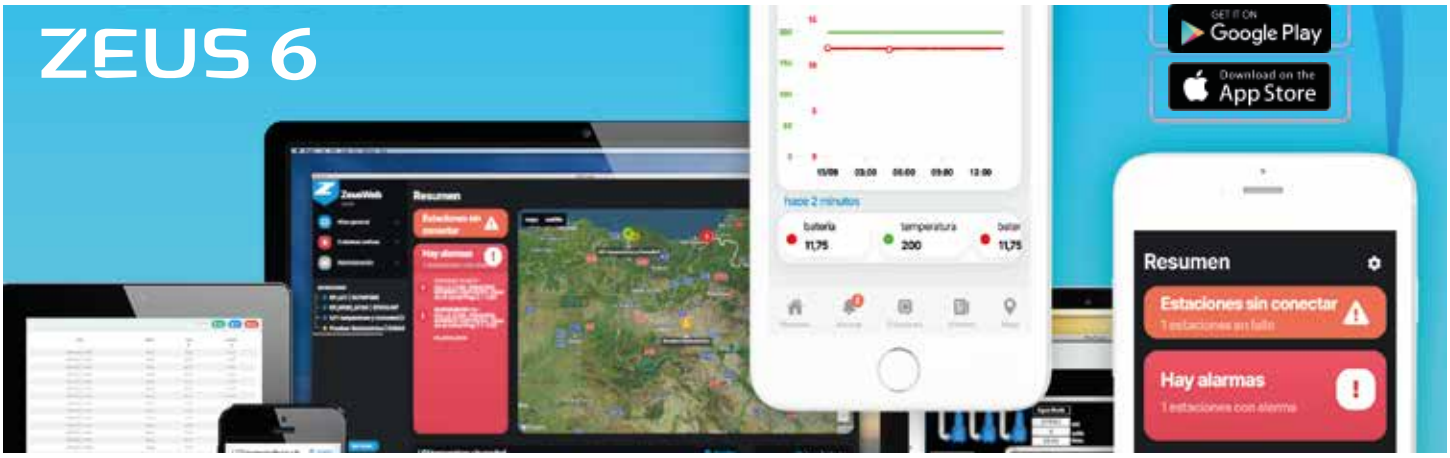


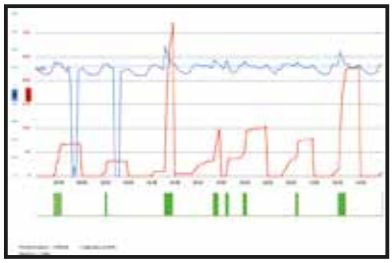
Ease of use and the implementation of the latest web technologies are the most outstanding features of ZEUS, the online SCADA system that Microcom offers its clients free of charge. With an intuitive and secure interface comparable to online banking services, ZEUS allows users to manage their facilities through a simple web browser from anywhere.

For those working remotely, the ZEUSmobile app, available for iOS and Android, provides optimized access for phones and tablets, as well as receiving alerts via push notifications, replacing traditional SMS in most cases.

ZEUS not only allows for the visualization but also the reconfiguration of remote stations, the sending of commands, and the management of users and stations, all without requiring on-site visits. Furthermore, its integration with other platforms is guaranteed thanks to common standards such as OPC UA and REST APIs.

TOOLS AND FEATURES

Visualization of historical data in graphical format



Real-time monitoring using synoptic displays

Geolocated map of stations

Ejemplo de visualización en: ZEUS mobile

- Complete reporting tool
- Receiving, managing and forwarding alarms
- Maximum security thanks to the most advanced web standards: HTTPS / SSL
- Remote device configuration Hermes and Nemos
- Advanced user and privilege management
- Availability of the Zeus Synoptic Builder tool for creating synoptics.
- ZeusAPI / OPC UA SERVER — Easy data integration with other platforms via OPC UA and REST API