



Mod. **WMP4**

Multiparametric Probe

Highlighted specs

- Up to 4 parameters in real time
- Suitable for clear or semi-turbid waters
- RS485 and USB interface for PC or datalogger
- Compact and light design in stainless steel
- Sensors easy to replace
- Maximum operative depth -20m
- Easy to clean and maintain
- According to **CE** norms

The WMP4 probe has been developed for the **monitoring of water-bearing stratus, rivers, basins, rubbish dumps or clear or semi-clear waters**. It permits to carry out a **comparative analysis of various parameters simultaneously**, allowing to read the data in real time, the local memorization, or to transfer the files to a center of data storage through the NESA dataloggers, via GSM, GPRS, UMTS, or via satellite.

Easy to use in measure campaigns or in continuous mode, thanks to an **USB or RS485 interface** and an easy **web program** which permits to turn your PC into a datalogger. You can manage the data acquisition system in continuous, or at specific programmable intervals.

The parameters which can be acquired are:

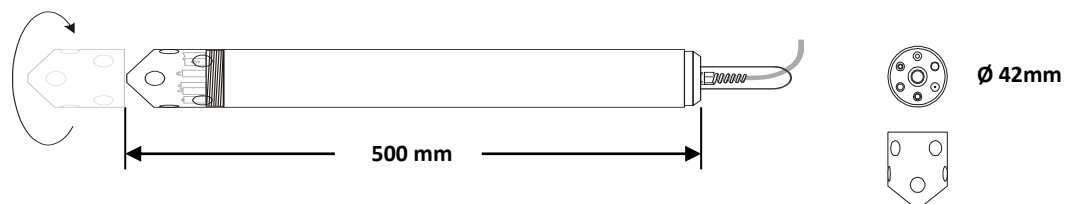
- **Piezometric Level**
- **Temperature**
- **Conducibility**
- **pH**

The possible basic parameters combinations are: level / temperature / conductivity / ph, or level / temperature / conductivity or level / temperature. Thanks to the reduced dimensions and the use of suitable materials, it's guaranteed the strength and a high mechanical reliability, which make the **WMP4 probes perfectly suitable in little diameter piezometric tubes**. Opportunely planned, it can operate, depending on the model, **up to 20m depth**. Each probe is **equipped with an RS485 serial interface** for the connection to a personal computer or a NESA datalogger.

| | | |
|------------------------------|--|--|
| Fixed parameters | PH: 0÷14 Level: 0÷20mt | Temperature: -5 ÷ +60 °C Conducibility: 0÷6.000 µS (0÷60.000µS Autorange) |
| Interface | RS485 or USB (Optional) | |
| Working conditions | -5 ÷ +60°C max 3 bar (30bar optional) | |
| Protections | Isolated data interface | |
| Made of | PVC | |
| Power supply and consumption | 10.8 ÷ 16Vdc max 30mA @ 12Vdc | |
| Dimensions | 512x42mm | |
| Standard Cable | 30mt with barometric compensation and IP68 connector | |
| Weight | < 2000g | |

Size and connections

| Pin | Wire | RS485 |
|-----|---------------|-------|
| 1 | | |
| 2 | Grey or Black | D+ |
| 3 | Red | D- |
| 4 | Blue | Gnd |
| 5 | Green | Vdc |



Measurement principle

The probe **WMP4** is the most efficient and compact system for measuring the quality of surface water or groundwater, either fresh or salt. Through **four independent electrodes**, each one calibrated separately managed by a specific electronic, **it is possible to know in real time the values of temperature, level, pH and conductivity**. The connection of the probe is very simple and can be made via RS485 or with a simple protocol to the command line, or via USB interface by means of the IS485/USB that, thanks to an effective program web, allows you to view the data, record on the PC as if it was a datalogger, and trace the trend graph to obtain a file directly in Excel format. This software also allows you to calibrate each parameter of the probe with the corresponding sample solutions.

Calibration of the sensor

Each probe has been **calibrated in the lab** with specific solutions. This calibration is maintained over time, the cleanest the waters in which the probe is immersed are, the longer the calibration will last, it can last from several months to more than 12 months. In most cases, a **new calibration is possible directly in the field**, except in case where it's necessary to replace the single electrode or of the corresponding membrane.

Maintenance

The probe needs to be **verified and cleaned** on the electrodes periodically, more often if the water in which it's immersed is dirty or muddy. The cleaning consist in **washing it with distilled water** and with a soft brush which won't damage the electrodes membranes. On average we recommend a cleaning schedule from one to three months. If the probe is removed from the water to be disabled, even temporarily, it is necessary to **cover the electrodes with the supplied caps, filled with distilled water**.

How to use

All models of Nesa probes can be used in different ways:

a) Measurements for stand-alone monitoring campaigns:

In this way, the probe can be **connected to a laptop** and powered through the **interface IS485/USB** that **turns PCs into a datalogger**. Through the special software "**Sonda-Web**" (optional) it's possible to **display data** from each electrode of the probe **in real time**, store the acquired data in **ASCII** format or directly into an **Excel file**, follow the **trend graph** of each parameter and **recalibrate the probe** when necessary by using the special page dedicated in the software.

b) Continuous measurement from a fixed location:

in this way the probe or the **probes (up to 10 at the same time)** can be **connected to a data logger** Nesa series TMF, managed in a **completely automatic** way and supplied from it. The datalogger, via RS485, periodically calls each sensor and processes the data by storing them locally. If you have a line of **remote communication** GPRS, UMTS, satellite, etc., **it transfers all acquired data to an internet area using the FTP protocol** (File Transfer Protocol). Each probe can be connected by cable or by radio to the datalogger.

"Sonda-Web" Software



Multilingual Web application which allows an easy management of the probes WMP series, by USB interface (IS485/USB). **It turns your PC into a datalogger** as it allows the visualization of data in real time with selectable update intervals, the recording of data in Excel format, the graphical display and calibration of each probe's parameter through wizards.

It also allows the **geolocalization** of the sites for the management of small monitoring networks. For sensors with built-in datalogger (WMP6-DL), it downloads the data directly to Excel files.

Suitable for operating systems with UTF 8 encoding.

Option Available:

The probe is supplied complete with **cable plywood** (from barometric pressure) with **standard length of 30 meters** with terminations or IP68 connector, different lengths of cable must be requested separately.

The probe supports the default standard four parameters for the analysis of the water quality: **pH, conductivity, level and temperature**, but it can be configured for monitoring a combination of parameters including level / temperature and level / temperature / conductivity. To **use it as standalone** or spot measurement campaigns, we recommend the use of IS485/USB interface for the connection to a PC and the software "Sonda-Web".

To use it in **monitoring networks** or **campaigns** of long duration is recommended to connect the probe to an external Nesa datalogger that manages the probe and can directly transfer data via GPRS, UMTS, cable or satellite with FTP protocol.

Order code

| | | | |
|-------------|---|------|------------------------|
| Sensor | Multiparametric Probe RS485 on 30mt self-supporting cable with IP68 connector or electric cups terminations | WMP4 | |
| Accessories | IS485/USB interface Sonda-Web software | | IS485/USB Sonda Web |

*specify the length for no standard measures

example of order code

WMP4

IS485/USB