

Multi-parameter water quality & level monitoring



SPECIALIST MANUFACTURERS OF ENVIRONMENTAL ANALYSIS AND MONITORING EQUIPMENT

MAJI-PROBE

The Maji-Probe is a Portable hand-held unit for On-The-Spot measurements of Water Level and Quality. A marine grade aluminium probe measures up to 16 parameters of Water Quality and Level and the readings are displayed on the hand-held unit for immediate analysis of the data at site.

Further Analysis of data can be carried out by the optional "Data Early Warning Management Software" (DEWMS)



MAJI-STAT

The Maji-Stat is a fixed site monitoring system, perfect for remote areas or long term assessment. The system includes a probe which is permanently fixed into the water course, for continuous logging and monitoring of up to 16 different parameters of water quality and level. A data logger is also included for recording the results, and the data can be manually downloaded from the Data logger, or transmitted to a Central Server using GPS. The Data Logger can be housed in secure cabinets, to protect from the elements, or animal / human interference.



The Maji-Stat is efficiently powered by both battery and Solar Panels, for minimum maintenance. Further Analysis of data can be carried out by the optional "Data Early Warning Management System" (DEWMS), which also enables an immediate response to critical water quality changes or impending flood levels.

FEATURES & BENEFITS

- Water level/Flood monitoring/Early warning system available (DEWMS)
- **O** Wide range of water quality parameters
- Full range of logging options
- Easy/Low maintenance and calibration
- Built in GPS receiver in the hand held unit (Maji-Probe)
- Ability to incorporate ISE and optical electrode testing simultaneously
- Robust multi-parameter & IP68 waterproof constructed from tough marine grade aluminium

MEASURABLE PARAMETERS

Standard parameters included with all our Maji systems:

- 🗿 pH
- ORP
- Conductivity
- TDS
- **⊘** SSG
- Optical dissolved oxygen

Resistivity

Temperature

0

💿 Depth

Salinity

Optional parameters available with the Maji-Probe and Maji-Stat:

Optical Parameters:

- Blue Green Algae
- OCDOM/FDOM
- O Chlorophyll
- Fluorescein
- Rhodamine
- Refined Oil
- Turbidity

Ammonia

ISE Parameters:

- Ammonium
- O Calcium
- Ochloride
- Fluoride
- Nitrate



For full specifications including range, resolution and accuracy of each parameter, see tables on page 6 & 7.

TRANSMISSION & DATA LOGGER

Available with the Maji-Stat

FEATURES & BENEFITS

- Multiple universal logging channels (e.g analogue/digital)
- Ochannels can also be configured as triggers/alarms
- I dedicated channel for battery voltage (internal channel 11)
- Rapid data transmission available
- ◎ Uses local phone (GPRS) network (2G or 3G)
- Simple LCD for site engineers to check system operation (optional)
- ◎ SDI-12, RS232 and R485 compatible
- ◎ USB to RS232 Converter Data Comms Cable
- Internal Quad band 3G/EDGE modem and antenna
- Optional external antenna

Versatile - No. of channels plus flexibility in output. Low data costs due to the use of local GPRS signal

Redundancy - Easy to use and can store data locally if GPRS network fails



DEWMS - DATA ANALYSIS SYSTEM

The Data Early Warning Management System includes:

- Data Analysis/Management
- Stock Control
- O Calibration Management
- Early Warning alerts

DEWMS allows collection, analysis, sharing and reporting of all data simply with the combined App and Cloud DEWMS system.It's easy to bring all your field data together,



irrelevant of the equipment used, with full traceability.

FEATURES & BENEFITS



- Gather data electronically and instantly upload to a central system saving time and money on manual recording and lost data
- Connect your team through a single dashboard to improve efficiency
- Instant visibility of data speeds up reporting and remediation
- Custom report generation saves time and money
- Global visibility of data and results allows control anywhere in the world
- Bring projects or working parties together through easy tiered management levels

- Report and manage shortages of consumables to ensure no engineer downtime
- Individual log in means ensured data security and full traceability
- Full equipment management ensures faults and problems are fixed fast
- Analyse results quickly with custom drill down tools
- Visualisation of results and problem hotspots is easy with the mapping function
- Early warning alerts i.e flood levels



HOW TO CHOOSE YOUR MAJI-SYSTEM



INCLUDED PARAMETERS

STANDARD ELECTRODES

Optical Dissolved Oxygen	Range	0 – 500.0% / 0 – 50.00 mg/L	
	Resolution	0.1% / 0.01mg/L	
	Accuracy	0- 200%: ± 1% of reading. 200%- 500%: ± 10%	
Conductivity (EC)	Range	0 – 200 mS/cm (0- 200,000 µS/cm)	
	Resolution	3 Auto-range scales: 0 – 9999 μS/cm, 10.00 – 99.99 mS/cm, 100.0 – 200.0mS/cm	
	Accuracy	\pm 1% of reading or \pm 1 $\mu\text{S/cm}$ if greater (see note 2)	
TDS*	Range	0 – 100,000 mg/L (ppm)	
	Resolution	2 Auto-range scales: 0 – 9999mg/L, 10.00 – 100.00g/L	
	Accuracy	\pm 1% of reading or \pm 1 mg/L if greater (see note 2)	
Resistivity*	Range	5 Ω•cm − 1 MΩ•cm	
	Resolution	2 Auto-range scales: 5 – 9999 Ω•cm, 10.0 – 1000.0 KΩ•cm	
	Accuracy	\pm 1% of reading or \pm 1 Ω • cm if greater (see note 2)	
Salinity*	Range	0 – 70 PSU / 0 – 70.00 ppt (g/Kg)	
	Resolution	0.01 PSU / 0.01 ppt	
	Accuracy	\pm 1% of reading or \pm 0.1 unit if greater (see note 2)	
Seawater Specific	Range	0 – 50 σt	
	Resolution	0.1 σt	
Gravity*	Accuracy	± 1.0 σt	
рН	Range	0 – 14 pH / ± 625mV (see note 3)	
	Resolution	0.01 pH / ± 0.1mV	
	Accuracy	± 0.1 pH / ± 5mV	
ORP	Range	± 2000mV (see note 3)	
	Resolution	0.1mV	
	Accuracy	± 5mV	
Temperature	Range	-5°C – +50°C (23°F – 122°F)	
	Resolution	0.1°C/F	
	Accuracy	± 0.5°C	
Depth	Range	75mm to 100m	
	Resolution	± 0.5% FS	
	Accuracy	1cm	

* Readings calculated from EC and temperature electrode values



OPTIONAL PARAMETERS

OPTICAL ELECTRODES

Ammonium / Ammonia†	Range	0 – 9,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00- 99.99 mg/L, 100.0 – 8,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
	Interfering lons(2)	Potassium, Sodium and Magnesium
	pH Range(3) / MLD(1)	5-8 / 1.0 ppm
	Range	0 – 20,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00- 99.99 mg/L, 100.0 – 19,999.9 mg/L
Chloride	Accuracy	± 10% of reading or 2ppm (whichever is greater)
	Interfering lons(2)	Bromide, Iodide, Cyanide and Sulphide
	pH Range(3) / MLD(1)	2-11/2.0 ppm
	Range	0 – 1,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00- 99.99 mg/L, 100.0 – 999.9 mg/L
Fluoride	Accuracy	± 10% of reading or 2ppm (whichever is greater)
	Interfering lons(2)	Hydroxide (OH-)
	pH Range(3) / MLD(1)	4- 8 / 0.05 ppm
	Range	0 – 30,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00- 99.99 mg/L, 100.0 – 29,999.9 mg/L
Nitrate	Accuracy	\pm 10% of reading or 2ppm (whichever is greater)
	Interfering lons(2)	Chloride, Bromide, Fluoride, Sulphate, Chlorate and Perchlorate
	pH Range(3) / MLD(1)	3-10/0.5 ppm
	Range	0 – 2,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00- 99.99 mg/L, 100.0 – 1,999.9 mg/L
Calcium	Accuracy	\pm 10% of reading or 2ppm (whichever is greater)
	Interfering lons(2)	Magnesium, Barium, Lead, Zinc and Sodium
	pH Range(3) / MLD(1)	4-9 / 0.05 ppm

ION SELECTIVE ELECTRODES (ISE)

	Range / Repeatability	0 – 3000 NTU / \pm 5% of reading
Turbidity	Resolution	2 Auto-range scales: 0.0 99.9 NTU, 100 – 3000 NTU
	MLD(1) / MLR(2)	0.0 NTU / 5.0 NTU
	Range / Repeatability	$0-500~\mu g/L~(ppb)~/\pm5\%$ of reading (see note 3)
Chlorophyll	Resolution	0.1 µg/L
	MLD(1) / MLR(2)	0.1μg/L / 5 μg/L
Phycocyanin	Range / Repeatability	0 – 300,000 cells/mL / \pm 10% of reading (see note 3)
(BGA-PC) (Freshwater Blue	Resolution	1 cell/mL
-Green Algae)	MLD(1)	200 cells/mL
	Range / Repeatability	0 – 200,000 cells/mL / \pm 10% of reading (see note 3)
(Marine Blue-	Resolution	1 cell/mL
Green Algae)	MLD(1)	400 cells/mL
	Range / Repeatability	$0-500~\mu g/L~(ppb)~/\pm5\%$ of reading (see note 3)
Rhodamine WT Dve	Resolution	0.1 µg/L
	MLD(1) / MLR(2)	0.1 μg/L / 5 μg/L
	Range / Repeatability	$0-500~\mu\text{g/L}~(\text{ppb})~/\pm5\%$ of reading (see note 3)
Fluorescein Dve	Resolution	0.1 µg/L
- /-	MLD(1) / MLR(2)	0.1 μg/L / 5 μg/L
	Range / Repeatability	$0-10{,}000~\mu\text{g}/\text{L}$ (ppb) (Napthalene) $/\pm10\%$ of reading (see note 3)
Refined Oil	Resolution	0.1 µg/L
	MLD(1)	100 μg/L (Napthalene)

Ammonia readings are calculated from Ammonium, pH and temperature electrode values.

ASSOCIATED SPECIALITIES









WATER QUALITY

- Portable laboratories allows for testing of remote resources, microbiological & physico chemical
- Wide range of instruments available for different applications and budgets
- Data management on smart phone app (ASMS)

METEOROLOGY

- Output Automatic weather stations
- O Automatic lighting detector systems
- Cloud based data monitoring and visualisation systems

MOBILE LABORATORIES

- Laboratory quality testing in remote locations, 4 x 4 & trailer options
- Allows immediate testing of samples, without the need to transport
- Non-portable laboratory equipment can be used in the field, giving greater range of tests

INSTALLATION, COMISSIONING AND TRAINING (ICT)

- Fully qualified and trained engineers
- Provision and supply of local materials
- Pre site survey, Installation, Commissioning
- Training and policy of "training the trainer"
- Network of local Wagtech/Trace2o offices and agents

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