

Plug & Sense!

Smart Water Xtreme

Smart Water Xtreme includes top market performance sensors from the most prestigious manufacturers for applications such as potable water monitoring, fish farms management, chemical leakage detection, remote measurement of swimming pools and spas, and seawater pollution.

Plug & Sense! offers you the highest flexibility to connect to any sensor or device through your own programming. If you need to scale from zero, this is your best option in the market. You can use Plug & Sense! for any use case linked to Smart Cities, Agricultural and Environmental projects.

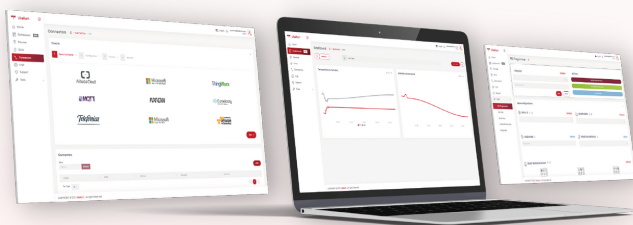
CERTIFICATIONS



SENSORS

Optical dissolved oxygen and temperature (OPTOD)
 Titanium optical dissolved oxygen and temperature(OPTOD)
 pH, ORP and temperature (PHEHT)
 Conductivity, salinity and temperature (C4E)
 Inductive conductivity, salinity and temperature (CTZN)
 Turbidity and temperature (NTU)
 Suspended solids, turbidity, sludge blanket and temperature (MES5)
 COD, BOD, TOC, SAC254 and temperature StacSense, 2 mm path
 COD, BOD, TOC, SAC254 and temperature StacSense, 50 mm pathRadar level
 VEGAPULS C21
 Temperature, Humidity and Pressure
 Luminosity (Luxes accuracy)
 Ultrasound (outdoor IP67)
 Manta+ 35A / Manta+ 35B:
 Chlorophyll, BGA, Nitrate, Ammonium, Chloride, Organic matter CDOM/FDOM, Sodium, Calcium, Bromide, Total Dissolved Gas TDG, Rhodamine, Crude oil, Refined oil, Flourescein, Optical brighteners, Tryptophan
 Coliforms sensor Proteus:
 BOD, Coliform Counts, COD, DOC, TOC, Temperature, pH/ORP, Turbidity, Optical Dissolved Oxygen, Conductivity, Pressure, Fluorometers, Ion-selective electrodes (ISE's), TDG, PAR

Libelium Cloud



A device management platform that allows you the complete management of your IoT Project end to end. Store, visualize and analyze the data received. Send the data to the main cloud platforms on the market.

TECHNICAL FEATURES

MECHANICAL SPECIFICATIONS

IK Grade	IK08
IP Grade	IP65
Dimensions	124 x 142 x 85 mm (without sensors)
Operating temperature	-30°C to +70°C (Temporary temperatures. Regular usage -20°C + 60°C)
Material	Polycarbonate
Sealing	Polyurethane
Cover screws	Stainless steel
Rated insulation voltage AC	690 V
Rated insulation voltage DC	1000 V
Heavy metals-free	Yes
Weatherproof	UL 746 C
Approximated weight	800 g

GENERAL SPECIFICATIONS

Sensor sockets	6
Power sockets	2
Security	Multilayer encryption (HW + SW)
OTAP	Yes
Visual indication	Yes
Magnetic reset	Yes
Accessories	Extension cords, solar panels, power options...
Cloud connectors	More than 50 cloud services through Libelium Cloud

CONNECTIVITY

Wireless communications	LTE CAT-4, NB-IoT / Cat-M, LoRaWAN, Sigfox, 802.15.4, WiFi, ZigBee, 868, 900
GNSS	Yes
Antenna	External and internal (depending on radio module)
SIM card	Optional through external connector
Other	RS-485, RS232, 4-20mA, Modbus and CAN bus

POWER SPECIFICATIONS

Power supply maximum voltage	USB Vmax=7V. Solar panel Vmax 18V
USB charging voltage	5V
Solar panel charging voltage	6 - 12 V
Battery	6,6 A-h
Sleep mode	36 uA
Charging options	USB, solar panel (up to 18V) and External Battery Module
Battery charging current from USB	100 mA in batches
Battery charging current from solar panel	300 mA (max current input)
Maximum current from any digital I/O pin	40 mA

SENSOR PROBES

	A	B	C	D	E	F	REF.
Optical dissolved oxygen and temperature OPTOD	X	X	X	X	X		9488-P
Titanium optical dissolved oxygen and temperature OPTOD	X	X	X	X	X		9489-P
pH, ORP and temperature PHEHT	X	X	X	X	X		9485-P
Conductivity, salinity and temperature C4E	X	X	X	X	X		9486-P
4Inductive conductivity, salinity and temperature CTZN	X	X	X	X	X		9487-P
Turbidity and temperature NTU	X	X	X	X	X		9353-PX
Suspended solids, turbidity, sludge blanket and temperature MES5	X	X	X	X	X		9490-P
COD, BOD, TOC, SAC254 and temp StacSense, 2 mm path	X	X	X	X	X		9500-P
COD, BOD, TOC, SAC254 and temp StacSense, 50 mm path	X	X	X	X	X		9501-P
Total coliform bacteria, TLF, turbidity Proteus probe					X		9513-P
Radar level VEGAPLUS C21	X	X	X	X			9514-P
Temperature, Humidity and Pressure	X			X			9370-P
Luminosity (luxes accuracy)	X			X			9325-P
Ultrasound	X			X			9246-P
Manta+ 35A						X	9502-P
Manta+ 35B						X	9503-P
Chlorophyll sensor for Manta probe *							72470
BGA sensor for Manta probe *							72471
Organic matter sensor CDOM/fDOM for Manta probe *							72472
Ammonium sensor for Manta probe *							72473
Nitrate sensor for Manta probe *							72474
Chloride sensor for Manta probe *							72475
Sodium sensor for Manta probe *							72476
Calcium sensor for Manta probe *							72477
Bromide sensor for Manta probe * Total Dissolved Gas TDG sensor for Manta probe							9504-P
Total Dissolved Gas TDG sensor for Manta probe *							9505-P
Rhodamine sensor for Manta probe *							9506-P
Crude oil sensor for Manta probe *							9507-P
Refined oil sensor for Manta probe *							9508-P
Fluorescein sensor for Manta probe *							9509-P
Optical brighteners sensor for Manta probe *							9510-P
Tryptophan sensor for Manta probe *							9511-P
Total coliform bacteria, TLF, turbidity and temperature Proteus **						X	-

Note: The EUREKA probe that Libelium distributes as a base includes the pH/ORP sensor (double), the turbidity sensor (with an automatic wiper-fouling cleaner), the dissolved oxygen sensor, the conductivity sensor, the reference electrode and the temperature sensor. Other sensors (ions, BGA, Organic Matter, etc) are available as accessories.

*These sensor probes need a MANTA probe. Available on demand. Check compatibility and leadtime with your Libelium sales agent.

**E.colli is a type of coliform bacteria. Sensor on demand. Ask your Libelium sales agent to know price and leadtime.



Trust our knowledge

More than 15 years of experience in IoT support us.



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libelium.com

TECHNICAL FEATURES

CONSUMABLE COMPONENTS	REF.
Conductivity Calibration Kit, K=0.1	9339
Conductivity Calibration Kit, K=1	9340
Conductivity Calibration Kit, K=10	9341
DO Calibration Solution	9342
pH Calibration Kit	9343
ORP Calibration Solution	9344
Turbidity calibration solution, 4000 NTU	72465
Storage solution for PHEHT probe	72464
Membrane for OPTOD sensor	9491
Cartridge for PHEHT sensor	9492
Sensor protection accessory	9493
Membrane for OPTOD titanium sensor	9494

MOUNTING ACCESSORIES	REF.
PVC pipe mounting accessory for OPTOD sensor probe	72454
PVC pipe mounting accessory for PHEHT sensor probe	72455
PVC pipe mounting accessory for C4E or sensor NTU probes	72456
PVC pipe mounting accessory for CTZN sensor probe	72457
PVC pipe mounting accessory for MES5 sensor probe	72458
Steel pipe mounting accessory for OPTOD sensor probe	72459
Steel pipe mounting accessory for PHEHT sensor probe	72460
Steel pipe mounting accessory for C4E or NTU sensor probes	72461
Steel pipe mounting accessory for CTZN sensor probe	72462

CABLES	REF.
Manta sensor cable - 10 m	72865
Manta sensor cable - 30 m	72866
Manta sensor cable - 50 m	72867
Manta sensor cable - 150 m	72868



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