The game-changing IoT solution

Lack of standardization in the IoT Business affects to all their areas: connectivity, interoperability, usability, power, language and security. This is the most important problem for IoT to become a market standard.

Libelium has paid attention to these defying challenges to assure agrifood security, protect ecosystems and ensure sustainable water use.
One is the result of a careful Research & Development continuous effort.

GENERAL DESCRIPTION

Libelium **One** is an ultra low power wireless IoT gateway. Designed for continuous monitoring of a huge range of parameters covering the most relevant IoT applications. Thanks to the automatic sensor detection, no programming is needed for deployment. Remote configuration can be done wireless through Libelium platform. Easy and quick installation on walls or poles in combination with a solar panel to maximize its efficiency.

TYPICAL APPLICATIONS

Ready to work in any kind of environment for water & agriculture use cases & projects. You can request further info and a demonstration at the e-mail below

All in One solution

INTEROPERABLE

- Data integrity: non-hackable sensors
- Blockchain integration*
- Probe autodetection: connecting any probe* to any One device
- Configurable 4G wireless connectivity
- Global SIM provided*
- Maximum accuracy

EASY TO USE

- No programming is needed = no code
- Cloud-based node configuration
- Plug and Play device ready to be installed in the field
- Easy installation, no need for qualified technicians
- Any integrated sensor* can be connected to any socket for maximum configuration flexibility
- Node firmware remote update (OTAP)

SUSTAINABLE

- Architecture designed for ultra low power consumption
- Minimalist and compact device
- Rechargeable battery using a solar panel
- 5 Rs compliant:
- Reduce: consumption, carbon footprint and size
- Reuse: same sensors for multiple projects
- Repair(able) and refurbish (able)
- Recycle: polycarbonate eco-efficient manufacturing

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.

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TECHNICAL FEATURES

MECHANICAL SPECIFICATIONS	Dimensions	135 x 135 x 60 mm
	IP Grade	IP66/IP67
	IK Grade	IK9
	Operating temperature	-20°C to +50 °C*
	Material	Polycarbonate
	Accessories	Solar panel, installation kit, power cables, extension cords
	Weight	490 grs (without sensors)
	Sensor sockets	4
GENERAL SPECIFICATIONS	Power sockets	1
	Remote configuration	Through Libelium Cloud
	OTAP	Yes
	Visual indication	LEDs for connectivity, status and charge monitoring
	Sensors	Wide range of sensors
	Other	Magnetic contactless reset. Maintenance / debug through power socket
CONNECTIVITY	Wireless communications	Worldwide LTE Cat 4, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
	GNSS	Yes
	Antenna	Internal
	SIM card	4FF Global SIM. Provided by Libelium
POWER SPECIFICATIONS	Power supply	5 to 24 VDC 800 mA
	Internal battery	3.6V - 10.2 Ah Li-Ion. Rechargeable
	Consumption	Ultra low power consumption Sleep mode: <10uA
	Solar panel	6.6V - 5.5W Size:185 x 185 mm with installation accessory

SENSORS	**Agriculture**	Weather station GMX-240 (W-PO)
		Weather station GMX-550 (W-x-T-H-AP)
		Weather station GMX-551 (W-x-T-H-AP-R)
		Tipping Bucket Accessory for GMX Weather Stations
		Soil water potentials TEROS 21
		Non-contact surface temperature measurement SI-411
		Soil oxygen level SO-411
		Vapor pressure, humidity, temperature, and atmospheric pressure in soil and air VP-4
		Solar radiation and temperature Datasol MET2
		Conductivity, water content and soil temperature TEROS 12
		Volumetric water content and soil temperature TEROS 11
		Solar radiation (PAR) for One
		Leaf wetness for One
		Virtual Weather station GMX-240 (W-PO) for One*
		Particle Matter (PM1 / PM2.5 / PM10) for One
		WS-3000 (anemometer + wind vane + pluviometer) for One
	Water	Turbidity and temperature NTU
		pH, ORP and temperature PHEHT
		Conductivity, salinity and temperature C4E
		Inductive conductivity, salinity and temperature CTZN
		Optical dissolved oxygen and temperature OPTOD
		Titanium optical dissolved oxygen and temperature OPTOD
		Suspended solids, turbidity, sludge blanket and temperature MES5
		* COD, BOD, TOC, SAC254 and temp StacSense, 2 mm path
		* COD, BOD, TOC, SAC254 and temp StacSense, 50 mm path
		Radar level VEGAPULS C21
		Virtual Turbidity and temperature NTU probe for One
		Manta+ 35A probe for One
		Manta+ 35B probe for OnE
	Generic	Temperature and Humidity
		Noise Level Sensor v2 for One
		Liquid level probe for One

*Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Organic Carbon (TOC) and Spectral Absorption Coefficient at 254 nm (SAC254).

CERTIFICATIONS

CE + FC + IC + UK CA

QEHS

Trust our knowledge

More than 15 years of experience in IoT support us.

ISO 14001 2015 ISO 9001 2015 ISO 45001 2018

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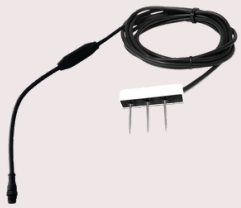
TECHNICAL FEATURES

Agriculture

Recommended solution:

Weather station
GMX-240 (W-PO)
Ref. 9463-O



Conductivity, water content and
soil temperature TEROS 12
Ref. 9499-O

Temperature and Humidity
Ref. 40028-O

Other options:

Weather station
GMX-550 (W-x-T-H-AP)
Ref. 9482-O

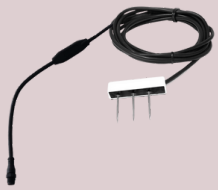
Weather station
GMX-551 (W-x-T-H-AP-R)
Ref. 9483-O

Tipping Bucket Accessory
for GMX Weather Stations
Ref. 9600

WS-3000 (anemometer + wind
vane + pluviometer)
Ref. 9256-O

Soil water potentials
TEROS 21
Ref. 9465-O

Soil oxygen
level SO-411
Ref. 9469-O

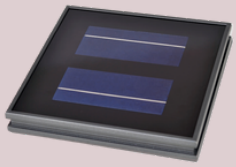


Volumetric water content and
soil temperature TEROS 11
Ref. 9512-O

Leaf wetness
Ref. 40030-O

Non-contact surface temperature
measurement SI-411
Ref. 9468-O

Vapor pressure, humidity,
temperature and atmospheric
pressure in soil and air VP-4
Ref. 9471-O



Solar radiation and temperature
Datasol MET2
Ref. 9496-O

Solar radiation (PAR)
Ref. 40031-O

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TECHNICAL FEATURES

Water

Recommended solution:

Optical dissolved oxygen and temperature OPTOD
Ref. 9488-O

pH, ORP and temperature PHEHT
Ref. 9485-O

Conductivity, salinity and temperature C4E
Ref. 9486-O

Turbidity and temperature NTU
Ref. 9353-O

Other options:

Inductive conductivity, salinity and temperature CTZN
Ref. 9487-O

Suspended solids, turbidity, sludge blanket and temperature MES5
Ref. 9490-O

Titanium optical dissolved oxygen and temperature OPTOD
Ref. 9489-O

Eureka Manta Probe +35A+35B
Ref. 9502-O

COD, BOD, TOC, SAC254 and temp StacSense, 2 mm path
Ref. 9500-O

COD, BOD, TOC, SAC254 and temp StacSense, 50 mm path
Ref. 9501-O

Radar level VEGAPULS C21
Ref. 9514-O

Generic

Liquid level probe
Ref. 9545-O

Noise Level Sensor
Ref. NLS-v2-O

Temperature and Humidity
Ref. 40028-O

Particle Matter
Ref. 9387-O

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