



## 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

# TECHNICAL FEATURES

	PARAMETER	VALUE
<b>MECHANICAL SPECIFICATIONS</b> <small>(*) CERTIFICATION PROCESS IN PROGRESS</small>	Dimensions	135 x 135 x 60 mm
	IP Grade	IP65 *
	IK Grade	-
	Operating temperature	-20°C to +60 °C*
	Material	Polycarbonate
	Accessories	Solar panel, installation kit, power cables, extension cords
	Weight	XXX (without sensors)
<b>GENERAL SPECIFICATIONS</b>	Sensor sockets	4
	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
<b>CONNECTIVITY</b>	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
<b>POWER SPECIFICATIONS</b>	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

# TECHNICAL FEATURES

## SENSORS

### Agriculture Xtreme

Bucket Accessory for GMX Weather Stations<sup>1</sup>

Weather station GMX-240 (W-PO)

Soil water potentials TERSO 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

Weather station GMX-550 (W-x-T-H-AP)

Weather station GMX-551 (W-x-T-H-AP-R)

Solar radiation and temperature Datasol MET2

Conductivity, water content and soil temperature TERSO 12

Volumetric water content and soil temperature TERSO 11

### Water Xtreme

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

### Generic

Temperature, Humidity and Pressure

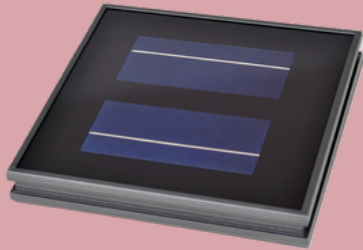
## CERTIFICATIONS

(\*) CERTIFICATION PROCESS IN PROGRESS

FCC, IC, CE, UKCA

# TECHNICAL FEATURES

Agriculture Xtreme + Generic



Solar radiation and temperature  
Datasol MET2



Soil water potentials  
TEROS 21



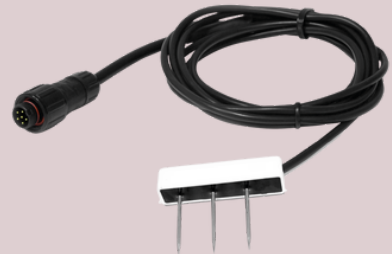
Non-contact surface temperature  
measurement SI-411



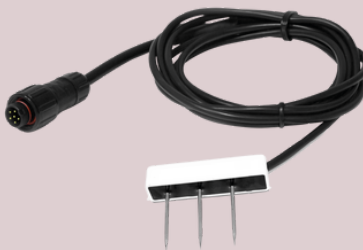
Soil oxygen  
level SO-411



Vapor pressure, humidity,  
temperature, and atmospheric  
pressure in soil and air VP-4



Conductivity, water content and  
soil temperature Teros 121



Volumetric water content and  
soil temperature Teros 11



Weather station  
GMX-240 (W-PO)1



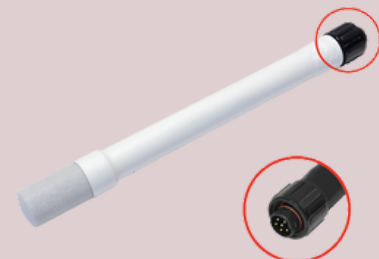
Tipping Bucket Accessory  
for GMX Weather Stations1



Weather station  
GMX-550 (W-x-T-H-AP)



Weather station  
GMX-551 (W-x-T-H-AP-R)



Temperature, Humidity  
and Pressure

# TECHNICAL FEATURES

Water Xtreme + Generic



Turbidity and temperature  
NTU



TpH, 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



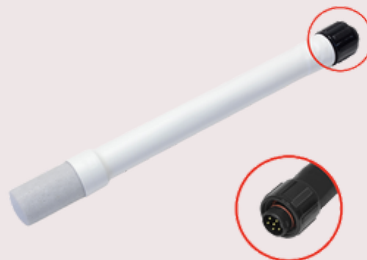
COD, BOD, TOC, SAC254  
and temp StacSense, 2 mm path



COD, BOD, TOC, SAC254  
and temp StacSense, 50 mm path



Radar level  
VEGAPULS C21



Temperature, Humidity  
and Pressure