



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
MECHANICAL SPECIFICATIONS <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)
GENERAL SPECIFICATIONS	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
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

TECHNICAL FEATURES

SENSORS

Agriculture Xtreme

- 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 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
- 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

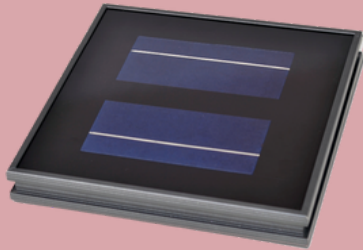
CERTIFICATIONS

(*) CERTIFICATION PROCESS
IN PROGRESS

FCC, IC, CE, UKCA

TECHNICAL FEATURES

Agriculture Xtreme + Generic



Solar radiation and temperature
Datasol MET2



Soil water potentials
TERSO 21



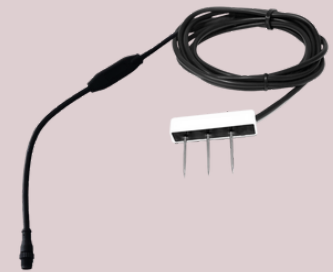
Non-contact surface temperature
measurement SI-411



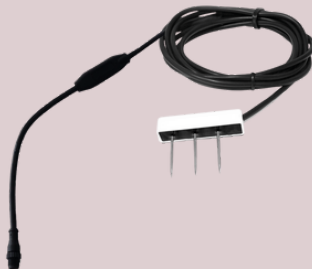
Soil oxygen
level SO-411



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



Conductivity, water content and
soil temperature TERSO 121



Volumetric water content and
soil temperature TERSO 11



Weather station
GMX-240 (W-PO)1



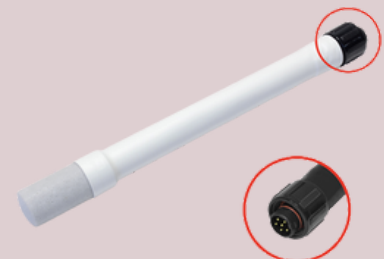
Tipping Bucket Accessory
for GMX Weather Stations1



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