

Plug & Sense!

Smart Agriculture Xtreme

Smart Agriculture Xtreme is an evolution of our Agriculture line with a new selection of high-end professional sensors. It allows to monitor multiple environmental parameters involving a wide range of applications, from plant growing analysis to weather observation. There are sensors for atmospheric and soil monitoring and plants health. More than 20 sensors can be connected.

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

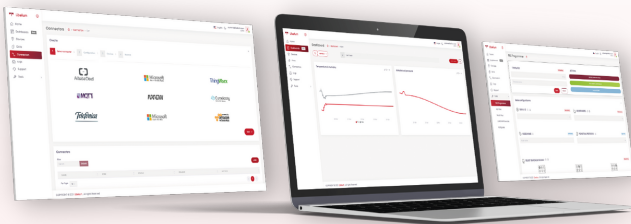


SENSORS

- Non-contact surface temperature measurement SI-411
- Leaf and flower bud temperature SF-421
- Soil oxygen level SO-411 and SO-421
- Solar radiation (shortwave, PAR and UV): SP-510, SQ-100x and SU-202.
- Air temperature, humidity and pressure
- Volumetric water content and soil temperature TEROs 11
- Conductivity, water content and soil temperature TEROs 12
- Soil water potential TEROs 21
- Soil water potential MPS-6
- Vapor pressure, humidity, temperature and air pressure sensor probe (Meter ATMOS 14)
- Leaf wetness Phytos 31
- Trunk, stem and fruit diameter: DC3, DD-S and DF
- Advanced Weather Stations
- Luminosity (Luxes Accuracy)
- Ultrasound (distance measurement)
- 4-20 mA type (generic input)
- RS-232 type (generic input)
- Datasol MET (photovoltaic uses)

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

ACCESSORY

	REF.
Solar Sensors Mounting Accessory	SSMA
Mounting bracket accessory	9462
Tipping Bucket Accessory for GMX Weather Stations	9600
GMX Weather Station Mounting Bracket	GMX-MB
Diffusion head accessory for Oxigen Sensor	9461
Socket splitter probe (RS-485) for Smart Agriculture Xtreme **	SS485-P

DIFFERENCES BETWEEN THE WEATHER STATIONS

Weather Station	Wind and compass	Precipitation	Temperature, relative humidity and pressure	Solar radiation
GMX-240 (W-PO)	X	(Optional)		
GMX-550 (W-x-T-H-AP)	X	Optional (Tipping bucket needed)	X	
GMX-551 (W-x-T-H-AP-R)	X	Optional (Tipping bucket needed)	X	X

SENSOR

SOCKET

A B C D E F REF.

SENSOR	SOCKET	A	B	C	D	E	F	REF.
Soil water potentials TEROS 21 *		X	X	X	X			9468-P
Non-contact surface temperature measurement SI-411 *		X	X	X	X			9468-P
Soil oxygen level SO-411 **		X	X	X	X			9469-P
Leaf wetness Phytos 31			X					9466-P
Shortwave radiation SP-510			X	X		X	X	9470-P
Vapor pressure, humidity, temperature and air pressure sensor probe ATMOS 14		X	X	X	X			9471-P
Soil oxygen level SO-421 ^		X	X	X	X			9521-P
Solar radiation (PAR) SQ-100x for Smart Agriculture Xtreme			X	X		X	X	9530-PX
Temperature, air humidity and pressure		X			X			9370-P
Volumetric water content and soil temperature TEROS 11 *		X	X	X	X			9512-P
Conductivity, water content and soil temperature TEROS 12 **		X	X	X	X			9499-P
Trunk diameter DC2 for Smart Agriculture Xtreme				X				9252-PX
Stem diameter DD-S for Smart Agriculture Xtreme				X				9253-PX
Fruit diameter DF for Smart Agriculture Xtreme				X				9254-PX
Weather station GMX-240 (W-PO)						X		9463-P
Weather station GMX-559 (W-x-T-H-AP)						X		9482-P
Weather station GMX-551 (W-x-T-H-AP-R)						X		9483-P
Solar radiation and temperature Datasol Met **						X		9496-P
Luminosity (Luxes accuracy) Ultrasound		X			X			9325-P
Ultrasound		X			X			9246-P

^ The SO-411 and SO-421 are almost equivalent sensors. Check availability with your Sales agent.

* This rain sensor is accessory but strongly recommended for GMX-550 and GMX-551 - 20 m cable included.

** This item includes a fixation hook for secure fastening.



Trust our knowledge

More than 15 years of experience in IoT support us.

