OMICRON®
IoT solutions

Datalog X-PRO 2.0

INTERNET OF THINGS MULTI-SENSOR WIRELESS DEVICE

For LoRaWAN™ and Sigfox Networks

Description

Remote monitoring device for use in fields of application such as cold chain, industry, precision agriculture, climate monitoring, early warning systems, and water quality, among others; thanks to its ports for up to three (3) sensors. It is offered with WEB IoT platform support for variable monitoring.

FEATURES

General
- Ports for three sensors.
- LoRaWAN and Sigfox wireless transmission module.
- Rechargeable Li-Ion Battery.
- Stores the last 140 sent messages for sync after the loss of network coverage.
- Can be configured remotely
- IP67 Protection.

Visualization
Web App interface for visualization of:
- Current measurements.
- Remote configuration of parameters, such as alarm limits, among others.
- Graphic record of each variable for up to 2 years.

Alarms
- Remotely displays alarms on WEB or mobile application.
- External alarms sent by SMS, e-mail, voicemail, Telegram messaging service, or via webhooks.

ORDERING INFORMATION

P/N: X-PRO2.0 USA	Datalog X-PRO 2.0 Sigfox/LoRaWan USA / LATAM / AU
P/N: X-PRO2.0 EU	Datalog X-PRO 2.0 Sigfox/LoRaWan EU

POWER REQUIREMENTS

Parameter	Specifications	Value	Units
DC supply voltage	--	12 - 24	V
Max. Electric current	@12V DC	0.5	A
Max. current without sensors	In Tx Mode and Charging the Internal Battery	130	mA
Standby current	The device reads sensors every minute and enters Sleep Mode.	8	mA
Power Rating with sensors	@12V DC	6	W
Average Power consumption (No sensors and fully recharged battery)	@12V DC	0.12	W

Can be powered by an AC/DC adapter*, or by a solar panel of 12V

*details of the electric parameters of the AC/DC adapter can be found in the user's manual.

Battery Ratings

Model	DTP563567		
Type	Li-Ion		
Rated capacity	--	1500	mAh
Nominal voltage	--	3.7	V

Standards in compliance

Standard	Description
EMC (Electromagnetic Compatibility)	47 CFR Part 15B / ICES-003 Issue 6
EMC (Electromagnetic Compatibility)	EN 301 489-1 + EN 301 489-3
Sigfox RF testing	EN 300 220-1 + EN 300 220-2
LoRa RF testing	EN 300 220-1 + EN 300 220-2
RF exposure safety	EN 62311:2020
Electrical safety	EN 62368-1

RECOMMENDED OPERATING CONDITIONS

Operating Conditions	Value	Units
Storage Temperature	20 (68) − 45 (113)	°C (°F)
Storage Humidity	60±25	% R.H.
Ambient Temperature	5 (41) − 40 (104)	°C (°F)
Ambient Humidity	Up to 100	% R.H.

Standards	Protection Type	
IEC standard 60529/ EN 60529	**IP67.** No ingress of dust; complete protection against contact (dust tight). No water ingress when submerged up to a depth of 1 meter for 30 minutes. **Suitable for indoor/outdoor use.**	
UL94-V0	UL94-V0 plastic for high flammability rating (most flame retardant).	

WIRELESS COMMUNICATION SPECIFICATIONS

Device Type	Standard	Note
X-PRO2.0 USA	Sigfox, RC2 902 - 905Mhz / RC4 920 - 923Mhz, 22dBm ERP LoRaWAN, US902-928, AU915-928	Zone 2 (USA, Mexico, Brazil) and Zone 4 (Latin America, Australia).
X-PRO2.0 EU	Sigfox, RC1 868MHz LoRaWAN, EU863-870	Zone 1 (Europe).

SENSOR TYPES SUPPORTED BY THE DATALOG X-PRO

There are more than 60 different sensors that the user can connect to the **Datalog X-PRO. One device can receive up to three different sensors** communicating with the main unit through their sensor interfaces
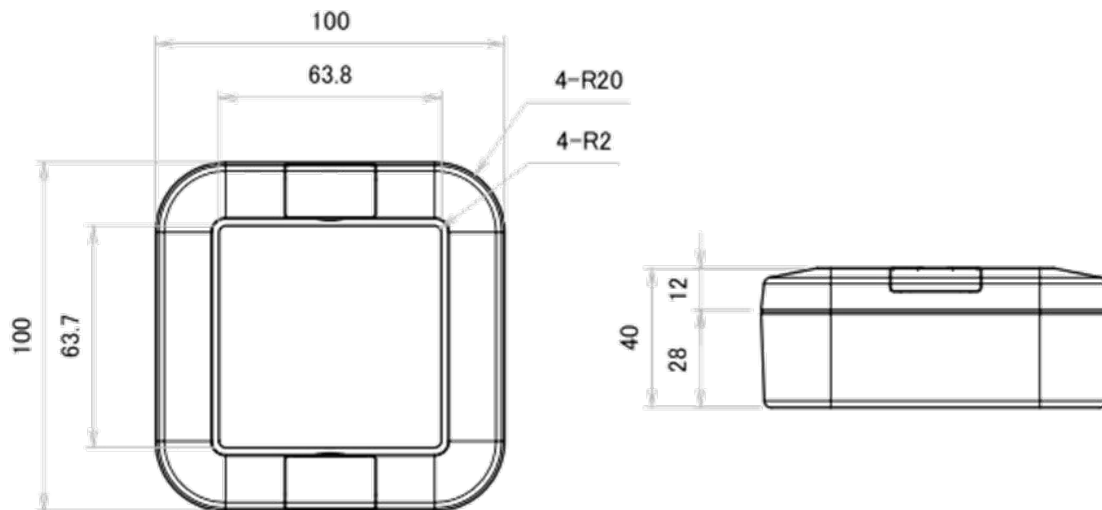
NOTE:
Other types of sensors can be ordered, for more information on sensor customization please contact us.

The sensors selected can be used to measure multiple and different variables and be implemented in **different use cases**. Shown below is a list of possible applications; related to sensors for different variables:

Purpose	Related Sensors
Measurement of industrial Signals: **Industrial Applications**	➔ Temperature and humidity. ➔ Pressure and flow. ➔ Analog Signals: 4-20 mA / 0-10 V for different types of sensors and transmitters. ➔ Digital Modbus RTU signals. ➔ CO, CO2, O2, transmitters. ➔ Digital (dry contact signals).
Security monitoring in private spaces: which require **presence sensors, smoke sensors, or door or window opening sensors.**	➔ Temperature + Humidity + Pressure. ➔ Luminosity. ➔ Presence - PIR (Digital Signal). ➔ Smoke Sensor (Relay Output). ➔ Air Quality Sensors: CO, SO2, NO2.
Measurement of variables in **early warning systems**.	➔ Ultrasound or radar distance sensors (0 to 30 meters). ➔ Air Quality Sensors: CO, CO2, SO2, NO2. ➔ PM 1.0, PM 2.5, and PM 10.

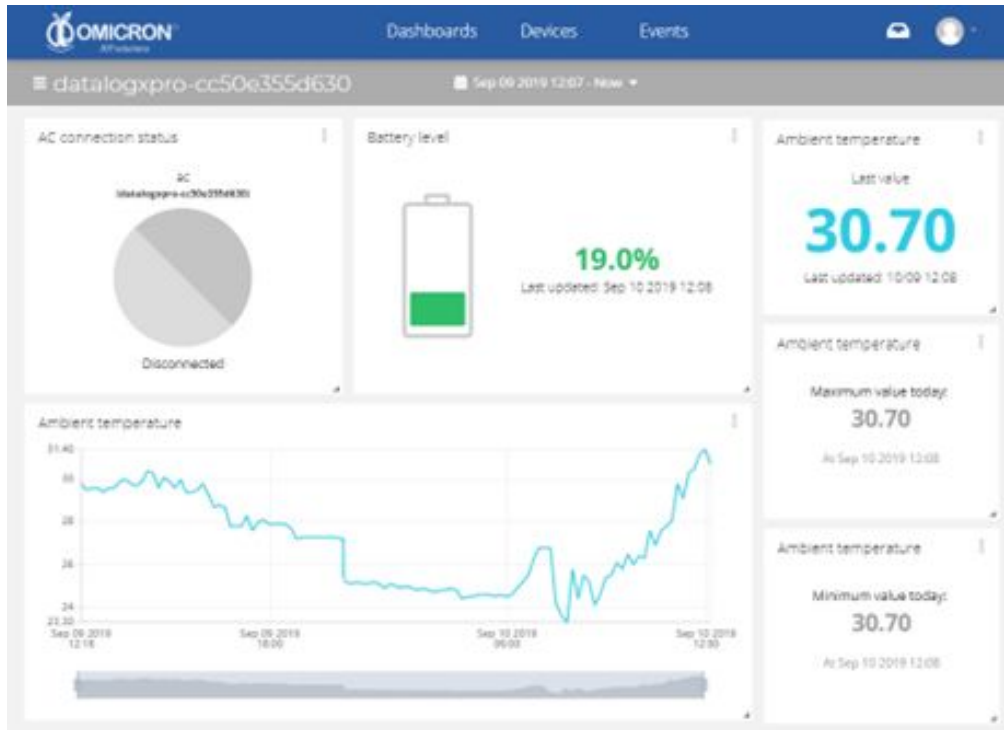| Purpose	Related Sensors
Measurement of meteorological variables: in **weather stations and Precision Agriculture**	➔ Temperature, Humidity, and Pressure. ➔ Luminosity and UV Radiation. ➔ Rain gauge. ➔ Wind Speed and Wind direction. ➔ Temperature, PH, Soil Moisture. ➔ 7 in 1 Weather station.
Measurement of water Quality: in **fish farms and water treatment plants**	➔ Dissolved Oxygen. ➔ Temperature. ➔ PH. ➔ Ions: NO3, NH4, CL-, Na+ K+. ➔ Water Turbidity.

DIMENSIONS

Dimensions in mm. Enclosure molded from resistant ABS material.

Total weight: 230g, without accessories and sensors attached.

WEB PLATFORM AND SERVICES

Datalog X-PRO devices are offered with the IoT Centriomega® WEB monitoring platform.

Users can access the Omicron platform via PC, Smartphone, or Tablet, to perform:

✓ Remote monitoring and visualization of sensor's variable records, in graphs and data tables, for up to 2 years.

✓ Remote configuration of the device parameters.

✓ Alarm management for variables out of range, battery levels, and AC power failure.

✓ Add comments to records.

✓ Set alarm limits, alarm events, and notifications via email, SMS, voicemail, Telegram messaging service, or webhooks.