

SmartObserverPlus Datalogger

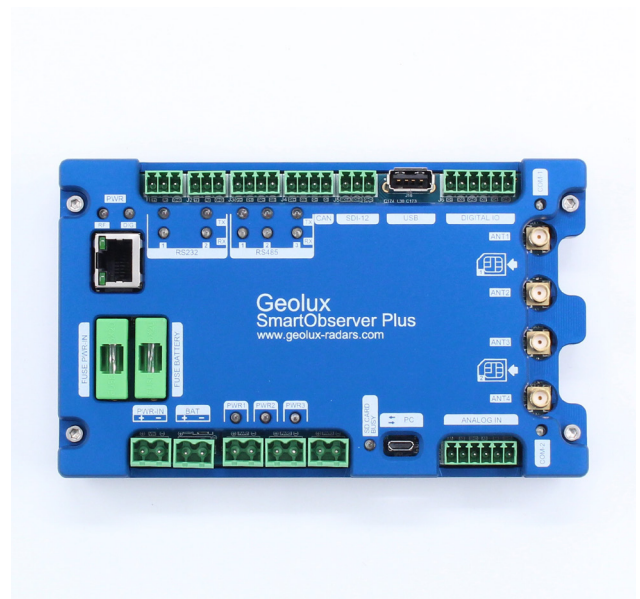
ROBUST DATALOGGER WITH INTEGRATED MPPT BATTERY CHARGER

Highlights

- Versatile communication interfaces support various sensors
- Integrated MPPT battery charger
- Digitally controlled power distribution system for sensors
- Integrated GSM/GPRS or LoRaWAN or Satellite modem
- Wide operational temperature range (-40 °C to +85 °C)

Applications

- Automatic hydrometeorological monitoring station
- Early flood warning systems
- Hydro power monitoring
- Irrigation systems
- Road side monitoring station



Product Description

The Geolux SmartObserverPlus is a powerful datalogger designed specifically for environmental monitoring applications.

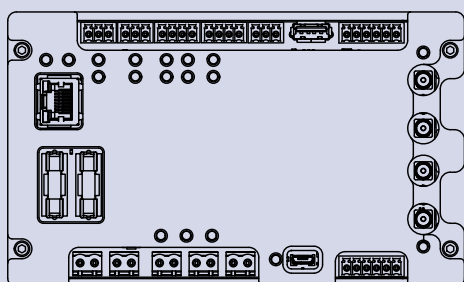
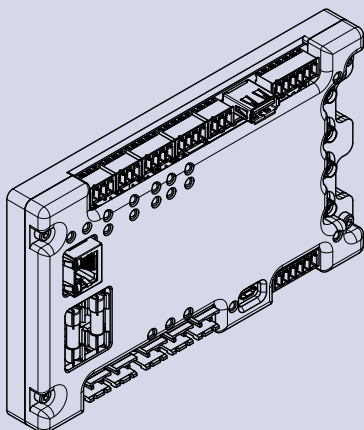
It easily integrates with various instruments and sensors, offering RS-232, RS-485 Modbus, SDI-12, and CAN serial communication lines. It also includes four 24-bit analog inputs supporting both voltage and current measurement modes, and four digital inputs that can operate in pulse and frequency counter modes. Additionally, the onboard Ethernet interface allows for connection to instruments equipped with Ethernet.

The SmartObserverPlus features a modular communication subsystem, providing flexible options such as GSM/GPRS, LoRaWAN IoT, and modern satellite communication interfaces.

Designed for use in remote areas, the datalogger includes an integrated Maximum Power Point Tracking (MPPT) battery charger and three digitally controlled power outputs for managing power supply to instruments. The datalogger itself consumes extremely low power, with less than 1 mA used in sleep mode between measurements.

Configuration is straightforward via the Geolux PC application. Most users can configure the datalogger through the intuitive UI, while advanced users can leverage the built-in MicroPython engine to write custom Python scripts for controlling the datalogger.

Detailed Specifications



Analog Inputs	4x 24-bit, voltage or current configurable
Analog Sampling Frequency	10 Hz – STARTER version 200 Hz – all other versions
Digital I/O	4x Channels
Digital Input Type	Pulse counter / Frequency counter
RS-232 Channels	2x
RS-485 / Modbus Channels	2x
SDI-12 Channels	2x
CAN Channels	1x
Ethernet	10 / 100 MBps
SD Card	1x MicroSD
Internal Flash Memory	8 MB – STARTER version 16 MB – all other versions
USB host	1x for USB Flash Memory
USB device	1x for connection to PC
Wireless communication	Depending on the datalogger version: GPRS, LTE-M, NB-IoT / 3G, 4G (LTE, HSPA+) / 5G
MicroPython Scripting	Supported
Integrated Battery Charger	MPPT
Battery Charger Max. Current	3A
Controlled Power Outputs	3x
Operating Power Consumption	0.85 W - typical
Standby Power Consumption	< 0.012 W
Operating Temperature Range	-40°C to +85°C
Enclosure Material	Anodized Aluminum
Enclosure Dimensions	161 mm x 97 mm x 20 mm
Weight	400 g

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