

SmartObserver Datalogger

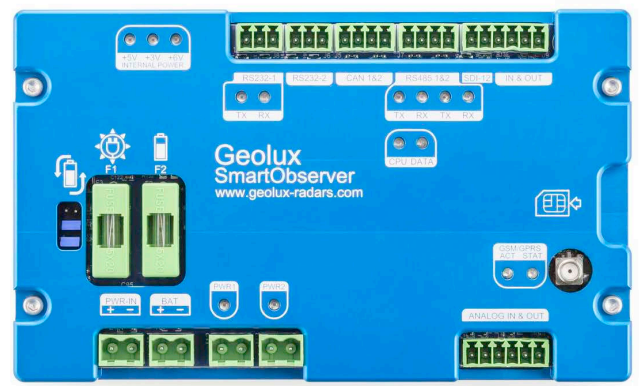
ROBUST DATALOGGER WITH INTEGRATED MPPT BATTERY CHARGER

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 SmartObserver is a datalogger explicitly designed for environmental monitoring applications. It has an integrated MPPT battery charger that can charge various chemical batteries directly from the solar panel or wind generator. The data logger has very low power consumption and three digitally controlled power outputs for powering sensors and other equipment, enabling a more extended battery autonomy even with a smaller battery.

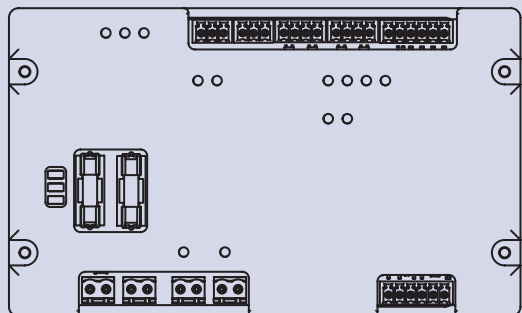
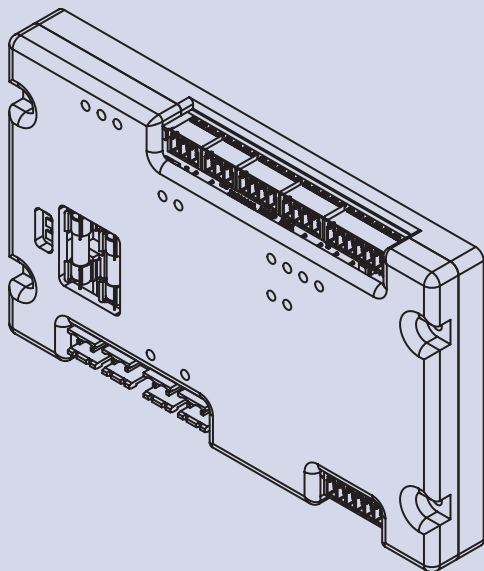
Integrated modular communication subsystem enables versatile communication interfaces ranging from the GSM/GPRS modem, LoRaWAN IoT communication, or modern IoT satellite communications. Each logger can be tailored to

meet the specific needs of customers and the available infrastructure.

Communication with instruments, sensors, and other equipment can be implemented using one of many serial communication interfaces (RS-232, RS-485 Modbus, CAN, SDI-12) or using analog current or voltage inputs.

Integration of a power distribution system and MPPT charger enables easier monitoring as each logger will always report solar voltage, charging current, battery voltage, internal temperature, humidity, and many additional system health parameters.

Detailed Specifications



Wireless Communication	2G/3G/4G NB-IoT LoRaWAN optional SWARM satellite optional
Sensor Interfaces	2 x RS-232, 2 x RS-485 (Modbus) 2 x CAN2.0, 1 x SDI-12 2 x voltage input (0V to 10 V) 1 x current input (4-20 mA)
Analog Output	1 x voltage output (0V to 5 V)
Digital IO	2 x GP inputs, 2 x GP outputs
System Monitoring	Voltage and current measurements for Input, Battery and System
Sensors Power Control	3 x SSR current-limited 2.0A controlled power outputs
Battery Charger Type	MPPT digitally controlled multi-chemistry high efficiency charger with Buck & Boost mode support
Battery Chemistry	Li+, LiFePO4, NiCd, NiMH, Lead Acid
Battery Configuration	1S to 4S
Input Power Generator	Solar, Wind, DC mains
Input Voltage	9 to 27 VDC
Input Current Limit	3.6 A for 65 W
Battery Voltage	0 V to 19.2 V
Standby Current	< 1 mA
Operating Current	< 100 mA
Temperature Range	-40 °C to +85 °C (without heating or coolers)
Enclosure Dimensions	161 mm x 97 mm x 20 mm
Enclosure Material	Machined aluminum, anodized

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