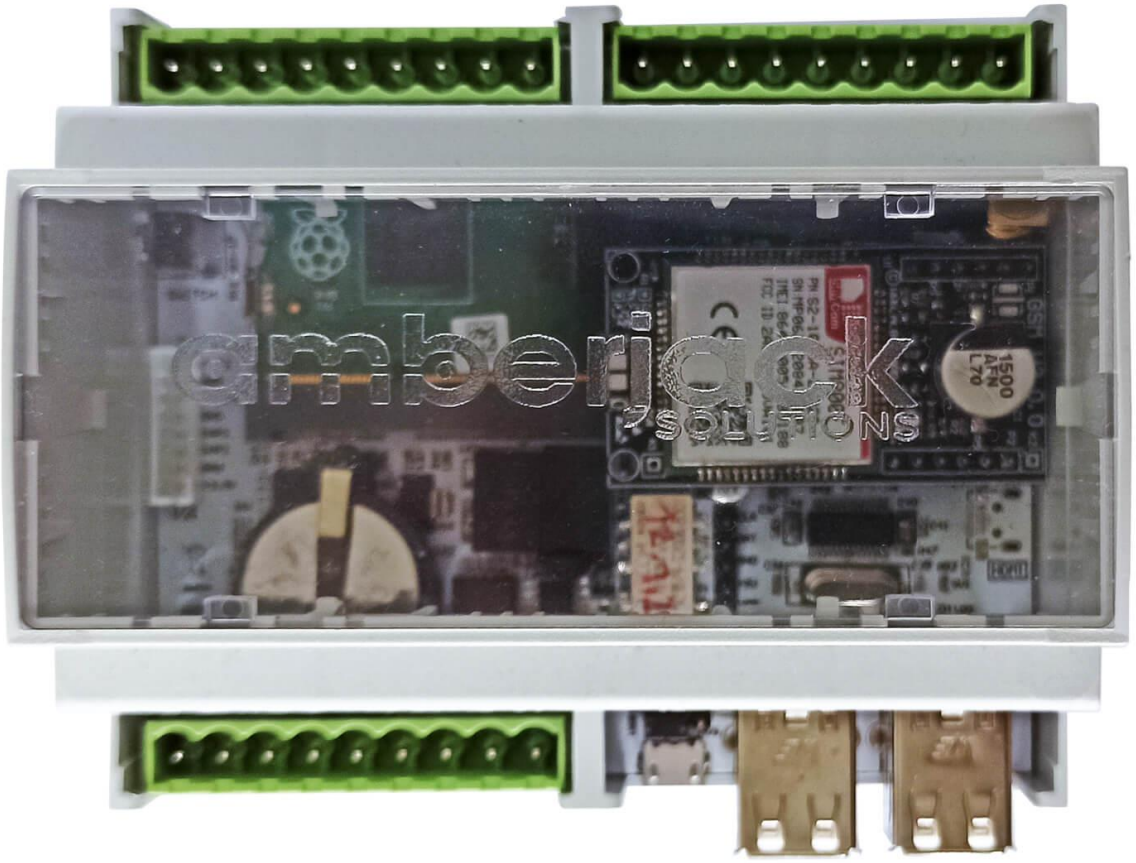
Amberlogger V12

Overview

Amberlogger is a datalogger programmed with data acquisition algorithms that allow for the measurement of values from virtually any type of sensor (analog, digital, and intelligent). It was developed using a Raspberry Pi microcontroller and features a wide range of communication options such as GPRS, 4G, Wi-Fi, or satellite. It allows for local connections through our free-to-use Amberlogger App available on the PlayStore or remotely through our Amberlogger Web platform. Data can be analyzed on our cloud, Ambercloud.



Description

This equipment can be powered by a solar panel, power supply, or a 12 V DC battery. In case of power failure from the electrical grid, the system has autonomous backup power ensuring that under no circumstances data loss occurs.

It features an eMMC memory which is faster, more resilient, and less sensitive to vibrations and temperature changes compared to conventional supports like SD cards. It allows for configurable acquisition rates between 1 second and 3600 seconds.

It has available storage space of 4GB (CM1), 8GB, 16GB, and 32GB (CM3), or an external hard drive for additional storage.

This support allows for storing sensor data in case of communication failure for a period exceeding 20 days (for 1-minute logging intervals).

It enables connection of sensors with analog output (current loop or voltage) and sensors with digital output, supporting protocols such as MODBUS, NMEA, SDI-12, HART, RS-232, RS485.

It has two pulse counters.

Communication is possible via 2G-5G, LoraWan, NB-IOT, satellite, Ethernet/LAN, and RF.

It features 16-bit precision analog-to-digital converters.

The date-time group adjustment can be done via the NTP protocol, GPS/GLONASS.

The annual deviation of date-time is less than 10us per year.

Configuration, diagnostics, and updates of the datalogger can be done through the Amberlogger App (via Bluetooth) when near the datalogger or through the Amberlogger Web when far away. This app also allows downloading stored data from the datalogger and configuring its operating parameters without interrupting data acquisition.

There is a relay output available for automation uses.

The datalogger has the ability to send alert SMS messages (such as in case of power failure from the electrical grid) and important parameter information, such as instant parameter values being acquired, station phone number, station identification code, memory status, and software version.

It uses a performance diagnostic and monitoring platform (Sentry IO).

Logs can be sent via HTTP or FTP.

Data can be sent to Ambercloud for recording and analysis or to any other user-defined server.

Firmware and software can be updated remotely.

Technical Specifications

- CPU with Armv7 or Arm64 architecture, 700MHz for single-core or up to 1.2GHz for quad-core models.
- Operating system based on Debian.
- Internal memory of 512MB or 1GB depending on the model.
- eMMC storage capacity of 4GB for CM1 model and 8 to 32GB for CM3 model.
- Data acquisition capability at frequencies of up to 1 acquisition per second.
- Automatic storage of sampled data in case of connectivity loss.
- 8 analog inputs with 16-bit resolution (analog-to-digital conversion).
- 4 inputs for digital sensors.