



OMC-048 data logger



Application of the OMC-048 in the OMC-7006 data buoy

Datasheet

OMC-048 Scriptable data logger with LTE/GPRS

This versatile data logger is the successor of the successful OMC-045-3 data logger. It has a large number of inputs and outputs, including SDI-12, ModBus and analog. The OMC-048 uses the latest technology and includes a powerful processor as well as a state-of-the-art LTE 'world wide' modem for connecting to the cellular network.

Thanks to the advanced processor and the availability of a large collection of input and output drivers, it is possible to write your own programs (Python scripts) for maximum flexibility. For common applications, scripts will be available for you to download, so most users will be able to use the logger without any programming.

The logger is designed for meteorological and hydrological stations, including applications on data buoys like the OMC-7006.

Features

- Large number of flexible I/O
 - Four serial ports supporting RS232/422/485(ModBus).
 - One SDI-12 port.
 - One NMEA input with optical isolation.
 - Four analog 4-20mA inputs.
 - Two analog voltage inputs (0-5V and 0-24V) plus one 2.5V reference output.
 - Two digital (switch or pulse) inputs.
 - Two potential-free single pole, double throw relays.
 - Four switched (programmable) 12V power outputs.

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Features (continued)

- Integrated cellular modem
 - LTE UE Category M1/NB1, optimized for low-power IoT application and enhanced coverage.
 - Supports LTE-M1, NB1 and EGPRS fallback.
 - Suitable for worldwide application.
 - SMA connector.
- Processor, software and configuration
 - ARM Cortex-M4 32-bit processor.
 - Support for Python scripts.
 - USB type C connector for configuration, scripting and data transfer.
 - 32 GB SD card.
- Software, configuration and communication
 - Drivers available^{*1)} for all meteo/hydro sensors from Observator brands, including: OMC-, NEP-, EXO (Xylem/YSI), Seametrics, Gill and more. Drivers for Iridium or radio modems and GPS receivers are also available.
 - Available Python scripts^{*1)} include functionality for: powering sensors on and off; controlling and configuring sensors (including wiper control); storing data to SD card; sending data over cellular, radio or Iridium modem.
 - Support^{*2)} for HTTP(S), FTP(S) and TCP using TLS (secure communication using AES-128 ciphering).
- Hardware
 - All connectors (PhoenixContact) are easily reachable at the top-panel.
 - Micro SIM card, micro SD card and back-up battery behind the removable side panel.
 - DIN rail mounting.
 - Internal sensor for humidity.

Power

- Supply voltage nominal 12 V to 24 V (min 9V, max 32V).
- Power consumption in sleep mode: <1 mA at 12 V.
- Power consumption in active mode: <30 mA at 12 V (excluding modem and power outputs).
- Peak power consumption (including modem): 250 mA at 12 V (excluding power outputs).
- Max power output per switched power output: 0.5 A peak (one output), 200 mA continuously (4 outputs).
Note: Switched power output is maximized to 12V for supply voltages above 12V.

Environmental

- Temperature: -25 ... +70 °C.
- Humidity: 10 - 90% RH, non-condensing.
- Enclosure: IP40.

Dimensions

- Width x depth x height: 177 x 105,5 x 50 mm.
- Weight: 410 g.
- Package dimensions: t.b.d.
- Package weight: t.b.d.

SIM & SD cards

- Micro SIM.
- Micro SD.

Standards

- CE certified.
- Complies to EMC directive 2014/30/EU.

**1) Drivers are constantly being added. Contact Observator for an up-to-date list.*

**2) Secure protocols will be added during 2021.*

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