



OMC-048 data logger



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

Datasheet

OMC-048 Scriptable data logger with 4G LTE-M

This versatile data logger is the successor of the successful OMC-045-3 data logger. It offers a large number of I/O, including SDI-12, RS232/422/485, ModBus, NMEA and analog. The OMC-048 uses the latest technology and includes a powerful processor as well as a state-of-the-art LTE-M 'worldwide' IoT modem for the cellular network.

Thanks to the availability of a large collection of input and output drivers, it is possible to configure the logger for many sensors and other peripherals, by simply editing a small text file. No programming needed. However, users with programming experience can add their own Python code or modify the existing code. Secure remote configuration is also possible using our Blue2Cast web portal.

The logger is designed with meteorological and hydrological applications in mind (see application picture with a data buoy above), but is much wider applicable.

Features

- Large number of flexible I/O
 - Four serial ports supporting RS232/422/485 (ModBus).
 - One SDI-12 port.
 - One NMEA (RS422) input with optical isolation.
 - Four analog 4-20 mA inputs.
 - Two analog voltage inputs (0-5 V and 0-24 V) plus one 5 V reference output.
 - Two digital (switch or pulse) inputs.
 - Two potential-free single pole, double throw relays.
 - Four switched (programmable) power outputs (3 times 12 V, once 5 V).

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Note: this data sheet applies to models with SN>48000200.

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Features (continued)

- Integrated cellular modem
 - LTE UE Category M1/NB1, optimised 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 (micro)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 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, and sending data over cellular, radio or Iridium modem.
 - Support for FTP and TCP using TLS1.2 (secure communication using AES-128 ciphering).
 - Remote control using Blue2Cast web portal.
- Hardware
 - All connectors (PhoenixContact) are easily reachable at the top-panel.
 - Nano SIM card, micro-SD card and back-up battery behind the removable side panel.
 - DIN rail mounting.
 - Internal sensors for humidity and temperature.

Power

- Supply voltage nominal 12 V to 24 V (min 9 V, max 32 V).
- 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).
- Four controllable power outputs (3 times 12 V and one 5 V).
- Max power output per controllable power output: 0.5 A peak (one output), 200 mA continuously (4 outputs).

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

- Nano SIM.
- Micro SD.

Standards

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

**1) Drivers are constantly being added. Contact Observator for the latest information.*

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