OBSERVATOR instruments

# Quick Start Guide OMC-045-II

**Introduction.**

This manual is intended as a guide how to quickly setup your OMC-045-datalogger with OMC-Programmer. For more detailed information we refer to the **help files**, which you can access via the [F1] function key anywhere in OMC-programmer.

**1. Check required items:**

- OMC-045-II
- SD-card (included)
- USB cable (included)
- GSM/GPRS antenna (included)
- *SIM card*
- *Optional GPS antenna*
- OMC-Programmer
- *Suitable sensors*
- *Suitable power supply*


**Important notes:**

**SD-Card:** The included SD card is specially formatted for the OMC-045-II
**DO NOT FORMAT THE CARD VIA WINDOWS!**
Leave the switch to the 'LOCK' (= Write Protect) position whenever used in a pc.

**SIM card:** Check the card in a phone, make sure the PIN code is disabled.
Test if GPRS is available.

**BOTH CARDS SHOULD ONLY BE PLACED OR REMOVED WHEN THE POWER IS OFF!**

**Power Supply:** If the sensors are powered via the OMC-045-II, make sure the PSU (**P**ower **S**upply **U**nit) is suitable for both the OMC-045-II and the sensors. Else the sensor should be powered by a separate PSU.

**The output voltage of the OMC-045-II is identical to the PSU!**

**2. Connect all sensors & antenna's**

- Use delivered diagram or use the connectors layout in the appendix to determine the correct connections.
- Connect the power supply
- Do not connect the OMC-045-II by USB before you installed OMC-programmer

**3. Install OMC-programmer**

- Check the support page of www.observator.com (Obsermet Meteo & Hydro) for the latest version.

- Install OMC-programmer on your pc, this will also install the required USB driver

## 4. Connect the OMC-045-II via the USB cable to your pc

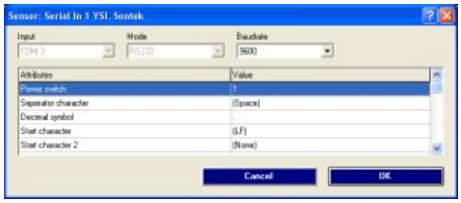
- Start OMC-programmer
- **Configure Substation**
- **Read Configuration From Device**
- **Use Direct communication**
- Communication protocol: 'OMC-045 II / OMC-410
- Select Com-port: COM xx (usually the highest number)*****
- **Read Configuration From Substation**
- Baudrate: 19200
- 'OK'

**Sensors:**
Select the connected sensors, use **Advanced** to change port numbers / baudrate etc.

**Parameters:**
Select which parameters you want to log

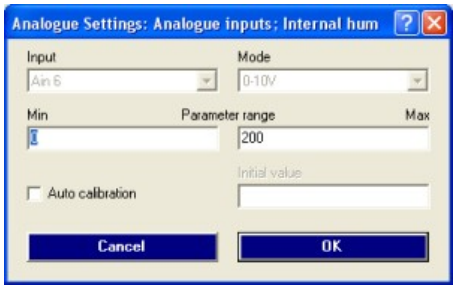
**Input (Tag list):**
Change tag names, log interval, alarm interval etc

**Substation:**
Set Substation name / System Id & Data send time Delay (normally 0)



**Data Output:**
Select Outputs, use **Advanced** to set intervals

**Modem (Email/FTP and TCP/IP through GPRS):**
Set your provider details, ftp server or emails settings.




**NOTE: FTP and EMAIL require different firmware!**

**Alarm Handling:**
Set sms alarm numbers and sms service center number.

**Save configuration:**
Save your configuration to Substation and File as backup.

* If you don't know the correct comport, disconnect the USB cable, select 'Cancel' and select 'Use direct communication' again. Note which comports are available. Reconnect the USB cable, select 'Cancel' and select 'Use direct communication' again. The 'new' comport is the OMC-045-II

**Troubleshooting**

From the **Main Menu** you can select **Read Actual Values** to view if anything is read.
Also through the **Main Menu** you can select **Maintenance** (password is 'manager')
By using the **Terminal Window Substation** you can monitor the sensor data which is read in the OMC-045-II. This will help you identify wrong connections, port numbers & baudrate.

**NOTE: COM numbers are not identical to Port numbers, select Port 1 .. 4 to monitor your inputs!**

**Frequent Asked Questions**

1. **I receive no data**
- Check if data is stored on the SD card (if not see 2.)
- Check if your Sim card is working (check GPRS with the card in a phone)
- Check your configuration (GPRS, FTP or Email settings, time delay in Substation etc.)
- Correct Firmware? Email & FTP require different firmware, check your version in the **Advanced Config** and compare the 'Software Build' with the versions on our support page at www.observator.com/instruments/meteo-hydro/

2. **My data is not stored on the SD card**
- SD card correctly fitted?
- Card correctly formatted (not by Windows!)?
- Check your configuration
- Check if any data is received via the Terminal Window
- Replace SD card if the above is OK

3. **Can I read the SD card direct via a PC?**
- Yes, you can so via the OMC-programmer main menu:
- Option 1 is via the OMC-045-II **Download Data from Substation** which is slow, but gives you the option to select the type of data, date and put it in a comma separated file.
- Option 2 is via a SD-card reader. First make sure the SD-card is write protected! Via **Read Data from SD Card** you can read all data from the card. At the moment you can not select the data and date, but it is fast.

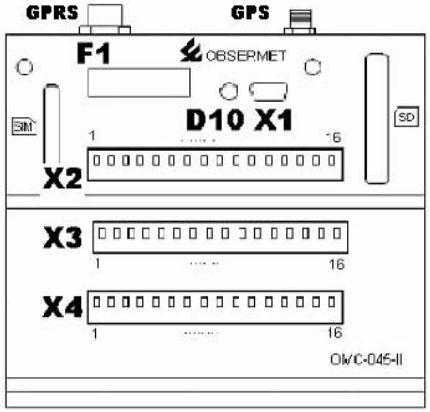
4. **What is the password for Maintenance & Advanced Config?**
- the password is 'manager'

5. **I'm missing some data from my Sontek (or other serial device).**
- Make sure you have the latest firmware, older version can not handle large strings well.
- Check our support page for the latest version

6. **I have checked all above, but still can't configure my OMC-045-II the way I want or I have some other questions.**
- Contact our support desk at service@observator.com and include the following information:
    - Serial number
    - Firmware version (Software Build in **Advanced Config**)
    - OMC-programmer version number
    - Your configuration XML-file
    - And your question or problem…

# Appendix

## Connections:




GPS antenna
GPRS antenna

FUSE
X1 USB mini-B connector.
SIM card holder
SD card holder
X2
X3
X4

**X2 Connector Layout: power inputs, power outputs, and display**

| terminal | name | Description | |
|---|---|---|---|
| X2.1 | GND | Power supply input for 10-30V (not used for OMC-045-II-regen) | |
| X2.2 | VIN | | |
| X2.3 | GND | Switched power supply output for sensors (output 1) Terminals X2.4 and X2.6 are internally interconnected | |
| X2.4 | VOUT1+ | | |
| X2.5 | GND | | |
| X2.6 | VOUT1+ | | |
| X2.7 | GND | Switched power supply output for sensors (output 2) Terminals X2.8 and X2.10 are internally interconnected | |
| X2.8 | VOUT2+ | | |
| X2.9 | GND | | |
| X2.10 | VOUT2+ | | |
| X2.11 | GND | Connection for external red LED. LED function is identical to the LED on the top of the OMC-045-II | |
| X2.12 | LEDOUT | | |
| X2.13 | GND | Reserved for connections of an external display | |
| X2.14 | VOUTCONT | | |
| X2.15 | TXDIS | | Data logger → Display |
| X2.16 | RXDIS | | Data logger ← Display |

**Warning:** The alarm outputs are open drain output, which means that they are internally connected to GND (through a FET); an indicating device should be connected between DOUT1 or DOUT 2 and an external supply voltage of max 20V

**X3 Connector Layout: digital inputs and communication ports**

| terminal | name | Description | |
|---|---|---|---|
| X3.1 | GND | Status input for connection of a passive switch | |
| X3.2 | DIN1 | | |
| X3.3 | GND | Rain gauge input; Pulse input for connection of passive switch sensors | |
| X3.4 | DIN2 | | |
| X3.5 | GND | RS232 PORT 1 | |
| X3.6 | TX1 | | Data logger → Sensor |
| X3.7 | RX1 | | Data logger ← Sensor |
| X3.8 | GND | RS232 PORT 2 | |
| X3.9 | TX2 | | Data logger → Sensor |
| X3.10 | RX2 | | Data logger ← Sensor |
| X3.11 | GND | RS232 PORT 3 | |
| X3.12 | TX3 | | Data logger → Sensor |
| X3.13 | RX3 | | Data logger ← Sensor |
| X3.14 | GND | RS232 PORT 4 or RS422/RS485 Software-selected in the configuration | |
| X3.15 | TX4 / A | | Tx Data logger → Sensor |
| X3.16 | RX4 / B | | Rx Data logger ← Sensor |

**X4 Connector Layout: analogue inputs and alarm outputs**

| terminal | name | Description | |
|---|---|---|---|
| X4.1 | GND | 4-20 mA input channel A1 | |
| X4.2 | AI1 | | |
| X4.3 | GND | 4-20 mA input channel A2 | |
| X4.4 | AI2 | | |
| X4.5 | GND | 4-20 mA input channel A3 | |
| X4.6 | AI3 | | |
| X4.7 | GND | 4-20 mA input channel A4 | |
| X4.8 | AI4 | | |
| X4.9 | GND | Potentiometer input channel A5 | |
| X4.10 | AI5 | | Max 2,5 Volt in |
| X4.11 | VREF | | 2,5 Volt out |
| X4.12 | GND | 0-10V input channel A6 | |
| X4.13 | AI6 | | |
| X4.14 | DOUT1 | Alarm outputs DOUT1 and DOUT 2. These are open drain outputs. Max 20V | |
| X4.15 | DOUT2 | | |
| X4.16 | GND | | |

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