

## PRODUCT DESCRIPTION

The dataloggers UxxxxM equipped with a two-part self-locking terminal block are designed for measuring and recording physical and electric quantities with an adjustable logging interval (1 sec. to 24 hours). The measured values (instantaneous or the average, minimum and maximum values detected during the recording interval) are stored in internal non-volatile memory. The data logging mode can be cyclic (when the data memory is completely full, the oldest data are overwritten by the new ones), or non-cyclic (the recording will stop once the memory is full). For each measured value it is possible to set two alarm limits. The alarms are signalled by the symbols on the LCD display, by flashing the LED, by acoustic or by sending a warning SMS message. The data recording can be performed continuously or only when an alarm occurs.

**GSM modem** is a part of each datalogger. Modem is used to send SMS messages to up to four selected recipients and to send the measured values using JSON messages, e.g. to the COMET Cloud. In addition to alarm warning messages, SMS messages containing current measured values and alarm statuses can be sent at regular intervals.

**Device setting, data downloading and online monitoring** is carried out using the computer with the **COMET Vision** software installed (see [www.cometsystem.com](http://www.cometsystem.com)). The USB interface is used to communicate with the computer.

The datalogger is powered by an internal **Lilon battery**. The device includes a charging circuit, which is activated automatically when a standard USB charger is connected or after connecting a device to a computer. The charging takes place if the battery condition requires it and the internal temperature of the device is in the range 0 and 40 °C.

Device type	Measured values	Construction
<b>U0843M</b>	2 x Te + 2 x BIN	Terminal block for connection of two external Pt1000 probe and two binary inputs
<b>U6841M</b>	3 x I + 1 x BIN	Terminal block for connection of three current inputs 0 – 20 mA and one binary input
<b>U7844M</b>	4 x BIN	Terminal block for connection of four binary inputs (two of them can work as a counter)

Te...Temperature, I...Current 0-20 mA, BIN...Binary inputs

## INSTALLATION AND OPERATION

**Insert the micro-SIM card for the 2G network into the device** (see other side of this sheet). Use a card with parameters conforming to the expected number of sent SMS messages and amount of received and transmitted data. If the SIM card is protected by PIN code, make a note of it, and later insert this code into the device configuration. Proceed with care and avoid contact of the external conductive parts with the electronics of the device (the datalogger is constantly supplied from the internal battery). An optional accessory is a prepaid IoT SIM card (order code **LP105**) for sending data to the COMET Cloud. Please note that this card does not support the sending of SMS messages. The **UxxxxMsim** kit (datalogger with built-in IoT SIM card) allows the instant connection to the COMET Cloud.

**Fasten the datalogger** on the wall with two screws or insert it into the wall holder **LP100** (optional accessory). The device always install vertically (with the antenna facing up) into locations with sufficient GSM signal quality. Insufficient signal level can be in reinforced concrete buildings, metal chambers and other shielded areas. The device can be operated as a portable – in this case the device protect from falling and try to maintain the proper working position. The device should be located as far as possible from potential interference sources.

### Connect input cables

- Remove the terminal block from the device, connect the wires (maximum wire cross-section 1.5 mm<sup>2</sup>) with either the supplied **SP013** tool or a screwdriver corresponding to the size and the terminal block again push to the device
- The maximum length of input cables should not exceed 30 m (recommended cable length of the Pt1000 probe is 15 m).
- All current and binary inputs are not each other galvanically isolated.
- The current inputs (U6841M) are **passive**. The current loops cannot be powered from datalogger directly, external power source needed.
- The device with all cables should be located as far as possible from potential interference sources

### Set-up the device

- Connect the datalogger with attached cables to the computer. Use an USB cable with USB-C connector (max. cable length 3 m).
- Run the installed **COMET Vision** software and select the device you want to set up from the device list
- Click on the **Configuration** button. The device configuration will be downloaded and you can change the setup of individual items.
- Finally save the new configuration into the device (**Apply changes**)

The devices do not require special maintenance. We recommend verifying the measurement accuracy regularly by calibration.

## SAFETY INSTRUCTIONS

- Read carefully the **Safety information for dataloggers with GSM modem** before operating the device and observe it during use!
- Installation, electrical connection and commissioning should only be performed by qualified personnel in accordance with applicable regulations and standards
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions.
- To complement the information in this data sheet** read the manuals and other documentation, which are available in the **Download** section for a particular device at [www.cometsystem.com](http://www.cometsystem.com)



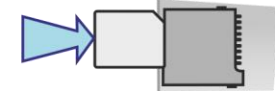
## Technical specifications

Device type	U0843M	U6841M	U7844M
Power batteries	Li-Ion accu pack 5200 mAh		
Recording interval	(1 - 2 - 5 - 10 - 15 - 30) s • (1 - 2 - 5 - 10 - 15 - 30) min. • (1 - 2 - 3 - 4 - 6 - 8 - 12 - 24) h		
Memory capacity	500 000 values in non-cyclic record mode • 350 000 values in cyclic record mode		
Temperature measuring range	-200 to +260°C	—	—
Accuracy of temperature measurement	± 0.2°C *	—	—
Current measurement range	—	0 to 20 mA	—
Accuracy of current measurement	—	± 20 µA	—
Recommended calibration interval	2 years	2 years	—
Protection class of the case with electronics	IP20	IP20	IP20
Temperature operating range	-20 to +60°C	-20 to +60°C	-20 to +60°C
Relative humidity operating range (without condensation)	0 to 100%RH	0 to 100%RH	0 to 100%RH
Working position	with antenna facing up	with antenna facing up	with antenna facing up
Recommended storage temperature range (5 to 90 %RH, without condensation)	-20 to +45°C	-20 to +45°C	-20 to +45°C
Electromagnetic compatibility according to	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1
Weight	270 g	270 g	270 g
Dimensions [mm]			

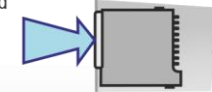
## SIM card installation

1/ Unscrew the rear cover of the device  
- use the TORX T10 key

2/ Insert the SIM card into the holder



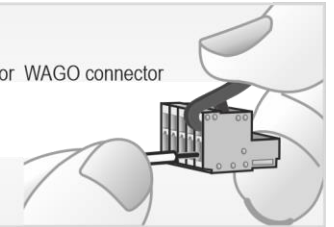
- briefly press and release to eject a SIM card



3/ Screw up the rear cover of the device  
- check the seal in the nut for integrity  
- the screws tighten carefully

## SP013

operating tool for WAGO connector



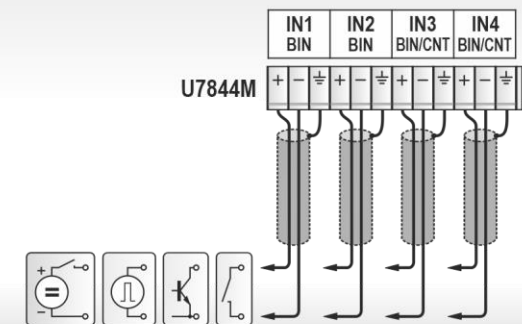
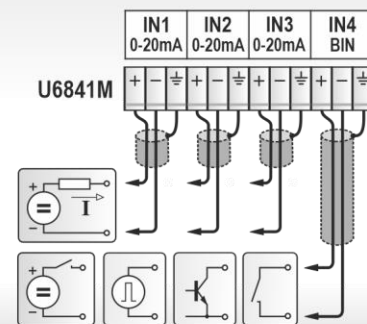
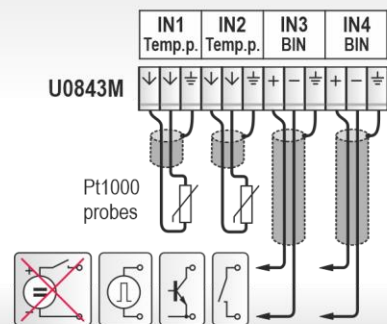
## Electrical connection

### Dry contact

Excitation voltage: approx. 3 V  
Contact resistance in „switched-on“ state: < 10 kΩ  
Contact resistance in „switched-off“ state: > 2 MΩ

### Voltage input

Input voltage range: 0 to 30 V  
Input voltage „L“: < 0.8 V  
Input voltage „H“: > 2.0 V



\* the accuracy of the device without probe in the range of -200 to +100 °C (in the range of +100 to +260 °C is accuracy ±0.2 % of measured value)