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COMET U0246 Data Logger User Guide

COMET U0246 Data Logger

Contents

PRODUCT DESCRIPTION

The dataloggers Uxxxx equipped with a two-part self-locking terminal block are designed for measuring and recording physical and electric quantities with an adjustable logging interval from 1 second to 24 hours. The measured values, or the average values and min/max values over a recording interval are stored into the internal non-volatile memory. The data logging mode can be cyclic (when the data memory is completely full, the oldest data is overwritten by the new ones), or non-cyclic (the recording will stop once the memory is full). The device also allows to the evaluation of alarm states – exceeding the limit of the measured value or falling below this limit, exceeding the limit of memory filling, technical defects of the instrument or probes. The alarm signaling can be realized visually, optionally by a symbol appearing on the display or by a short blink of an LED, or acoustically. The data recording can be performed continuously or only when an alarm occurs. The devices are powered by internal a replaceable lithium battery.

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

Device type	Measured values	Construction
U0246	3 xTc + 1xTe + 1xTi + 2x cc	Terminal block for connection of three thermocouples and one external Pt1000/0 probe
U0541	2 xTe + Tdiff + 2xU + 2x cc	Terminal block for connection of two external Pt1000/0 probes and two voltage inputs
U5841	3 xU + BIN + 3x cc	Terminal block for connection of three voltage inputs and one binary input
U6841	3 xI + BIN + 3x cc	Terminal block for connection of three current inputs and one binary input
U7844	4 x BIN	Terminal block for connection of four binary inputs (two of them can work as a counter)

Tc…Thermocouple, **Te**…External temperature, **Ti**…Internal temperature, **Tdiff**…temperature difference, U… Voltage 0-10V, **I**…Current 0-20 mA, BIN Binary inputs **cc**…calculated channel, ie the channel that can be used to calculate and record the value calculated from the measured quantities according to the selected formula

INSTALLATION AND OPERATION

Fasten the datalogger on the wall with two screws or insert it into the wall holder LP100 (optional accessory). The device can be operated as a portable – in this case the device protect from falling and try to maintain the proper working position.

Connect input cables

- Remove the terminal block from the device
- Connect the wires (maximum wire cross-section 1.5 mm2) with either the supplied SP013 tool or an appropriate type of screwdriver

  – the maximum cable length should not exceed 30 m (recommended maximum cable length of the Pt1000/0 probe is 15 m)

  – all current and binary inputs are not each other galvanically isolated

  – the current inputs are passive, the current loops cannot be powered from datalogger
- The terminal block again push to the device
- The device with all cables should be located as far as possible from potential interference sources

Set-up the device

- Device setup can be performed using the computer with the Windows 7 operational system or higher. Minimum HW requirements are 1.4 GHz processor and 1 GB memory
- Install the **COMET** Vision software into computer (the program is available free of charge at www.cometsystem.com)
- Connect the datalogger to the computer. Use an USB cable with USB-C connector (max. cable length 3 m). If the device is connected properly, its current status is displayed in the Device Home panel
- Click on the Configuration button. The device configuration will be downloaded and you can change the settings of some items
- Save the new configuration into the device
- Disconnect the device from the computer and close the USB connector with a closing cap

Operating the device from the keypad

- Press and hold the lower key. After the light up the row with menu items, release the key and briefly press the upper key.
- Press the upper key to scroll through the menu items (device turning On/Off, deleting the Min/Max values in the device, …)
- Press the lower key to confirm (SET)

The devices do not require special maintenance. We recommend that you regularly verify the accuracy of the measurement with calibration.

SAFETY INSTRUCTIONS

⚠️	- 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

Technical Specifications

Device type		U0246	U0541	U5841	U6841	U7844
Power batteries		lithium battery 3,6 V / 2200 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 measurig range	Pt1000 probe	-200 to +260°C	-200 to +260°C	—	—	—
	thermocouple	according to the type **	—	—	—	—
	internal temperature	-30 to +70°C	—	—	—	—
Accuracy of temperature measurement	Pt1000 probe	± 0.2°C *	± 0.2°C *	—	—	—
	thermocouple	according to the type **	—	—	—	—
	internal temperature	± 0.4°C	—	—	—	—
DC voltage measuring range		− 70 to +70 mV	0 to 10 V	0 to 10 V	—	—
Accuracy of DC voltage measurement		±70 µV	± 10 mV	± 10 mV	—	—
DC current measuring range		—	—	—	0 to 20 mA	—
Accuracy of DC current measurement		—	—	—	± 20 uA	—
Binary input configured for dry contact	Excitation voltage	—	—	approx. 3V	approx. 3V	approx. 3V
	Contact resistance for the „switched-on" state	—	—	< 10 kΩ	< 10 kΩ	< 10 kΩ
	Contact resistance for the „switched-off" state	—	—	> 2 MΩ	> 2 MΩ	> 2 MΩ
Binary input configured for voltage measurement	Input voltage range	—	—	0 to 30 V	0 to 30 V	0 to 30 V
	Input voltage for the „L" level	—	—	< 0.8 V	< 0.8 V	< 0.8 V
	Input voltage for the „H" level	—	—	> 2.0 V	> 2.0 V	> 2.0 V
Minimum state duration necessary for latching the state		—	—	1 s	1 s	1 s
Recommended calibration interval		2 years	2 years	2 years	2 years	—
Protection class		IP20	IP20	IP20	IP20	IP20
Temperature operating range		-30 to +70°C	-30 to +70°C	-30 to +70°C	-30 to +70°C	-30 to +70°C
Relative humidity operating range (no condensation)		0 to 100%RH	0 to 100%RH	0 to 100%RH	0 to 100%RH	0 to 100%RH
Working position		any position	any position	any position	any position	any position
Recommended storage temperature (5 - 90 %RH, no condensation)		-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C
Electromagnetic compatibility according to		EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1
Weight		130 g	130 g	130 g	130 g	130 g

Dimensions

dimensions are given in [mm]

SP013
tool for WAGO connector
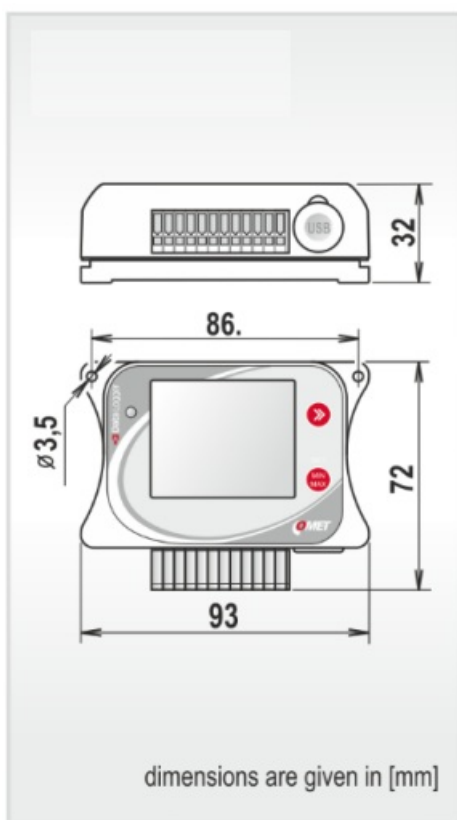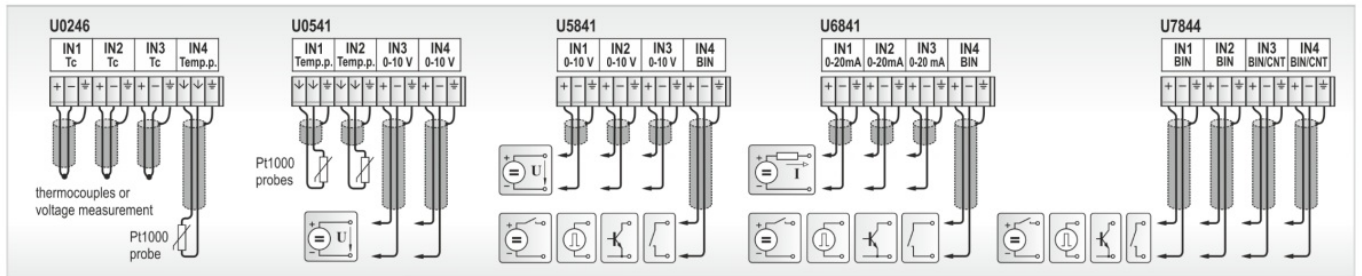
Documents / Resources

COMET U0246 Data Logger [pdf] User Guide
U0246, U0541, U5841, U6841, U7844, U0246 Data Logger, U0246, Data Logger, Logger

References

- **Manufacturer of Dataloggers, Thermometers, Hygrometers,CO2 meters**
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