COMET U0541 Data Logger for External CO2 Probe User Manual

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Contents

1 PRODUCT DESCRIPTION
2 INSTALLATION AND OPERATION
3 SAFETY INSTRUCTIONS
4 Dimension
5 Wiring Diagram
6 Technical Specification
7 Documents / Resources
8 Related Posts

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**
U0541	2xTe + 2xU + 2x cc	Terminal block for connection of two external Pt1000 probes and two voltage inputs
U5841	3xU + BIN + 3x cc	Terminal block for connection of three voltage inputs and one binary input
U6841	3x I + 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 (tw o of them can work as a counter)

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 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 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

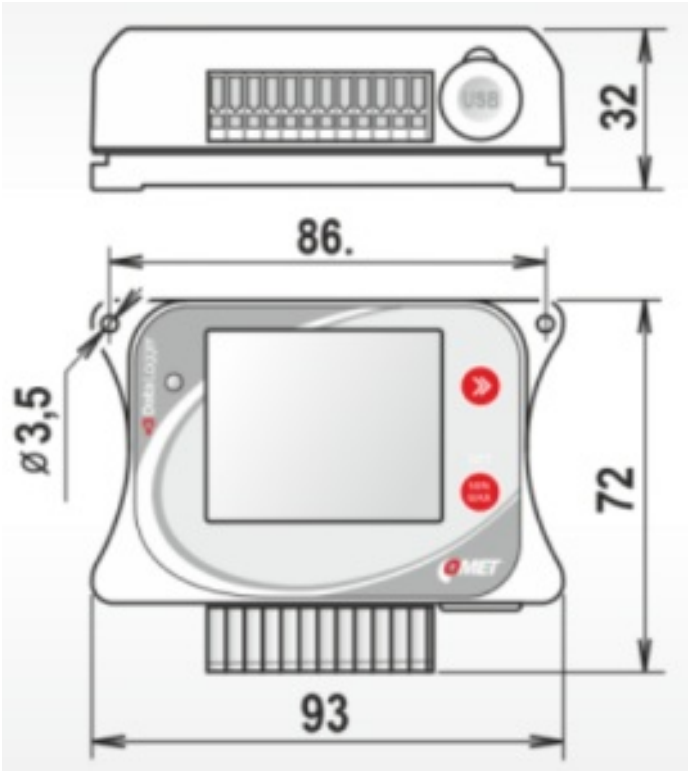
- Press and hold the lower key. After the light up the row with menu items, release the key and briefly press the upper key.
- Press the upper key to scroll through the menu items (device turning On/Off, deleting the Min/Max values in the device, …)
- Press the lower key to confirm (SET)

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

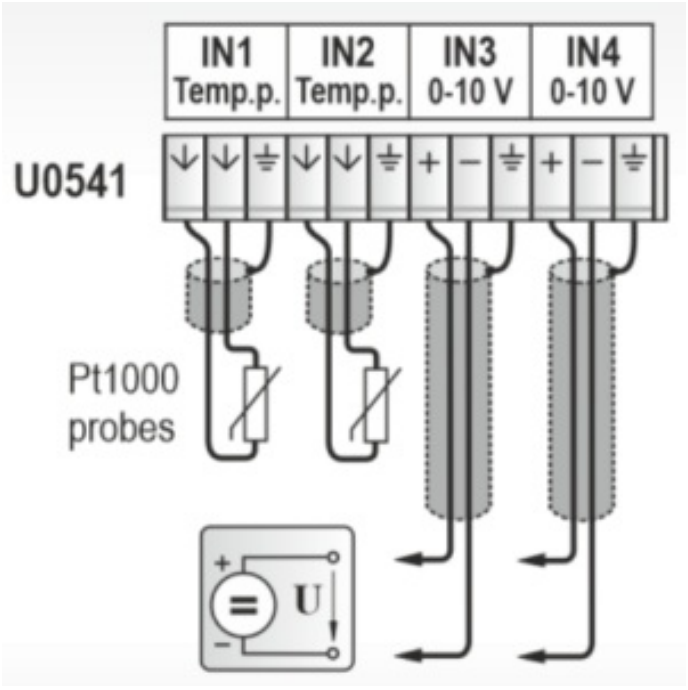
SAFETY INSTRUCTIONS

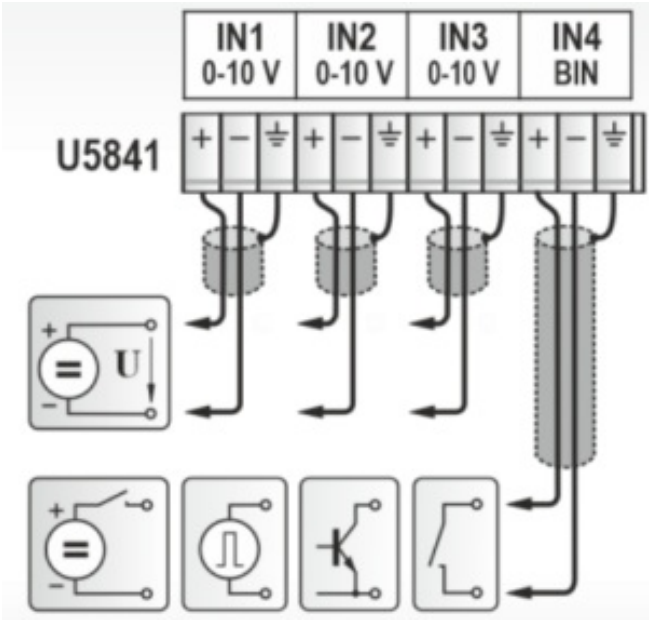
- Installation, electrical connection and commissioning should only be performed by qualified personnel in accordance with applicable regulations and standards
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions.
- To complement the information 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**

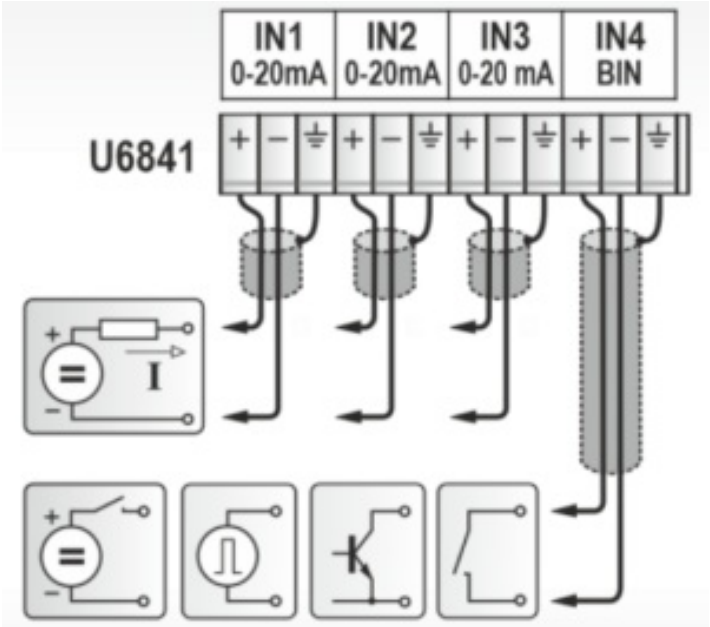
Dimension

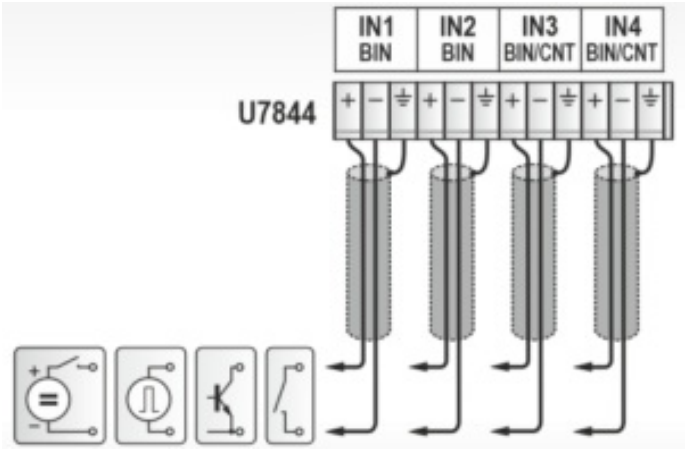


Wiring Diagram


IN1
Temp.p.
IN2
Temp.p.
IN3
0-10 V
IN4
0-10 V
U0541
Pt1000
probes
U


IN1
0-10 V
IN2
0-10 V
IN3
0-10 V
IN4
BIN
U5841
U


IN1
0-20mA
IN2
0-20mA
IN3
0-20 mA
IN4
BIN
U6841
I



Technical Specification

Device type	**U0541**	**U5841**	**U6841**	**U7844**
Power batteries	Lithium battery 3 6 V / 2200 rnA			
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 measure ment	+/-0.2°C	–	–	–
DC voltage measuring range	0 to 10V	0 to 10V	–	–
Accuracy of DC voltage measure ment	+/- 10 mV	+/- 10 mV	–	–

DC current measuring range		–	–	0 to 20mA	–
Accuracy of DC current measure ment		–	–	+/-20 uA	–
Binary input configu red for dry contact	Excitation v oltage	–	Approx. 3V	Approx. 3V	Approx. 3V
	Contact resi stance for t he ..switche d-on" state		<10 kΩ	<10 kΩ	<10 kΩ
	Contact resi stance for t he switched -oft state		>2MΩ	>2MΩ	>2MΩ
Binary input co nfigured for vol tage measure ment	Input voltage ra nge	–	0 to 30 Vdc	0 to 30 Vdc	0 to 30 Vdc
	Input voltage for the ,L level		<0.8 V	<0.8 V	<0.8 V
	Input voltage for H the level		>2.0V	>2.0V	>2.0V
Minimum state duration necessary for latching the state		–	1s	1s	1s
Recommended calibration interval		2 years	2 year	2 year	–

Protection class			IP20	IP20	IP20	IP20
Temperature operating range			-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
Working 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
Electromagnetic compatibility acc ording to			EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1
Weight			130g	130g	130g	130g
–	–	–	–	–	–	–

The accuracy of the device without probe in the range of 200 to +100°C (in the temperature range of +100 t0 +260°C is accuracy +/- 0.2% of measured value).

Documents / Resources

	COMET U0541 Data Logger for External CO2 Probe [pdf] User Manual U0541, U5841, U6841, U7844, Data Logger for External CO2 Probe

Manuals+,