

W0810P • W0832P • W0854P • W0870P • W3810P • W3811P

PRODUCT DESCRIPTION

The transmitters Wx8xxP for SIGFOX network are designed to measure temperature, relative humidity, dc voltage and to pulse counting. The devices are available in a compact design or with connectors for the connection of external probes. The transmitters of relative humidity also provide a value of dew point temperature. A large-capacity internal replaceable batteries are used for power.

The measured values are sent over an adjustable time interval via radio transmission in the SIGFOX network to the cloud data store. The cloud allows you to view current and historical data through a regular web browser. The device performs a measurement every 1 minute. For each measured variable it is possible to set two alarm limits. Every change in the alarm status is sent by an extraordinary radio message to the Sigfox network, from which it is to send to the user via e-mail or SMS message.

Device setup is done either locally by connecting your device to the computer with installed the COMET Vision software, or remotely via cloud web interface.

Device type	Measured value	Construction
W0810P	T	Internal temperature sensor
W0832P	T (1+2x)	Internal temperature sensor and connectors for two external Pt1000/E
W0854P	T + BIN	Internal temperature sensor and pulse counter
W0870P	T + U	Internal temperature sensor and input for dc voltage $\pm 30V$
W3810P	T + RV + DP	Internal temperature and relative humidity sensor
W3811P	T + RV + DP	Connector for external Digi/E probe connection

T...temperature, RH...relative humidity, U...dc voltage, DP...dew point temperature, BIN ... two-state quantity

TURNING ON AND SETTING UP THE DEVICE

The devices are supplied with the battery installed, but in the off state

- Unscrew the four screws at the corners of the case and remove the cover. Avoid damaging the light guide that is part of the cover.
- Press the CONF button for about 1 s. The green indicator LED lights up and then flashes briefly every 10 s.
- Cloud is an internet storage of data. You need a PC with internet connection and a web browser to work with. Navigate to the cloud address you use and sign in to your account - if you use COMET Cloud by a device manufacturer, enter www.cometsystem.cloud and follow the instructions in the *COMET Cloud registration* document that you received with your device. Each transmitter is identified by its unique address (device ID) in the Sigfox network. The transmitter has an ID printed on the nameplate along with its serial number. In the list of your device in the cloud, select the device with the desired ID and start viewing the measured values.
- Check in the cloud, whether the messages are correctly received. In case of problems with the signal, please refer to the manual for devices in the "Download" section at www.cometsystem.com
- Change the device settings as needed.
- Make sure that the seal in the cover groove is clean. Carefully tighten the cover of the device.

Device setting from the manufacturer – message sending interval of 10 minutes, alarms deactivated, the input for voltage measurement is set without user recalculation for the newly registered device in the COMET Cloud and is displayed with 3 decimal places, remote device setup enabled (only for devices purchased with a prepaid COMET Cloud).

MOUNTING AND OPERATION

The transmitter housing is provided with a pair of holes for fixing (for example, with screws or cable ties). The W0810P transmitter can also stand freely on its bottom base without fastening.

- Always install the devices vertically (with the antenna cap facing up) at least 10 cm away from all conductive objects
- Do not install the devices in underground areas (the radio signal is generally unavailable here). In these cases, it is preferable to use the model with an external probe on the cable and place the device itself, for example, one floor above.
- The devices and probe cables should be placed away from electromagnetic interference sources.
- If you install the device at a greater distance from the base station or in locations where the radio signal is difficult to penetrate, follow the recommendations on the other side of this manual

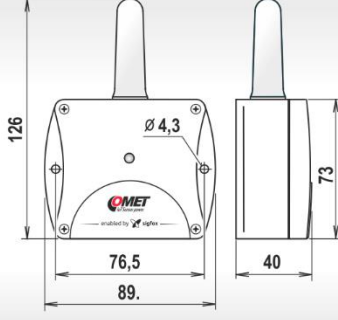
The devices do not require special maintenance. We recommend verifying the measurement accuracy regularly by calibration.

SAFETY INSTRUCTIONS

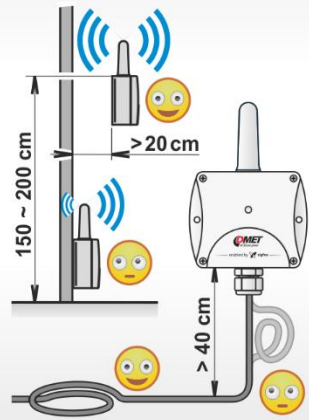


- Read carefully the **Safety information for IoT SENSOR** before operating the device and observe it during use!
- Installation, electrical connection and commissioning should only be performed by qualified personnel in accordance with applicable regulations and standards
- Devices contain electronic 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

Technical specifications

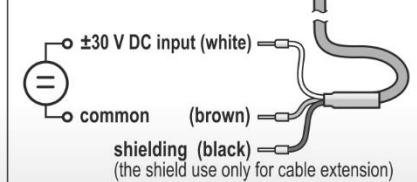
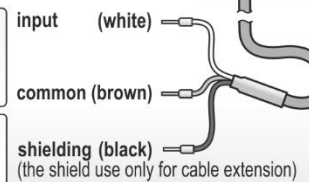
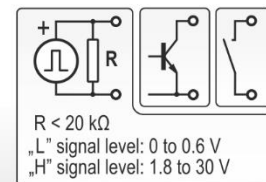
Device type	W0810P	W0832P	W3810P	W0854P	W3811P	W0870P
Power batteries	Lithium battery 3.6 V, C size, 8500 mAh (recommended type: Tadiran SL-2770/S, 3.6 V, 8500 mAh)					
Adjustable message transmission interval (battery life at operation temperatures from -5 to +35°C)	10 minutes (1 year) • 20 minutes (2 years) • 30 minutes (3 years) • 1 hour (6 years) • 3 hours (>10 years) • 6 hours (>10 years) • 12 hours (>10 years) • 24 hours (>10 years)					
Internal temperature measuring range	-30 to +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°C	—	-30 to +60°C
Accuracy of internal temperature measurement	± 0.4°C	± 0.4°C	± 0.4°C	± 0.4°C	—	± 0.4°C
External temperature measuring range	—	-200 to +260°C	—	—	according the probe	—
Accuracy of external temperature measurement	—	± 0.2°C *	—	—	according the probe	—
Relative humidity (RH) measuring range	—	—	0 to 100 %RH	—	according the probe	—
Accuracy of humidity measurement	—	—	± 1.8 %RH **	—	according the probe	—
Voltage measuring range	—	—	—	—	—	-30 to +30 V
Accuracy of voltage measurement	—	—	—	—	—	± 0.03 V
Dew point temperature measuring range	—	—	-60 to +60 °C ***	—	according the probe	—
Counter range	—	—	—	24 bits (16 777 215)	—	—
Maximum pulse frequency / minimum length of input pulse	—	—	—	60 Hz / 6 ms	—	—
Recommended calibration interval	2 years	2 years	1 year	2 years	according the probe	2 years
Protection class of the case with electronics	IP65	IP65	IP65	IP65	IP65	IP65
Protection class of the sensors	IP65	according the probe	IP40	IP65	according the probe	IP65
Temperature operating range	-30 to +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°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	0 to 100%RH
Working position	with antenna cover up	with antenna cover up	with antenna cover up	with antenna cover up	with antenna cover up	with antenna cover up
Recommended storage temperature range (5 to 90 %RH, no condensation)	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C
Electromagnetic compatibility	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1
Weight	185 g	190 g	190 g	250 g	190 g	250 g
Dimensions [mm]						

The optimal location in terms of radio range



Radio specification

- Operating frequency: 868 MHz
- Max. transmission power: 25 mW
- Sigfox radiation class: 0U
- Radio configuration zone: RC1
- Typical range from base station: 50 km in open field
3 km in urban area



* the accuracy of the device without probe in the range -200 to +100 °C (in the range +100 to +260 °C is accuracy ±0,2 % of measured value)
*** for accuracy of dew point temperature measurement see graphs at device manual

** sensor accuracy at 23 °C in the range of 0 to 90 %RH (hysteresis < ± 1 %RH, non-linearity < ± 1 %RH)