

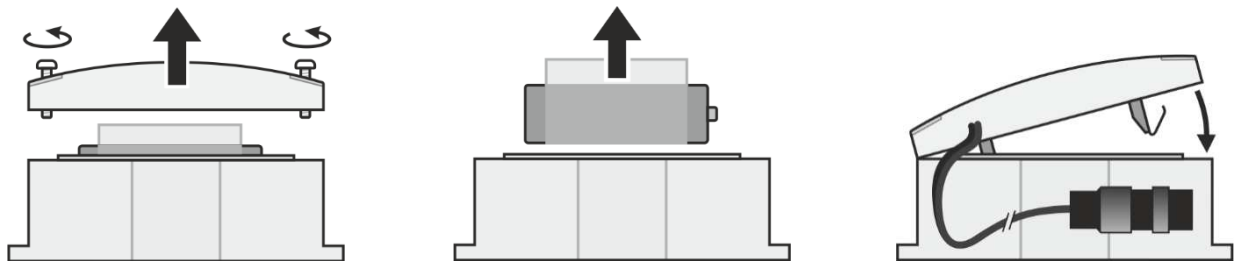
## DESCRIPTION AND APPLICATION

The SP014 adapter is designed to be used as an accessory for battery powered transducer with radio output to Sigfox net (from Wx8xx series\*). When installed in place of an existing battery, the transducer will be extended with an external power input. The transducer can then be powered from a 5V DC power adapter, an external large capacity battery, or a suitable solar battery system with a backup battery. The transducer with mounted adapter is primary designed for indoor or covered environment.

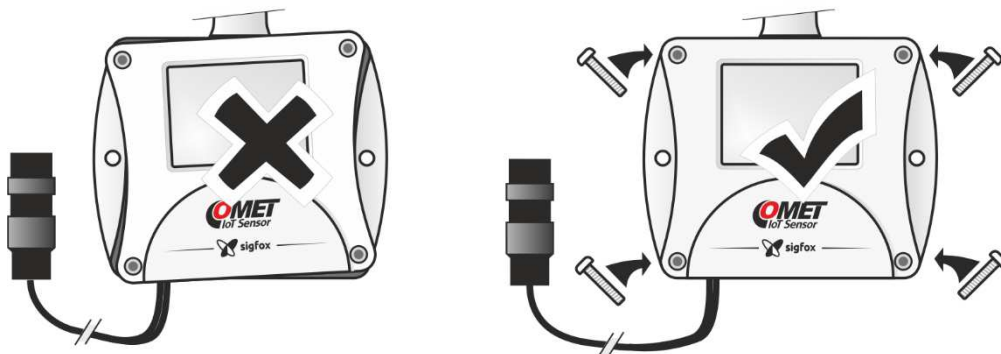
\*) The adapter can be used for W0810, W0811, W0832, W0850, W3810, W3811, W7810 models.

## INSTALLATION OF SP014 ADAPTER

- unscrew the four screws at the corners of the transducer box and remove the cover
- if you have a new transducer, install it according to the transducer manual (keep it working from the supplied battery)
- remove the battery by pulling on its handle from the ready transducer
- insert one SP014 adapter contact into the transducer battery holder. Then insert the second contact into the other holder and close the cover. The contacts of the two devices must fit exactly together.



- Verify that the attached adapter is flush with the transducer housing circuit. If not, remove the adapter and repeat the assembly procedure. Under no circumstances should you attempt to force the adapter and transducer into the correct position.



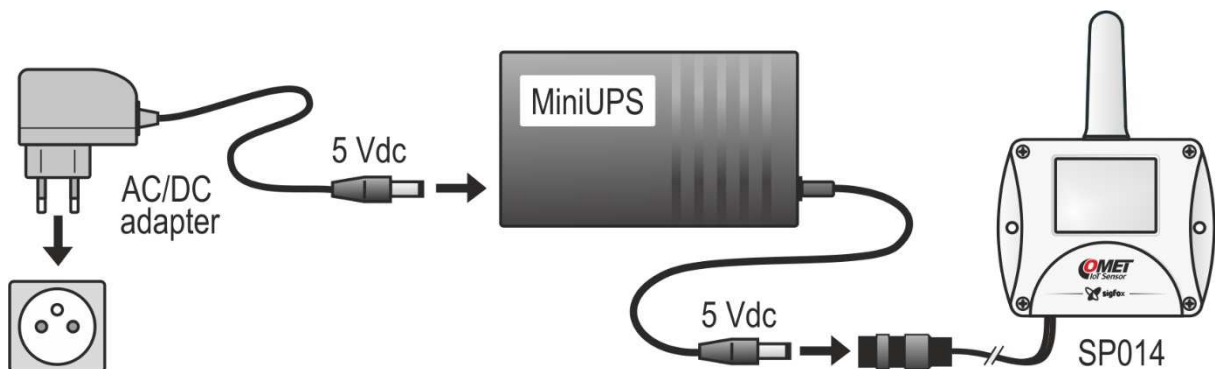
- if the adapter is in the correct position, screw it with the original screws

- connect the 5V DC adapter or external power battery with the right polarity (see illustration) into the SP014 power connector. The transducer display must be on within 10 seconds
- If you are using an extension cord or a own power supply system for power supply SP014, make sure that the voltage on the power connector is correct. Incorrect polarity voltage must not be connected to the SP014 adapter!
- fix the supply cable in an appropriate way against movement and pulling out (e.g. using a mounting rail or cable clips)
- verify the correctness of the transducer function in the cloud (correct delivery of messages with measured values)
- keep the original battery for case it is necessary to connect the transducer to the PC with the communication cable SP003 (optional)

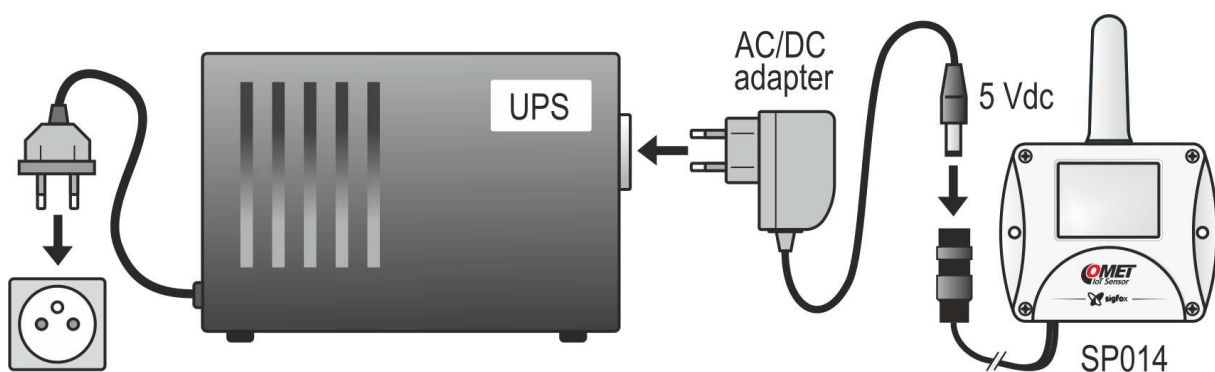


## BACKUP OF POWER SUPPLY

If you are powering the transducer with an AC/DC adapter, it is possible to back up the operation with a miniUPS with a built-in battery that is inserted between the transducer and the AC/DC adapter output. The backup time depends on the particular miniUPS model. With the tested model 2200 mAh Energenie the back-up time was 2 days.



Another option is to use a standard UPS on the network adapter input.



## POWER FROM EXTERNAL BATTERY

If it is necessary to power the transducer with output to Sigfox network from the battery, but life of the built-in battery is insufficient, an external battery with a larger capacity can be used with the SP014 adapter.

Due to the wide input voltage range of the SP014 adapter, external batteries with the following electrochemical systems can be used to power the transducer with output to Sigfox network:

- primary lithium batteries, 3x 1.5 V (size AA, Energizer Ultimate or similar)
- primary alkaline batteries, 3x 1.5V (size C or greater, cca 75% of the capacity will be used)
- primary alkaline batteries, 4x 1.5V (size C or greater, 100% of the capacity will be used)
- rechargeable NiMH batteries, 4x 1.2 V (it is advisable to use quality cells with low self-discharge)
- rechargeable Li-Ion batteries, 3.7 V (e.g. cells 18650)
- leaded VRLA battery, 6 V (possibly including permanent charging)
- leaded VRLA battery, 12 V (possibly including permanent charging)

Note: this advice does not solve the mechanical design of the battery packs or their specific connections - it all depends on the specific application and the possibilities of the user. When using larger capacity batteries, it is necessary to protect the supply line e.g. by a fuse of min. 1A. The fuse must be placed in the circuit as close as possible to the battery.

## REMOTE SETTING OF TRANSDUCER WITH ADAPTER

This procedure applies only when you need to use the *Configuration* button under the transducer cover when installing the transducer and you do not have the original battery. The button is used to speed up the remote setting, see the transducer manual.

- run transducer with adapter SP014 (transducer must run for at least 1 minute)
- the following steps need to be performed without unnecessary time delays, so do not disconnect the power of the SP014 adapter while performing them
- unscrew the SP014 adapter and press the *Configuration* button under the instrument cover (e.g. pencil)
- the setting symbol (gears) lights up on the display
- immediately reinstall back the SP014 adapter (make sure it is in the correct position) and screw it in place
- check for a long power failure - the settings symbol (gear) must still light on the display
- the transducer will start the remote setup process within 10 minutes

## CONNECTING THE PC TO THE TRANSDUCER WITH ADAPTER

If you need to communicate with your computer (SW Vision), it is necessary to use the original battery to power the transducer because the communication connector is under the transducer cover.

## USE IN OUTDOOR ENVIRONMENT

A transducer with a correctly mounted adapter retains a standard IP65 protection except for the power connector that has no water protection. If you need to measure permanently outdoors, protect the connector (or the entire assembly) with additional water penetration protection.

## REMOVING THE SP014 ADAPTER FROM THE TRANSDUCER

- first unplug the power connector
- unscrew the four screws at the corners of the transducer housing and remove the SP014 adapter by pulling it up
- if necessary, insert a 3.6 V battery of the correct type and polarity into the transducer

## TECHNICAL PARAMETERS

- input voltage 3.6 V to 14.5 V DC (5 V by default)
- output voltage 3.6 V DC
- continuous output current max. 1 mA at supply 14.5 V  
max. 7 mA at supply 5 V
- peak output current max. 150 mA
- output current limitation cca 300 mA
- continuous power dissipation max. 10 mW
- own consumption at 20  $\mu$ A 3  $\mu$ A at supply > 3.6 V  
25  $\mu$ A at supply < 3.6 V (e.g. a discharged external battery)
- Wx8xx transducer start delay max. 10 s after power supply connection
- short circuit protection of output yes
- thermal overload protection yes
- reverse polarity protection no
- power connector coaxial 2.1 x 5.5 mm socket at cable approx. 20 cm long
- IP class after mounting on the transducer: IP65, power connector IP20
- operating temperature -20 to +50 °C (the supply cable must be secured against movement at an ambient temperature below 0 °C)
- maximum supply cable length 10 m

## WARNING

The SP014 adapter contains electronic parts that must be disposed of in accordance with local and currently valid legal conditions

