

# W10019 – WIRELESS TEMPERATURE AND RELATIVE HUMIDITY SENSOR

W02.01en



## DESCRIPTION AND APPLICATION

W10019 is a wireless, battery powered temperature and humidity sensor. Native modbus map grants seamless integration into the DDC/SCADA system. The communication is based on the encrypted Midam KFP protocol, which allows to update the device firmware on a wireless basis. Ingress protection IP 65 in accordance with EN 60529, as amended ensures reliable function of the sensor even in harsh environment.

### Application

- HVAC control
- measurement of temperature and humidity
- wireless integration into SCADA control systems

## FUNCTION

The wireless temperature/humidity sensor W10019 measures temperature and relative humidity in non-aggressive environments using the probe situated outside the device body. The values are transmitted through the 868 MHz unlicensed band to the WCOM51, or WCOM01 gateways. The device has factory-set values to ensure the correct default function and allows direct reading and writing of values to the Modbus map, which is available in a separate document. All settings are also stored in the Modbus map directly in the device. Before using the device for the first time, it is necessary to pair it and it is recommended to perform individual configuration, especially to enter the encryption password.

## SCADA SYSTEM INTEGRATION

The sensor can be integrated into DDC or SCADA systems directly via the WCOM51 wireless gateway.

## PAIRING

To pair your own sensors with the WCOM51 GSM gateway, the freely downloadable KFP-Lite software is available, which communicates with the gateway using the WUSB01 wireless USB configurator. Both devices must be powered and placed in close proximity to each other. Using the search function in the software interface, you can view a list of all available devices in range and assign or modify parameters based on the wireless identification code for each individual device.

Using KFP-Lite, it is possible to change the communication frequency (default value 868.95 MHz).

## BATTERY CHANGE

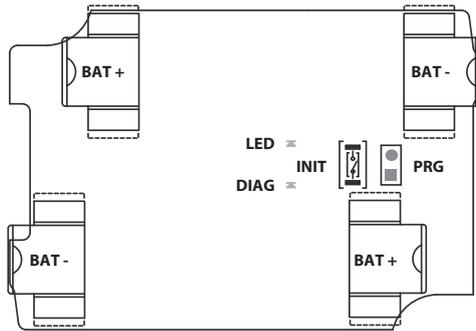
Remove the front cover lid of the sensor. Use wide flat screw driver or appropriate plastic tool which fits into slots between the cover and body of the sensor. Remove old batteries from the bracket and place new batteries. Observe the battery type and polarity. Always replace both batteries with fresh ones. Then put the sensor cover back and press both parts of the sensor tight to ensure the IP protection again.



## SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| Sensor type                   | W10019   |
| Power supply                  | 3V, 2× main alkaline battery 1.5V, type AA   |
| Consumption                   | Idle: < 2 uA, avg. typical: 5 uA, max.: 25 mA  |
| Battery life                  | up to 5 years – batteries are not supplied with the device   |
| Communication                 | 868.950 MHz, 100 kbps, KFP<br>868.300 MHz, 32 kbps, KFP<br>868.100 MHz, 100 kbps, KFP<br>869.525 MHz, 100 kbps, KFP  |
| Protocol                      | KFP (dual stack)   |
| Encryption                    | AES 128 PCBC, EN 13757-4   |
| RF power                      | +13 to - 20 dBm, step 5 dB   |
| Antenna                       | SMA female connector for external antenna  |
| Communication range           | 1000 m in free space, 300 m in buildings   |
| Mechanical and dimensions     | 154×33×63 mm (incl. antenna and measurement probe), polyamide enclosure, IP 65 in accordance with EN 60529, as amended<br>1× button (INIT mode), 1× jumper (PRG) |
| Temperature measurement range | -20 až 55 °C, ± 0,5 °C   |
| Humidity measuring range      | 10 to 90 % rH, ±3% rH  |
| Ambient conditions            | -20 to 55 °C, 5 % to 95 % rH, (non condensated), atmospheric pressure 70 to 107 kPa  |

## WIRING DIAGRAM



- LED** Green LED, indicates receipt of communication request from remote device
- DIAG** Red LED, glowing 10s after power-up, indicates sending data during operation
- INIT** Push the button to start/confirm pairing
- PRG** Without clamp – user defined frequency and password  
With clamp – default frequency and password

## DIMENSIONAL DRAFT

