

## SIGFOX™ PULSE S0 SENSOR



The SIGFOX™ PULSE S0 is an autonomous sensor operating on battery that radio transmits data from any pulse meters: water, gas, electricity, energy.

### APPLICATIONS

- Wireless AMR – Smart metering
- Infrastructure: all meters with pulse interface can be integrated quickly and cost-effectively into a SIGFOX™ network without expensive and time-consuming cabling.

### BENEFITS & KEY FEATURES

- SIGFOX™
- Easy to use and deploy
- Data compression for batch report
- Autonomy up to 12 years
- IP55 (Outdoor), IP68 (Waterproof)

### QUALITY & RELIABILITY

- CE Compliant
- RoHS compliant
- AtEx Zone II compliant (option)



The SIGFOX™ PULSE S0 from nke Watteco is a narrow-band, long range, low power consumption, high performance and high quality wireless up or down pulse sensor transmitting data from water, gas, electricity & energy meters.

The PULSE S0 sensor operates with any commercial meter products and provides connection to any wireless network using the SIGFOX protocol.

SIGFOX™ PULSE S0 is available in 3 versions:

- Outdoor (IP55)
- Outdoor (IP55) and AtEx Zone II compliant
- Waterproof (IP68)

The PULSE S0 sensor is easy to use, deploy and maintain:

- NFC tag for identification (Part number, serial number and manufacturing number)
- Magnetic switch to activate/de-activate the device.
- Buzzer Indicator for network pairing / unpairing & configuration

The measured up or down pulses parameters can be locally stored, concatenated and compressed. This unique batch mechanism significantly reduce the amount of data transmission for demanding applications and drastically increase the autonomy.

Powered through a lithium battery, in data-compressed mode it allows an autonomy of up to 12 years when measuring and radio transmitting data one time per day.

The configuration of the transmitter can be done at factory or on-site allowing the choice of measurement cycle, measurement, information frame radio-transmission periodicity, low battery threshold value, data compression mode

### NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS


We are a European leader in designing and manufacturing highly reliable and low power consumption smart sensors, actuators and multiprotocol remote data solutions.

## TECHNICAL CHARACTERISTICS

| RF TRANSCEIVER   |  |
|--|--|
| Frequency (MHz)  | EU: 868-870  |
| Transmit Power (dBm)   | +14  |
| Receiver Sensitivity (dBm)   | -126   |
| FIRMWARE   |  |
| Protocol   | SIGFOX™  |
| Data encryption  | AES128   |
| Measurement cycles   | From 1h to 48h in 1h step  |
| Measurement frame transmission cycles  | From 2h to 48h in 1h step  |
| Information frame transmission cycles  | From 0 day to 30 days in 1day step   |
| Alarm detection  | yes  |
| Data compression   | yes (differential coding) or no  |
| Alarm level  | Battery level: 0,1V to 3,6V by 0,1V step   |
| SENSOR INPUT   |  |
| Number of inputs   | 1  |
| Impedance (MΩ)   | >1   |
| Capacitance (nF)   | 1; typical   |
| Voltage (V)  | 0 - 32   |
| Current (μA)   | 3.5  |
| Frequency (Hz)   | 1 - 250  |
| POWER  |  |
| Power supply   | 3,6V / 3600mAh lithium battery   |
| Autonomy Autonomy within a +10°C to +25°C temperature range                                  | 12 years: Data compressed / 1 measurement per day / 1 transmission per day<br>9 years: Data compressed / 1 measurement per hour / 1 transmission per day<br>6 years: Data not compressed / 1 measurement per hour / 1 transmission per day |
| INTERFACE  |  |
| NFC Tag  | Part number, serial number and manufacturing number  |
| Buzzer Indicator   | Network pairing / unpairing & configuration  |
| Magnetic Switch  | ON/OFF   |
| Cable connection   | IP55: cable connected inside the box.<br>IP68: 1,5m cable length – The free end of the cable must be connected in an area that is protected from moisture  |
| ALARMS   |  |
| ON/OFF   | Transmitted instantaneously  |
| Low battery  | Transmitted at information frame rate  |
| MECHANICAL FEATURES  |  |
| Dimension (mm)   | 84 x 82 x 55   |
| IP Class   | IP55 or IP68   |
| ENVIRONMENTAL  |  |
| Operating temperature (°C)   | -20 / +50  |
| Storage temperature (°C)   | -10 / +30  |
| DIRECTIVES & STANDARD  |  |
| EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1<br>CE and RoHS recommendation compliant |  |



## ORDERING INFORMATION

| REFERENCE | PACKAGE | MODEL DESCRIPTION  |  |
|-----------|---------|--|--|
| 50-09-038 | IP55    | SIGFOX™ PULSE S0 OUTDOOR SENSOR                          |  |
| 50-09-041 | IP55    | SIGFOX™ PULSE S0 OUTDOOR SENSOR – ATEX ZONE II COMPLIANT |  II 3 G Ex ic IIB T3 Gc<br>-20°C ≤ Tamb ≤ +50°C |
| 50-09-063 | IP68    | SIGFOX™ PULSE S0 WATERPROOF SENSOR                       |  |