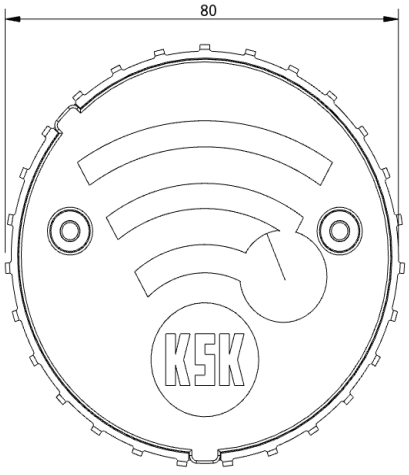
Wireless pressure sensor for water supply networks

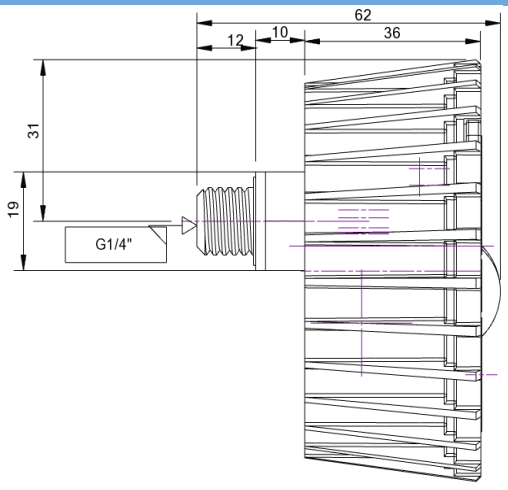
Product Description:

A wireless pressure sensor is used to measure water pressure parameters in water supply networks.
The device can perform water pressure measurements in the water supply network and temperature measurement in 2 places - on the sensor itself and in the device housing.
The sensor is produced in two versions - IP54 (possible replacement of the battery on the user's side on the object) or IP68 (battery replacement only in the manufacturer's service)
The sensor measures at intervals of 1 min to detect sudden pressure increases. It is possible to set an alarm threshold, the exceeding of which triggers the immediate sending of data frames. In normal operation mode, reading reporting takes place with an interval of 15 minutes every 6 hours from the last 24 hours. Data frames from the sensor are sent via the LoRaWAN network in normal operation mode without confirmation in order to save energy and use the base station bandwidth. Overlapping measurements will allow you to lose up to 4 frames without losing data. Alarm frames are sent with confirmation, guaranteeing the delivery of data to the master system. The transmission uses the ADR (Adaptive Data Rate) algorithm to adapt to the current radio conditions on the installation. Pressure measurement is carried out using a piezoresistive sensor with temperature compensation. Each sensor undergoes a calibration procedure at a reference pressure of 1bar. Sensor made of high-quality stainless steel AISI316L, sealed on the face.

Technical specification:

Supply voltage:	3.6 V - battery powered
Average current consumption:	6uA (battery life min 5 years)
Detection technology:	Piezoresistive pressure transmitter
Protection of the power supply circuit	1A
Settings:	Using commands via LoRa Network Downlink
Construction:	Housing made of polycarbonate, PBT and LSR
Working conditions:	-20° +60° C
Dimensions:	Height: 58mm Diameter: 80mm
Flammability class according to UL 94:	V0
Connect:	Wireless connectivity with LoRaWAN 868MHz
Protection:	IEC IP54 (IP68 on request)
Mechanical and vibration resistance:	IEC 61984 i UL773 Mechanical: 3gl 11ms semi-sinus, 18 shocks Vibrations: 0..5mm p-p, 10 to 60Hz
Communication protocol:	LoRaWAN
Pressure measurement	0-10 bar +- 0,015%FS
Pressure sensor thread	¼''





Warnings:

Misuse:
KSK Developments allows the device to be used only in accordance with its intended purpose, i.e. measuring the pressure parameters in water tanks.
KSK Developments is not liable for any damages related to the misuse of the system.
Incorrect connection:
The device is designed to work with a rated voltage of 3.6 VDC. Connecting a different voltage can cause irreparable damage to the equipment.
KSK Developments is not responsible for damages related to incorrect connection of the device.
The batteries in the device are not rechargeable:
Lithium batteries are widely used in electronic products because they store more energy than conventional batteries. However, the same properties that provide high energy density also contributes to the potential danger of battery damage. Improper use or handling of batteries can lead to for leakage of battery contents, explosion or fire.
YOU MUST NOT:

- charge or attempt to recharge the battery
- attempt to destroy the battery (crushing, throwing, punching)
- short-circuit the battery poles
- force battery discharge
- burn or expose to excessive heat
- expose the contents of the battery to water

About the document:

This document applies to a wireless water pressure sensor developed by KSK Developments. KSK Developments reserves the right to correct this publication and to make changes to the content from time to time without being obliged to notify individuals or organizations of such corrections or changes.