WatchNET IoT

LoRa

2 YEARS WARRANTY CE FC RoHS

WLRC-DAPS

Wireless Differential Pressure and Temperature Sensor

WLRC-DAPS is a wireless communication device which can detect the pressure difference. It will transmit the detected data to other devices for display through the wireless network. It adopts the SX1276 wireless communication module.

KEY FEATURES

- Apply SX1276 wireless communication module
- 2 ER14505 batteries AA size (3.6V / section) in parallel
- Differential pressure sensor
- Protection class IP40
- The base is attached with a magnet that can be attached to a ferrous object
- Compatible with LoRaWAN Class A
- Frequency hopping spread spectrum
- Configuration parameters can be configured via a third-party software platform, data can be 1 read and alerts can be set via SMS text and email (optional)
- Low power consumption and long battery life
- Note:
  * Actual signal range may vary depending on the environment.
  * Battery life is determined by sensor reporting frequency and other variables

APPLICATION

- Duct Filter Detection
- Air Duct Filter Monitoring
- Air Temperature in Duct
- Can be part of AHU Optimization

Device   **WatchNET Cloud**   **Mobile Application**

ELECTRIC

Power Supply	2 sections ER14505 lithium batteries (3.6V，2400mAh/ section) in parallel
Battery Life	Battery lifetime 3.8 years (Condition: ambient temperature 25°C, report once every 15min, TX power = 20dBm, LoRa spreading factor SF = 10)
Standby Current	<30uA
Wakeup Current	7.11mA (Typical value) Wakeup current range 0.8mA - 20mA * When not transmitting /receiving LoRa data
Low Battery Voltage Threshold	3.2V
RF Receiving Current	11mA @ 3.3V
RF Transmitting Current	120mA @ 3.3V

* Specific electrical characteristics may vary depending on the power supply voltage.
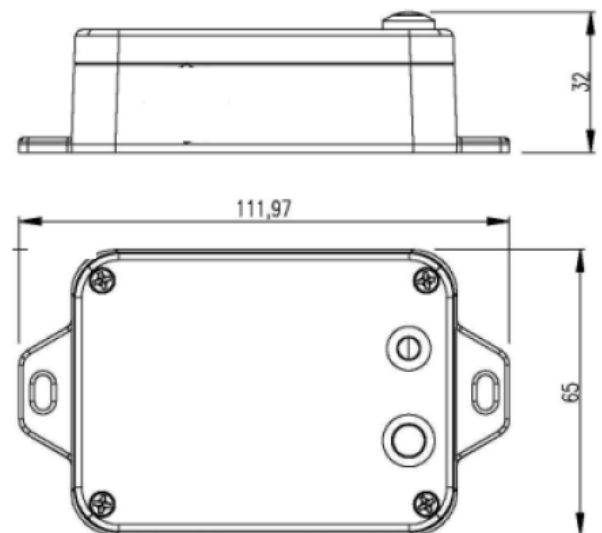
FREQUENCY

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Receiving Sensitivity	-136 dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps); -121 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	1 km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data transfer Rate	0.3kbps ~ 50kbps (LoRaWAN) 1.2kbps ~ 300kbps (FSK)
Modulation System Mode	LoRa/ FSK
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

DIFFERENTIAL PRESSURE, TEMPERATURE SENSOR

Operation Current	Typical value 3.8mA during measurement
Measurement Range	-500 Pa to 500 Pa
Allowable Overpressure	100 kPa
Rated Burst Pressure	500 kPa
Accuracy	3% of reading ± 0.1 Pa
Span Repeatability	0.5% of reading
Span Shift Due To Temperature Variation	< 0.5% of reading per 10°C
Offset Stability	< 0.05 Pa/year
Temperature Accuracy	± 3°C (-20°C to 50°C)
Media Compatibility	Air, Nitrogen, Oxygen, Non-condensing
Communication Method	I2C
Max Humidity For Long-Term Exposure	40°C dew point
External Hose Dimension	Outer diameter: 6mm Inner diameter: 4mm

*Note:
Pressurizing the positive side of the hose will generate a positive data ;
pressurizing the negative side of the hose will generate a negative data.

PHYSICAL

Dimension	L: 112 mm*W: 65mm*H: 32 mm
Weight	About 181g
Ambient Temperature Range	-20℃ ~ 50℃
Storage Temperature Range	-40℃ ~ 85℃
Ambient Humidity Range	<90% RH (No condensation)