DRAGINO

LoRaWAN/NB-IoT Air/Water Pressure Sensor

OVERVIEW:

The Dragino Air/Water Pressure Sensor is used for Internet of Things solution. It can measure Air, Water pressure and liquid level and upload the sensor data send to IoT platform via LoRaWAN and NB-IoT network.

The Dragino Air/Water Pressure Sensor includes Thread Installation Type and Immersion Type, it supports different pressure range which can be used for different measurement requirement.

It supports BLE configure and wireless OTA update which make user easy to use.

The Dragino Air/Water Pressure Sensor series is powered by 8500mAh Li-SOCI2 battery or solar panel with li-on battery, it is designed for long-term use up to several years.

Thread Installation Type   Immersion Type

Thread Installation Type

Probe Specification:

- Hersman Pressure Transmitter
- Measuring Range: -0.1 ~ 0 ~ 60MPa, see order info.
- Accuracy: 0.2% F.S
- Long-Term Stability: 0.2% F.S ±0.05%
- Overload 200% F.S
- Zero Temperature Drift: 0.03% FS/℃(≤100Kpa), 0.02%FS/℃(＞100Kpa)
- FS Temperature Drift: 0.003% FS/℃(≤100Kpa), 0.002%FS/℃(＞100Kpa)
- Storage temperature: -30℃~80℃
- Operating temperature: -40℃~60℃
- Material : 304 stainless steel
- Connector Type: Various Types, see order info

Application:

Apply to various industrial applications

Water supply pressure — Hydraulic equipment — Laboratory facilities — Air pressure detection

Immersion Type

Probe Specification:

- Immersion Type, Probe IP Level: IP68
- Measuring Range: Measure range can be customized, up to 100m.
- Accuracy: 0.2% F.S
- Long-Term Stability: ±0.2% F.S / Year
- Overload 200% F.S
- Zero Temperature Drift: ±2% F.S
- FS Temperature Drift: ±2% F.S
- Storage temperature: -30℃~80℃
- Operating temperature: -40℃~85℃
- Material: 316 stainless steels

Application:

Model Variants

Variants	PS-LB	PS-LS	PS-NB	PS-NS
Apperance				
Connectivity	LoRaWAN	LoRaWAN	NB-IoT	NB-IoT
Configure Method	TTL, BLE, LoRaWAN	TTL, BLE, LoRaWAN	TTL, BLE, NB-IoT	TTL, BLE, NB-IoT
Upgrade Method	TTL, BLE, LoRa	TTL, BLE, LoRa	TTL, BLE	TTL, BLE
Features	* Ultra-low power consumption * Measure air / gas or water pressure * Different pressure range available * Thread Installation Type or Immersion Type * Controllable 3.3v,5v and 12v output to power external sensor * Monitor Battery Level * Support Bluetooth v5.1 remote configure and OTA update firmware			
Battery & Power	* Li/SOCl2 Battery	* Solar + Li-on Battery	* Li/SOCl2 Battery	* Solar + Li-on Battery
Power Consumption	* Sleep Mode: 5uA @ 3.3v * LoRa Transmit Mode: 125mA @ 20dBm, 82mA @ 14dBm	* Sleep mode: 74uA@3.8V * LoRa Transmit Mode: 206mA@14dBm, 236mA@20dBm	* Sleep mode: 14uA@3.3V * Max Transmit power: 350mA@3.3V	* Sleep mode: 74uA@3.4V * Max Transmit power: 350mA@3.4V
Supply Voltage	2.5v ~ 3.6v	3.7v ~ 4.2v	2.5v ~ 3.6v	3.7v ~ 4.2v
Operating Temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C

Battery & Enclosure Option:

Li-SOCl2 Battery:
- Li/SOCl2 un-chargeable battery
- Capacity: 8500mAh
- Self-Discharge: <1% / Year @ 25°C
- Max continuously current: 130mA
- Max boost current: 2A, 1 second

Solar Version:
- 3000mAh Re-chargeable battery
- 0.9W on board solar pannel Suitable to used in the place where sun is sufficient

Wireless Option:

LoRaWAN
- LoRaWAN 1.0.3 Class A
- Bands: CN470/EU433/KR920/US915/EU868/AS923/AU915/IN865
- OTAA or ABP Mode.
- World Wide Unique LoRaWAN Key
- RX sensitivity: down to -139 dBm.
- Max +22 dBm - 100 mW RF output

NB-IoT
- NB-IoT Bands, B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B28/B66/B70/B85 @H-FDD
- Uplink via MQTT, MQTTs, TCP, or UDP
- Multiply Sampling and one uplink

What is 1D version for NB-IoT version?

The 1D version of NB-IoT Air/WaterPressure Sensor is with 1NCE SIM Card and DataCake IoT Service.
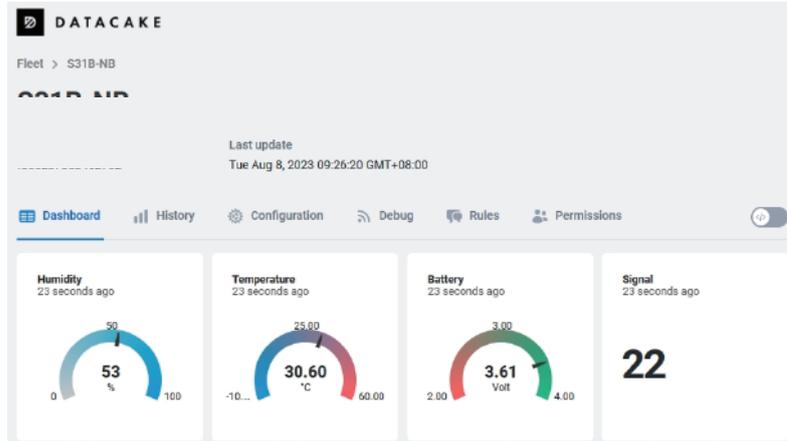
1NCE card provides 10 years lifetime for NB-IoT connection and Includes 500MB data traffic which is enough for 10 years normal uplink for the NB-IoT Sensor.

Coverage of 1NCE card is NB-IoT network coverage: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Malta, Netherlands, Norway, Puerto Rico, Russia, Slovak , Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, USA, US Virgin Islands.

1D version with DataCake IoT service pre-installed. This save a lot of work from user side to configure IoT server.

Below is Dash Board is the demo in DataCake.

Order Info:

PS : Pressure Sensor Series Prefix

Wirless Tech: L: LoRaWAN , **N** : NB-IoT

Battery Type: B: 8500mAH LI-SOIC2 Battery ; **S**: Solar Panel + Li-on Battery

Probe Type:		
T20	Thread Type - M20 x 1.5	
T14	Thread Type - M14 x 1.5	
T27	Thread Type - M27 x 2	
TG2	Thread Type - G1/2	
TG4	Thread Type - G1/4	
TN4	Thread Type - NPT1/4	
TP4	Thread Type - PT1/4	
I1	Immersion Version - 1 meter cable	
I2	Immersion Version - 2 meter cable	
I3	Immersion Version - 3 meter cable	
I4	Immersion Version - 4 meter cable	
Ixx	Immersion Version - xx meter cable	
I100	Immersion Version - 100 meter cable	

PRESSURE - - Only for Thread Type	
A	0−0.6MPa
B	0−1MPa
C	0−1.6MPa
D	0−2.5MPa
E	0−10MPa
F	0−40MPa
G	0−60MPa
H	-0.1−0MPa
I	-0.1−0.1MPa
J	0−5KPa
K	0−50KPa
L	0−100KPa

Frequency or SIM Version	CN470/EU433/KR920/US915/ EU868/AS923/AU915/IN865
	GE - - General version (Exclude SIM card)
	1D - - With 1NCE & DataCake Connection

PS	-	L	B	-	T20	-	B		EU868	Example: PS-LB-T20-B-EU868
PS	-	L	S	-	I5	-			US915	Example: PS-LS-I5-US915
PS	-	N	B	-	T20	-	B	- GE		Example: PS-NB-T20-B-GE
PS	-	N	S	-	I5	-		- 1D		Example: PS-NS-I5-1D