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,NB-IoT or CAT-M1 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 8500mA Li/SOCI2 battery or solar panel with li-on battery for long term use.



Thread Installation Type



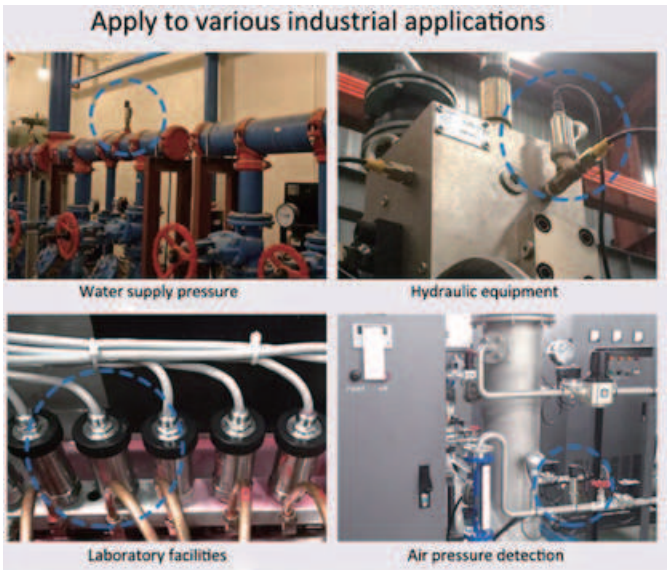
Immersion Type

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:



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:



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Direktronik AB | Box 234 , 149 23 Nynäshamn | Besöksadress Konsul Johnsons väg 15 149 45 Nynäshamn
Telefon 08 52 400 700 | Fax | Epost info@direktronik.se | Org.nr 556281-9663 | Bankgiro 922-0179

Model Variants

Variants	PS-LB	PS-LS	PS-NB	PS-NS	PS-CB	PS-CS
Connectivity	LoRaWAN	LoRaWAN	NB-IoT	NB-IoT	NB-IoT, LTE-M, GNSS	NB-IoT, LTE-M, GNSS
Configure Method	TTL, BLE, LoRaWAN	TTL, BLE, LoRaWAN	TTL, BLE, NB-IoT	TTL, BLE, NB-IoT	TTL, BLE, NB-IoT, LTE-M	TTL, BLE, NB-IoT, LTE-M
Upgrade Method	TTL, BLE, LoRa	TTL, BLE, LoRa	TTL, BLE	TTL, BLE	TTL, BLE	TTL, BLE
Features	**Sensor /Probe:** * 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 **General Features:** * Ultra-low power consumption * Support Bluetooth v5.1 remote configure and OTA update firmware * Uplink on periodically * GNSS for Location Report (for -CB & -CS models only) * Downlink to change configure					
Battery & Power	* 8500 mAh Li/SOCI2 Battery	* Solar + 3000 mAh Li-on Battery	* 8500 mAh Li/SOCI2 Battery	* Solar + 3000 mAh Li-on Battery	* 8500 mAh Li/SOCI2 Battery	* Solar + 3000 mAh 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	* 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	2.6v ~ 3.6v	3.7v ~ 4.2v
Operating Temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C

Battery & Enclosure Option:

Li-SOCI2 Battery & Enclosure:



- Li/SOCI2 un-chargeable battery
- Capacity: 8500mAh
- Self-Discharge: <1% / Year @ 25°C
- Max continuously current: 130mA
- Max boost current: 2A, 1 second

Solar Version & Enclosure:



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



- This icon means support location feature by: GPS/ GLONASS/BDS/Galileo/ QZSS

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

- CAT NB2 Bands:
  - For -NB & -NS: B1/B2/B3/B4/B5/B8/B12/B13/ B17/B18/B19/B20/B25/B28/B66/B70/B85
  - For -CB & -CS: B1/B2/B3/B4/B5/B8/B12/B13/ /B18/B19/B20/B25/B28/B66/B71/B85
- Uplink via MQTT, MQTTs, TCP, UDP or CoAP
- Multiply Sampling and one uplink

LTE-M

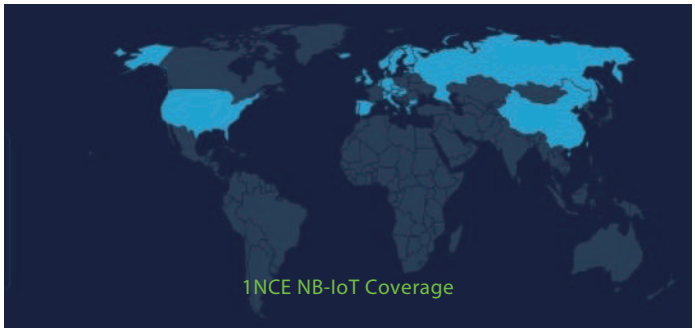
- CAT-M1 / LTE-M Bands: B1/B2/B3/B4/B5/ B8/B12/B13/B18/B19/B20/B25/B26/B27/ B28/B66/B85
- Uplink via MQTT, MQTTs, TCP, UDP or CoAP
- Multiply Sampling and one uplink

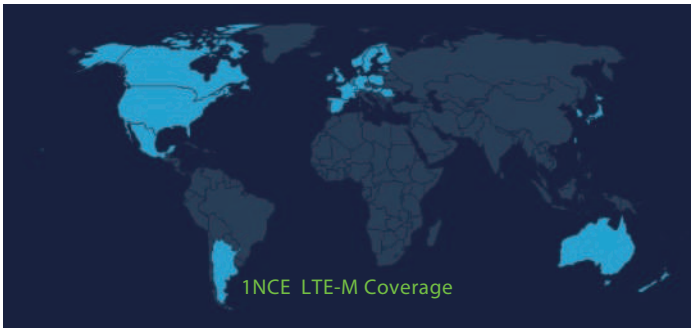
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What is 1T version for NB-IoT version?

The 1T version of NB-IoT Air/Water Pressure Sensor is with a) 1NCE SIM Card & 2) ThingsEye Pre-configured.
1NCE SIM Card (10 Years Cellular service with 500MB Data Traffic,Enough for devices to uplink 10 years at 1hour interval).





NB-IoT Network : Austria, Belgium, Bulgaria, China, Croatia, Czech Republic, Denmark, Estonia, Finland, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Malta, Netherlands, Norway, Portugal, Puerto Rico, Russia, Slovak, Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, USA, US Virgin Islands.

LTE-M Network : Argentina, Austria, Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Japan, Jersey, Korea, Repiblic of, Latvia, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Puerto Rico, Romania, Spain, Sweden, Switzerland, Taiwan, USA, US Virgin Islands.

ThingsEye.io platform:
1T version with ThingsEye IoT service pre-installed. This save a lot of work from user side to confgure IoT server.

Below is Dash Board is the demo in ThingsEye.io.



Order Info:

PS : Pressure Sensor Series Prefix

Wirless Tech: **L**: LoRaWAN , **N** : NB-IoT , **C**: CAT-M1

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)
1T -- With 1NCE & ThingsEye Pre-configured

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	-		1T	Example: PS-NS-I5-1T
PS	-	C	B	-	T20	-	B	GE	Example: PS-CB-T20-B-GE
PS	-	C	S	-	I5	-		1T	Example: PS-CS-I5-1T

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