Distance Detection Sensor

OVERVIEW:

The Dragino Distance Detection Sensor is use for Internet of Things solution. It is used to measure the distance between the sensor and a flat object. The distance detection sensor is a module that uses ultrasonic sensing technology for distance measurement, and temperature compensation is performed internally to improve the reliability of data.

It can be applied to scenarios such as horizontal distance measurement, liquid level measurement, parking management system, object proximity and presence detection, intelligent trash can management system, robot obstacle avoidance, automatic control, sewer, bottom water level monitoring, etc.
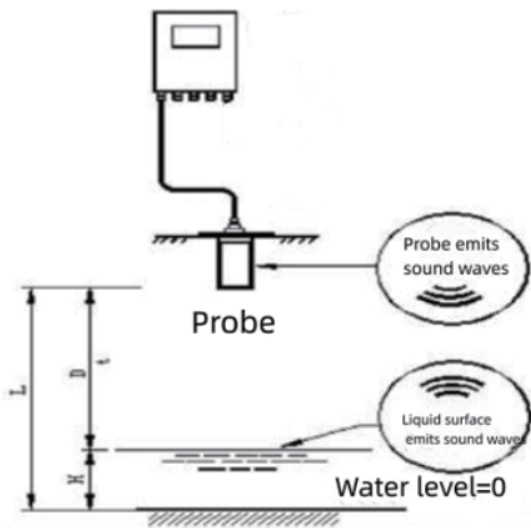
It detects the distance between the measured object and the sensor, and uploads the value via wireless to LoRaWAN, NB-IoT or CAT-M1 Server.

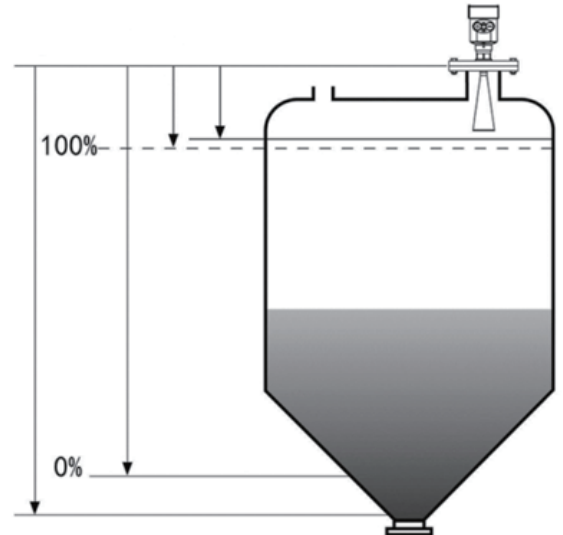It supports BLE configure and wireless OTA update which make user easy to use.

The Dragino DDS75 series is powered by 8500mAh Li-SOCI2 battery or solar panel with Li-ion battery, it is designed for long-term use up to several years.

Applications:

bottom water level monitoring

liquid level measurement

Model Variants

Variants	DDS75-LB	DDS75-LS	DDS75-NB	DDS75-NS	DDS75-CB	DDS75-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:** * Distance Detection by Ultrasonic technology * Flat object range: 280mm - 7500mm; Measure Angle: 40° * Accuracy: ±(1cm+S*0.3%) (S: Distance) * IP66 Waterproof Enclosure **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-ion Battery	* 8500 mAh Li/SOCI2 Battery	* Solar + 3000 mAh Li-ion Battery	* 8500 mAh Li/SOCI2 Battery	* Solar + 3000 mAh Li-ion 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

What is 1T version for NB-IoT version?

The 1T version of NB-IoT Distance Detection 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).

1NCE NB-IoT Coverage

1NCE LTE-M Coverage

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:

Part Number: DDS75-LB-XX
XX: The default frequency band
- XX: Frequency Bands, options: EU433,CN470, EU868,IN865,KR920,AS923,AU915,US915

Part Number: DDS75-LS-XX
XX: The default frequency band
- XX: Frequency Bands, options: EU433,CN470, EU868,IN865,KR920,AS923,AU915,US915

Part Number: DDS75-NB-XX
XX:
- **GE:** General version (Exclude SIM card)
- **1T:** with 1NCE* 10 years 500MB SIM card Pre-configure to ThingsEye server

Part Number: DDS75-NS-XX
XX:
- **GE:** General version (Exclude SIM card)
- **1T:** with 1NCE* 10 years 500MB SIM card Pre-configure to ThingsEye server

Part Number: DDS75-CB-XX
XX:
- **GE:** General version (Exclude SIM card)
- **1T:** with 1NCE* 10 years 500MB SIM card Pre-configure to ThingsEye server

Part Number: DDS75-CS-XX
XX:
- **GE:** General version (Exclude SIM card)
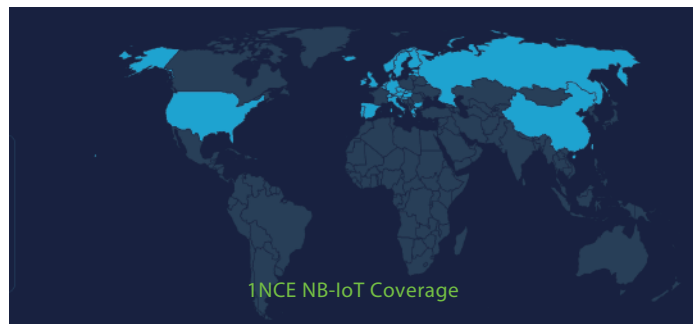- **1T:** with 1NCE* 10 years 500MB SIM card Pre-configure to ThingsEye server

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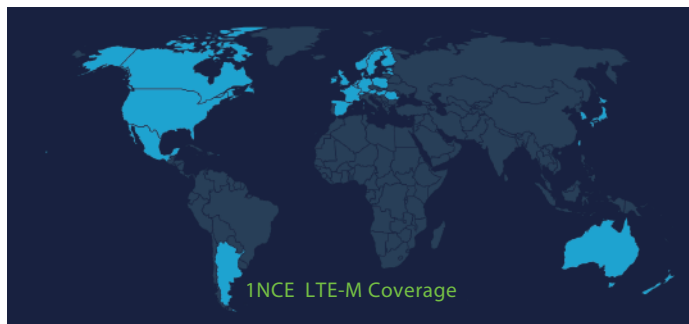Direct: +86 755 86610829 |Fax: +86 755 86647123

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