

4-Channels Distance Detection Sensor

OVERVIEW:

The Dragino DDS04 series is a 4-Channels Distance Sensor for Internet of Things solution. It is capable to add up to four Ultrasonic Sensors to measure four distances at the same time.

The Dragino DDS04 series can be applied to scenarios such as horizontal distance measurement, parking management system, object proximity and presence detection, intelligent trash can management system, robot obstacle avoidance, automatic control, sewer, etc.

It detects the distance between the measured object and the sensor, and uploads the value via wireless to LoRaWAN and NB-IoT Server.

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

The Dragino DDS04 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.

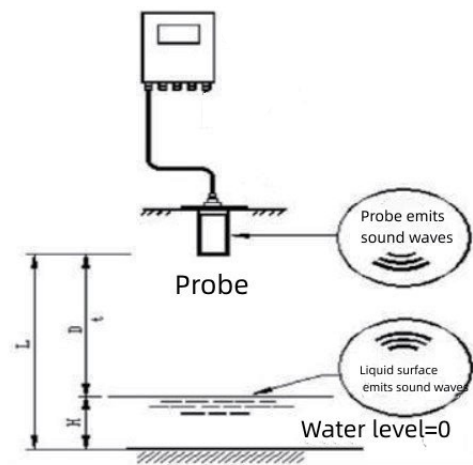


Model DDS04 series doesn't include probes. Probes are purchased separately

Applications:











Intelligent trash can management



Liquid level measurement

Model Variants

Variants	DDS04-LB	DDS04-LS	DDS04-NB	DDS04-NS
Apperance				
Connectivity				
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	<ul style="list-style-type: none"> * Ultra-low power consumption * max: 4 x Distance Detect Channels * Different types of probes can be used together * Detect Range: Base on External Probe * Support Bluetooth v5.1 remote configure and OTA update firmware * Downlink to change configure 			
Battery & Power	* Li/SOCI2 Battery	* Solar + Li-on Battery	* Li/SOCI2 Battery	* Solar + Li-on Battery
Power Consumption	<ul style="list-style-type: none"> * Sleep Mode: 5uA @ 3.3v * LoRa Transmit Mode: 125mA @ 20dBm, 82mA @ 14dBm 	<ul style="list-style-type: none"> * Sleep mode: 74uA@3.8V * LoRa Transmit Mode: 206mA@14dBm, 236mA@20dBm 	<ul style="list-style-type: none"> * Sleep mode: 14uA@3.3V * Max Transmit power: 350mA@3.3V 	<ul style="list-style-type: none"> * 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-SOCI2 Battery:

- 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:

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

Wireless Option:



- 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 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

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What is 1D version for NB-IoT version?

The 1D version of DDS04 NB-IoT is with 1NCE SIM Card and DataCake IoT Service.

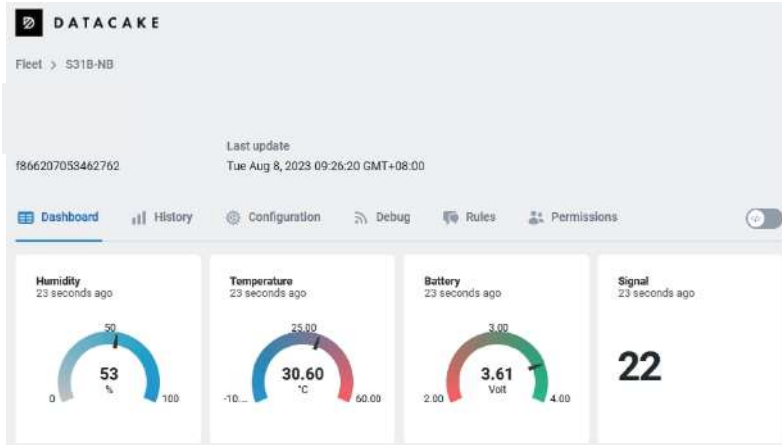
1NCE card provides 10 years lifetime for NB-IoT connection and Includes 500MB data traffic which is enough for 10 years normal uplink for the NB-IoT Sensor.

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:

Part Number: DDS04-LB-XX

XX: The default frequency band

- XX: Frequency Bands, options: EU433,CN470, EU868,IN865,KR920,AS923,AU915,US915

Part Number: DDS04-NB-XX

XX:

- **GE:** General version (Exclude SIM card)
- **1D:** with 1NCE* 10 years 500MB SIM card Pre-configure to DataCake server

Part Number: DDS04-LS-XX

XX: The default frequency band

- XX: Frequency Bands, options: EU433,CN470, EU868,IN865,KR920,AS923,AU915,US915

Part Number: DDS04-NS-XX

XX:

- **GE:** General version (Exclude SIM card)
- **1D:** with 1NCE* 10 years 500MB SIM card Pre-configure to DataCake server

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4-channels distance sensor -- Probe Option

A01A-15

- ※ Detect Distance: 28 cm ~ 750 cm
- ※ Blink Spot Distance: 0 ~ 28cm
- ※ Accuracy: $\pm(1\text{cm}+S*0.3\%)$ (S: Distance)
- ※ Measure Angle: $\sim 40^\circ$
- ※ Cable Length: 1.5 meter
- ※ Temperature Compensation
- ※ Suitable for Flat Object Detect
- ※ IP67 Water Proof



A02-15

- ※ Detect Distance: 3cm ~ 450cm
- ※ Blink Spot Distance: 0 ~ 3cm
- ※ Accuracy: $\pm(1\text{cm}+S*0.3\%)$ (S: Distance)
- ※ Measure Angle: $\sim 60^\circ$
- ※ Cable Length: 1.5 meter
- ※ Temperature Compensation
- ※ Suitable for Flat Object Detect, Rubbish Bin
- ※ IP67 Water Proof



A13-15

- ※ Detect Distance: 25cm ~ 200cm
- ※ Blink Spot Distance: 0 ~ 25cm
- ※ Accuracy: $\pm(1\text{cm}+S*0.3\%)$ (S: Distance)
- ※ Measure Angle: $\sim 20^\circ$
- ※ Cable Length: 1.5 meter
- ※ Temperature Compensation
- ※ Suitable for Flat Object Detect, Rubbish Bin
- ※ IP67 Water Proof



A16-15

- ※ Detect Distance: 50cm ~ 1500cm
- ※ Blink Spot Distance: 0 ~ 50cm
- ※ Accuracy: $\pm(1\text{cm}+S*0.3\%)$ (S: Distance)
- ※ Measure Angle: $\sim 40^\circ$
- ※ Cable Length: 1.5 meter
- ※ Temperature Compensation
- ※ Suitable for Long Distance Detect, Water Level
- ※ IP67 Water Proof

