

Main Product Image

LTC1 Series:



Li-SOCI2 Battery Version



Solar Version

LTC2 Series:



Li-SOCI2 Battery Version



Solar Version

Overview and Applications

OVERVIEW:

The Dragino LTC1/LTC2 series [Temperature Transmitter](#) is designed to [monitor temperature for different environment](#). It supports to read [PT100 probe](#) and convert the value to temperature and uplink to IoT server via [LoRaWAN](#), [NB-IoT](#) or [CAT-M1](#) protocol.

LTC1 series supports one temperature monitoring channel. Press the button to immediately sample and upload the data packet.

LTC2 series supports a maximum of 2 temperature monitoring channels.

LTC1/LTC2 series supports [Datalog feature](#).

It supports [BLE configure and wireless OTA update](#) which make user easy to use.

The Dragino LTC1/LTC2 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:



Food Safety



Laboratory



Cold Chain



Industrial Equipment

Temperature Transmitter -- Probe Option

DR-SI -- Standard IP68:

- ※ Installation: Insert
- ※ Probe Dimension: $\phi 5*30\text{mm}$
- ※ Measure Range: $-60 \sim 200\text{ }^{\circ}\text{C}$
- ※ Cable Length: 2 meters
- ※ Heraeus PT100
- ※ Suitable Environment: General environment



DR-LT -- Low Temperature:

- ※ Installation: Insert
- ※ Probe Dimension: $\phi 5*30\text{mm}$
- ※ Measure Range: $-196 \sim 150\text{ }^{\circ}\text{C}$
- ※ Cable Length: 2 meters
- ※ Heraeus PT100
- ※ Suitable Environment: Low temperature measurement, such as COVID vaccine transport.



DR-HT -- High Temperature:

- ※ Installation: Insert
- ※ Probe Dimension: $\phi 4.5*30\text{mm}$
- ※ Measure Range: $-70 \sim 450\text{ }^{\circ}\text{C}$
- ※ Cable Length: 3 meters
- ※ Heraeus PT100
- ※ Suitable Environment: High Temperature



DR-FSA -- Food Safety Type:

- ※ Installation: Insert
- ※ Probe Dimension: $\phi 4*150\text{mm}$
- ※ Measure Range: $-40 \sim 260\text{ }^{\circ}\text{C}$
- ※ Cable Length: 2 meters
- ※ Heraeus PT100
- ※ Suitable Environment: Foods















DR-FT -- Flat Type:

- ※ Installation: Attached
- ※ Probe Dimension: $3.6*7.5*20\text{mm}$
- ※ Measure Range: $-60 \sim 200\text{ }^{\circ}\text{C}$
- ※ Cable Length: 2 meters
- ※ Heraeus PT100
- ※ Suitable Environment: measure flat object, the whole flat side is measurement point.



LTC1 Series Model Variants

Variants	LTC1/LTC2-LB	LTC1/LTC2-LS	LTC1/LTC2-NB	LTC1/LTC2-NS	LTC1/LTC2-CB	LTC1/LTC2-CS
Connectivity						
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	General Features: * PT100 Temperature Converter * Max: 1 x monitor temperature channels, press the button to immediately take a sample and upload a data packet. (For LTC1 Series) * Max: 2 x monitor temperature channels (For LTC2 Series) * Support 3 -wire PT-100 * Temperature alarm * Datalog Feature * 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 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



- 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



- 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

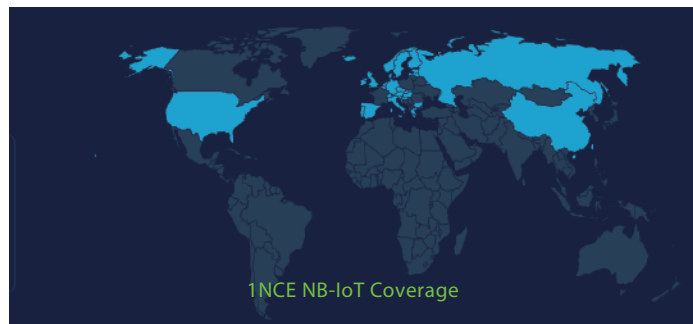
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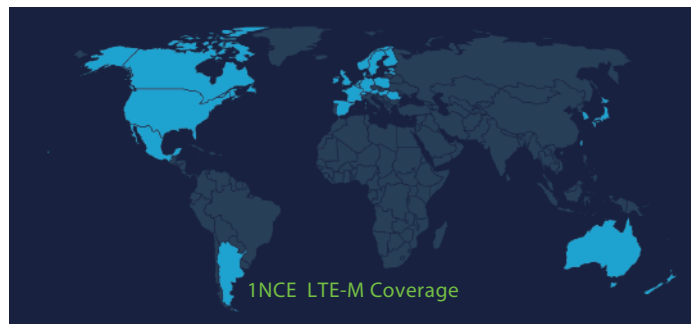
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What is 1T version for NB-IoT version?

The 1T version of NB-IoT Temperature Transmitter 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, Republic 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 configure IoT server.

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



Order Info:

Notice: The LTC1/LTC2 series part numbers do not include temperature sensors, and users need to purchase them separately.



Part Number: LTC1-LB-XX or LTC2-LB-XX

XX: The default frequency band

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT

Part Number: LTC1-LB-XX or LTC2-LB-XX

XX: The default frequency band

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT



Part Number: LTC1-NB-XX or LTC2-NB-XX

XX:

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT

Part Number: LTC1-NB-XX or LTC2-NB-XX

XX:

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT



Part Number: LTC1-CB-XX or LTC2-CB-XX

XX:

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT

Part Number: LTC1-CB-XX or LTC2-CB-XX

XX:

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

Probe Options: DR-SI, DR-LT, DR-HT, DR-FSA, DR-FT

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