Temperature Transmitter

OVERVIEW:

The Dragino 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.

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

The Dragino 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.

Model LTC2 series doesn't include probes. Probes are purchased seperately
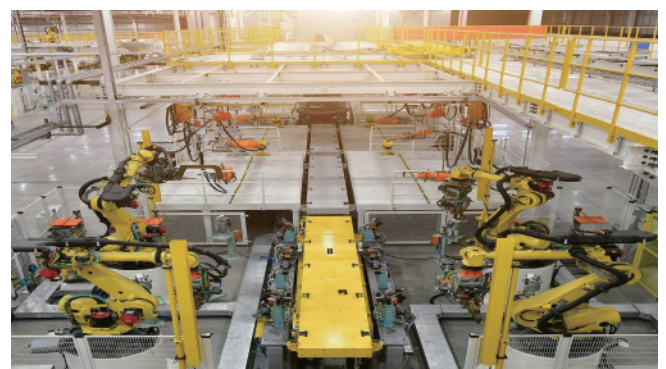
Applications:

Food Safety

Laboratory

Cold Chain

Industrial Equipment

Temperature Transmitter -- Probe Option

DR-SI -- Standard IP68:

※ Installation: Insert
※ Probe Dimension: φ5*30mm
※ Measure Range: -60 ~ 200 ℃
※ Cable Length: 2 meters
※ Heraeus PT100
※ Suitable Environment: General environment

DR-LT -- Low Temperature:

※ Installation: Insert
※ Probe Dimension: φ5*30mm
※ Measure Range: -196 ~ 150 ℃
※ Cable Length: 2 meters
※ Heraeus PT100
※ Suitable Environment: Low temperature measurement,
such as COVID vaccine transport.

DR-HT -- High Temperature:

※ Installation: Insert
※ Probe Dimension: φ4.5*30mm
※ Measure Range: -70 ~ 450 ℃
※ Cable Length: 3 meters
※ Heraeus PT100
※ Suitable Environment: High Temperature

DR-FSA -- Food Safety Type:

※ Installation: Insert
※ Probe Dimension: φ4*150mm
※ Measure Range: -40 ~ 260 ℃
※ Cable Length: 2 meters
※ Heraeus PT100
※ Suitable Environment: Foods

DR-FT -- Flat Type:

※ Installation: Attached
※ Probe Dimension: 3.6*7.5*20mm
※ Measure Range: -60 ~ 200 ℃
※ Cable Length: 2 meters
※ Heraeus PT100
※ Suitable Environment: measure flat object,
the whole flat side is measurement point.

Model Variants

Variants	LTC2-LB	LTC2-LS	LTC2-NB	LTC2-NS	LTC2-CB	LTC2-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			**General Features:** * PT100 Temperature Converter * Max: 2 x monitor temperature channels * 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/SOCl2 Battery	* Solar + 3000 mAh Li-ion Battery	* 8500 mAh Li/SOCl2 Battery	* Solar + 3000 mAh Li-ion Battery	* 8500 mAh Li/SOCl2 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-SOCl2 Battery & Enclosure:
- 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 & 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.
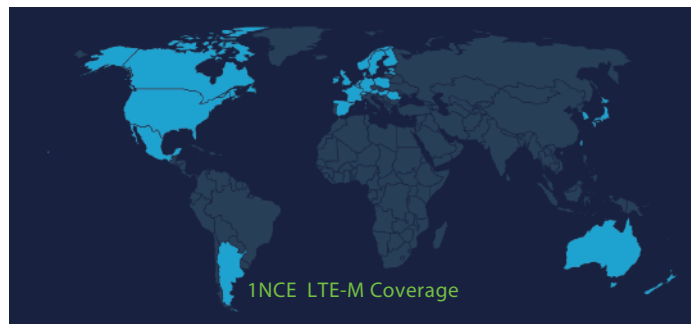- Max +22 dBm - 100 mW RF output

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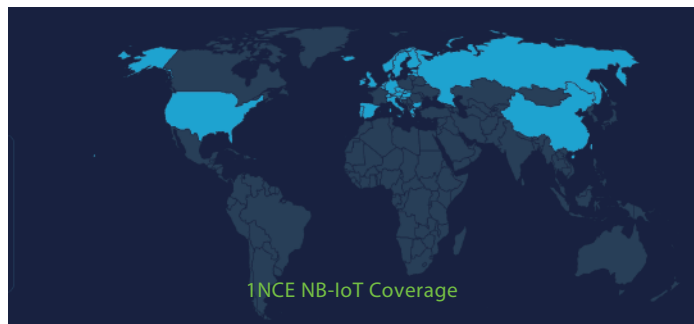 - For -NB & -NS: B1/B2/B3/B4/B5/B8/B12/B13/ B17/B18/B19/B20/B25/B28/B66/B70/B85
  - For -CB & -CS: B1/B2/B3/B4/B5/B8/B12/B13/ /B18/B19/B20/B25/B28/B66/B71/B85
- Uplink via MQTT, MQTTs, TCP, UDP or CoAP
- Multiply Sampling and one uplink

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 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).

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:

Notice: This part number doesn't include the Temperature sensor. Users need to purchase separately.

Part Number: 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: LTC2-LS-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: 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: LTC2-NS-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: 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: LTC2-CS-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