Temperature & Humidity Sensor

OVERVIEW:

The Dragino S31/S31B series is Temperature and Humidity Sensor for Internet of Things solution. It is used to measure the surrounding environment temperature and relative air humidity precisely, and then upload to IoT server via LoRaWAN and NB-IoT network.

The temperature & humidity sensor used in S31/S31B is SHT31, which is fully calibrated, linearized, and temperature compensated digital output from Sensirion, it provides a strong reliability and long-term stability. The SHT31 is fixed in a waterproof anti-condensation casing for long term use.

The temperature & humidity sensor supports temperature and humidity alarm feature, user can get alarm for instant notice.

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

The Temperature & humidity Sensor 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.

S31   S31B

Application:

Green House

Smart Barn

Outdoor Snow Monitoring

Laboratory

Variants	S31-LB/S31B-LB	S31-LS/S31B-LS	S31-NB/S31B-NB	S31-NS/S31B-NS
Apperance				
Connectivity	LoRaWAN	LoRaWAN	NB-IoT	NB-IoT
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	* Ultra-low power consumption * External 3 meters SHT31 probe (For S31 series) * Temperature Sensor Range: -40 ~ 80°C * Temperature Sensor Accuracy: ±0.2 @ 0-90 °C * Humidity Sensor Range: 0 ~ 99.9% RH * Humidity Sensor Accuracy: ± 2%RH (0 ~ 100%RH) * Temperature & Humidity alarm * Support Bluetooth v5.1 remote configure and OTA update firmware * Uplink on periodically * Downlink to change configure			
Battery & Power	* Li/SOCI2 Battery	* Solar + Li-on Battery	* Li/SOCI2 Battery	* Solar + 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

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
- 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.
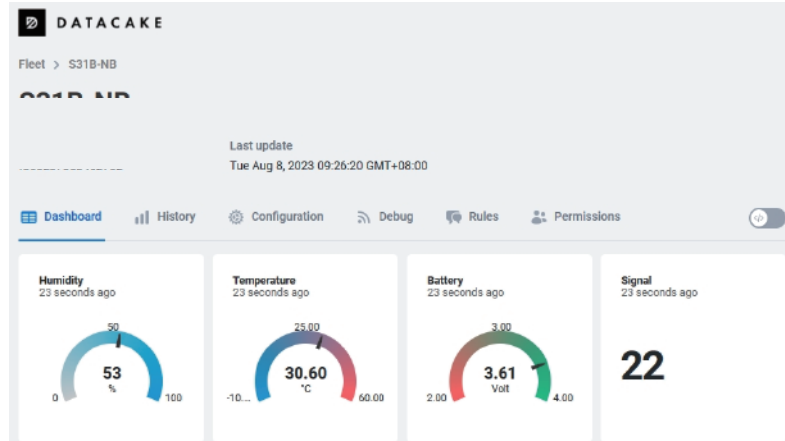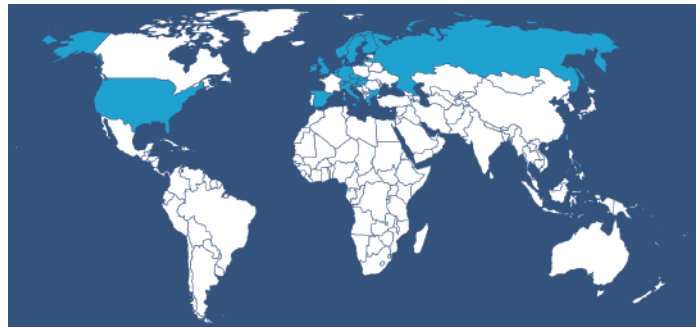- Max +22 dBm - 100 mW RF output

NB-IoT
- 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

What is 1D version for NB-IoT version?

The 1D version of NB-IoT Temperature & Humidity Sensor 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: S31/S31B-LB-XX

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

Part Number: S31/S31B-NB-XX

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

Part Number: S31/S31B-LS-XX

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

Part Number: S31/S31B-NS-XX

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