

RS485/UART to IoT Converter

OVERVIEW:

The Dragino RS485 series is a [RS485/UART to IoT Converter](#) for Internet of Things solutions. User can connect RS485 or UART sensors to the converter, and configure the converter to periodically read sensor data and upload via [LoRaWAN](#), [NB-IoT](#), [LTE-M](#), or [LTE CAT-1](#) network to IoT server.

The Dragino RS485 outdoor converter can interface to RS485 sensor, 3.3v/5v UART TTL sensor or interrupt sensor. The RS485 converter provides a 3.3v output and a 5v output to power external sensors. Both output voltages are controllable to minimize the total system power consumption.

With [built-in BLE configuration and wireless OTA firmware updates](#), the RS485 is simple to set up and maintain.

To support various deployment scenarios, the RS485 offers multiple power options — including [8,500 mAh and 19,000 mAh high-capacity non-rechargeable battery](#), [1,000 mAh rechargeable Li-ion battery](#), as well as a [solar-powered version with a rechargeable Li-ion battery](#) for long-term, maintenance-free operation.



Features:

- +5v controllable output
- +12v Controllable Output (for RS485W)
- 3 x Interrupt or Digital IN/OUT pins
- 1 x RS485 Interface , 1 x I2C Interface
- 1 x UART Interface , 3.3v or 5v
- 1 x one wire interface
- Support multiply RS485 devices by flexible rules
- Support Modbus protocol

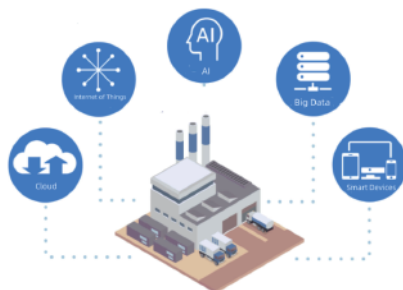
Applications:



Smart City



Smart Farm



Smart Factory



Smart Building

Wireless & Battery Selection

	LB	LB2	LS	NB	NB2	NS	CB	CB2	CS	KS	KN
Wireless	LoRaWAN	LoRaWAN	LoRaWAN	NB-IoT	NB-IoT	NB-IoT	NB-IoT & LTE-M	NB-IoT & LTE-M	NB-IoT & LTE-M	LTE CAT-1	LTE CAT-1
Module	LA66	LA66	LA66	BC660K-GL	BC660K-GL	BC660K-GL	BG95-M2	BG95-M2	BG95-M2	EG800xx	EG800xx
Frequency Band	EU433, CN470, EU868, IN865, KR920, MA869, AU915, US915, AS923-1, AS923-2, AS923-3, AS923-4	EU433, CN470, EU868, IN865, KR920, MA869, AU915, US915, AS923-1, AS923-2, AS923-3, AS923-4	EU433, CN470, EU868, IN865, KR920, MA869, AU915, US915, AS923-1, AS923-2, AS923-3, AS923-4	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B28/B66/B70/B85	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B28/B66/B70/B85	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B28/B66/B70/B85	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 LTE-M: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 LTE-M: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85	CAT-NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 LTE-M: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85	EU: For European, Asia, Australia, LTE-FDD: B1/3/5/7/8/20/28 LA: For Latin America, LTE-FDD: B2/3/4/5/7/8/28/66 NA: For North America, LTE-FDD: B2/4/5/12/13/66	EU: For European, Asia, Australia, LTE-FDD: B1/3/5/7/8/20/28 LA: For Latin America, LTE-FDD: B2/3/4/5/7/8/28/66 NA: For North America, LTE-FDD: B2/4/5/12/13/66
Uplink Method	LoRaWAN, OTAA, ABP	LoRaWAN, OTAA, ABP	LoRaWAN, OTAA, ABP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP, UDP or CoAP	MQTT, MQTTs, TCP or UDP	MQTT, MQTTs, TCP or UDP
Enclosure	Type B	Type B2	Type S	Type B	Type B2	Type S	Type B	Type B2	Type S	Type S	Type N
Battery	8500mAh	19000mAh	3000mAh	8500mAh	19000mAh	3000mAh	8500mAh	19000mAh	3000mAh	3000mAh	1000mAh
Battery Type	Li-SOCI2	Li-SOCI2	Li-ion	Li-SOCI2	Li-SOCI2	Li-ion	Li-SOCI2	Li-SOCI2	Li-ion	Li-ion	Li-ion
Rechargeable	--	--	Yes	--	--	Yes	--	--	Yes	Yes	Yes
Solar Panel	--	--	Yes	--	--	Yes	--	--	Yes	Yes	--
Solar Panel Power	--	--	0.9W	--	--	0.9W	--	--	0.9W	0.9W	--
DC Connector	--	--	Optional	--	--	Optional	--	--	Optional	Optional	Provides 12V DC power
GNSS	--	--	--	--	--	--	Yes	Yes	Yes	--	--
BLE Config	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP Rate	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP54

Enclosure Type

Enclosure Type B



- Battery: 8500 mAh
- None-rechargeable
- Dimension: 118 x 57 x 47 mm

Enclosure Type B2



- Battery: 19000 mAh
- None-rechargeable
- Dimension: 145 x 105 x 45 mm

Enclosure Type S



- Battery: 3000 mAh
- Rechargeable
- 0.9w Solar Panel
- Dimension: 108 x 102 x 40 mm

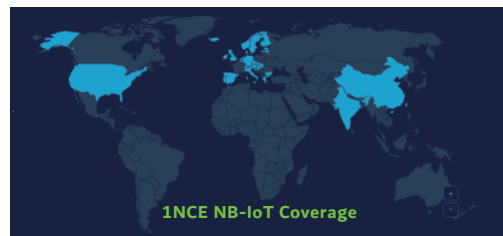
Enclosure Type N



- Battery: 1000 mAh
- Rechargeable
- Provides 12V DC power
- Dimension: 118 x 57 x 47 mm

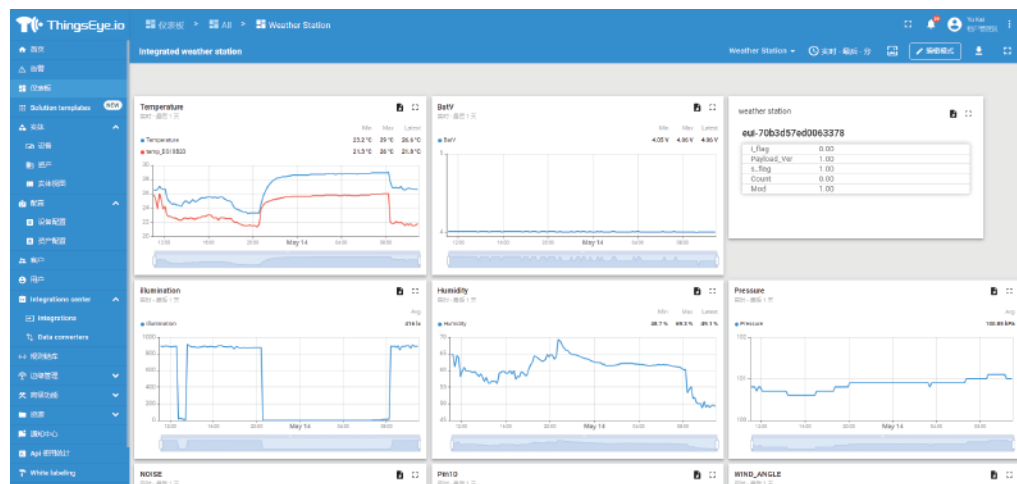
What is 1T version for Cellular version?

The 1T version of NB-IoT/LTE-M/LTE CAT-1 RS485/UART to IoT Converter is with 1) 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).



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.



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Ordering Information

Example:

RS485-LB-EU868-M12

Model Name :

RS485 (Converter, support 3.3v output and a 5v output to power external sensors)
RS485W (Converter, support 12v output to power external sensors)

Wireless Tech:

L: LoRaWAN
N: NB-IoT
C: NB-IoT & LTE-M
K: LTE CAT-1

Battery Type:

B: 8500 mAh Li-SOIC2 Battery
B2: 19000 mAh Li-SOIC2 Battery
S: Solar Panel + 3000 mAh Li-ion Battery
N: 1000 mAh Li-ion Battery

Frequency Band or Cellular SIM:

Frequency Band:

For LoRaWAN version: EU433, CN470, EU868, IN865, KR920, MA869, AU915, US915, AS923-1, AS923-2, AS923-3, AS923-4
For CAT-1 version: **EU:** For European, Asia
LA: For Latin America, Australia
NA: For North America

Cellular SIM option (For NB-IoT, LTE-M, CAT-1):

GE -- General version (Exclude SIM card)
1T -- With 1NCE & ThingsEye Pre-configured

Hole Option:

M12: With M12 waterproof cable hole
M16: With M16 waterproof cable hole