Current Sensor Converter

OVERVIEW:

The Dragino CS01 series is 4 Channels current sensor converter. It can convert the reading from current sensors and upload to IoT server via LoRaWAN, NB-IoT or CAT-M1 Network.

CS01 can be used to monitor the machine running status and analyze power consumption trends.

The CS01 supports maximum 4 current sensors. The current sensors are detachable and can be replaced with different scales.

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

The CS01 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 CS01 series doesn't include probes.
Probes are purchased seperately

Applications:

Machine Monitor

Car Charging Pile

Solar Inverter

Building Electric Monitor

SCT013G-D-100:

- ※ Split core current transformer
- ※ Spec: 100A/50mA
- ※ φ16mm Aperture
- ※ Accuracy: 1%
- ※ Operating Temperature: -25°C ~ 60°C
- ※ Storage Temperature: -30°C ~ 90°C

SCT024-300:

- ※ Split core current transformer
- ※ Spec: 300A/50mA
- ※ φ24mm Aperture
- ※ Accuracy: 1%
- ※ Operating Temperature: -25°C ~ 60°C
- ※ Storage Temperature: -30°C ~ 90°C

SCT036-600:

- ※ Split core current transformer
- ※ Spec: 600A/50mA
- ※ φ36mm Aperture
- ※ Accuracy: 1%
- ※ Operating Temperature: -25°C ~ 60°C
- ※ Storage Temperature: -30°C ~ 90°C

Model Variants

Variants	CS01-LB	CS01-LS	CS01-NB	CS01-NS	CS01-CB	CS01-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	Sensor /Probe: * Split core current transformer * Supports maximum 4 current sensors * Support various current sensor Ratio: 100A/50mA, 300A/50mA, 600A/50mA * Monitor the machine running status * Analyze power consumption trends * Current Alarm * Material of core: Ferrite General Features: * 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℃	-40 ~ 85℃	-40 ~ 85℃	-40 ~ 85℃	-40 ~ 85℃	-40 ~ 85℃

Battery & Enclosure Option:

Li-SOCI2 Battery & Enclosure:
- Li/SOCI2 un-chargeable battery
- Capacity: 8500mAh
- Self-Discharge: <1% / Year @ 25℃
- 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
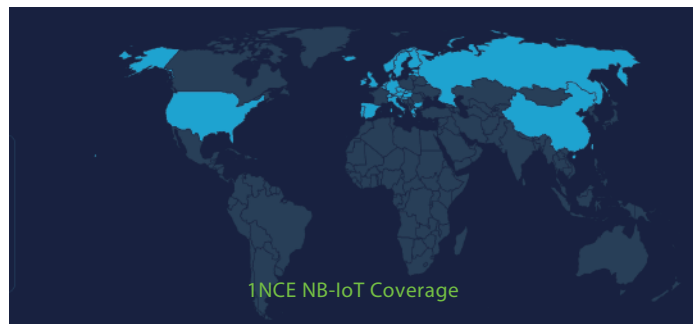- Multiply Sampling and one uplink
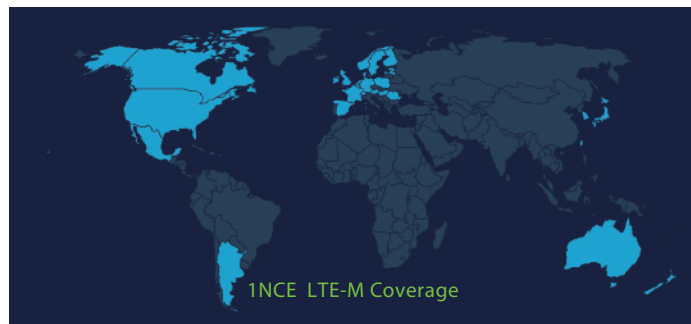
What is 1T version for NB-IoT version?

The 1T version of NB-IoT Current Converter 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 current sensor. Users need to purchase separately.

LoRaWAN®

Part Number: CS01-LB-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600

Part Number: CS01-LS-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600

NB-IoT

Part Number: CS01-NB-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600

Part Number: CS01-NS-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600

NB-IoT   LTE-M   GNSS

Part Number: CS01-CB-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600

Part Number: CS01-CS-XX

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

Probe Options: SCT013G-D-100, SCT024-300, SCT036-600