Soil Moisture & EC Sensor

OVERVIEW:

The Dragino SE01 series is a Soil Moisture & EC Sensor for IoT of Agriculture. It is designed to measure the soil moisture of saline-alkali soil and loamy soil. The soil sensor uses FDR method to calculate the soil moisture with the compensation from soil temperature and conductivity. It also has been calibrated in factory for Mineral soil type.

It detects Soil Moisture, Soil Temperature and Soil Conductivity, and uploads the value via wireless to LoRaWAN, NB-IoT, LTE-M, or LTE CAT-1 IoT Server.

With built-in BLE configuration and wireless OTA firmware updates, the SE01 is simple to set up and maintain.

To support various deployment scenarios, the SE01 offers multiple power options — including 8,500 mAh or 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:

- Monitor Soil Moisture
- Monitor Soil Temperature
- Monitor Soil Conductivity

Applications:



Green House



Orchard Nursery



Farmland



Soil Research

Dragino Technology Co., Limited
Room 202, Block B, BCT Incubation Bases (BaoChengTai), No.8 CaiYunRoad
LongCheng Street, LongGang District ; Shenzhen 518116,China
Direct: +86 755 86610829 |Fax: +86 755 86647123

WWW.DRAGINO.COM
sales@dragino.com

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/B1/ 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

Dragino Technology Co., Limited

Room 202, Block B, BCT Incubation Bases (BaoChengTai), No.8 CaiYunRoad
LongCheng Street, LongGang District ; Shenzhen 518116,China
Direct: +86 755 86610829 |Fax: +86 755 86647123

WWW.DRAGINO.COM
sales@dragino.com

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

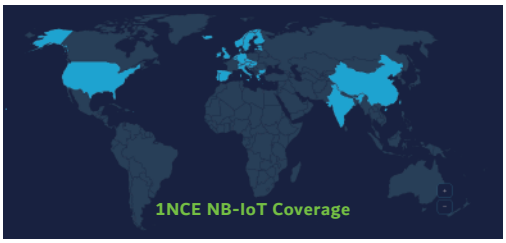


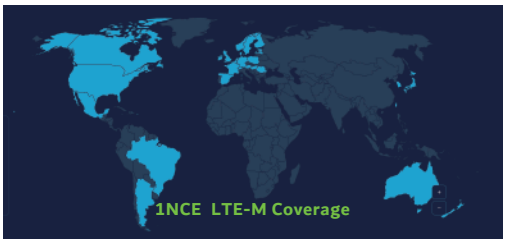
- Battery: 1000 mAh
- Rechargeable
- Provides 12V DC power
- Dimension: 118 x 57 x 47 mm

What is 1T version for Cellular version?

The 1T version of NB-IoT/LTE-M/LTE CAT-1 Soil Moisture & EC Sensor 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).



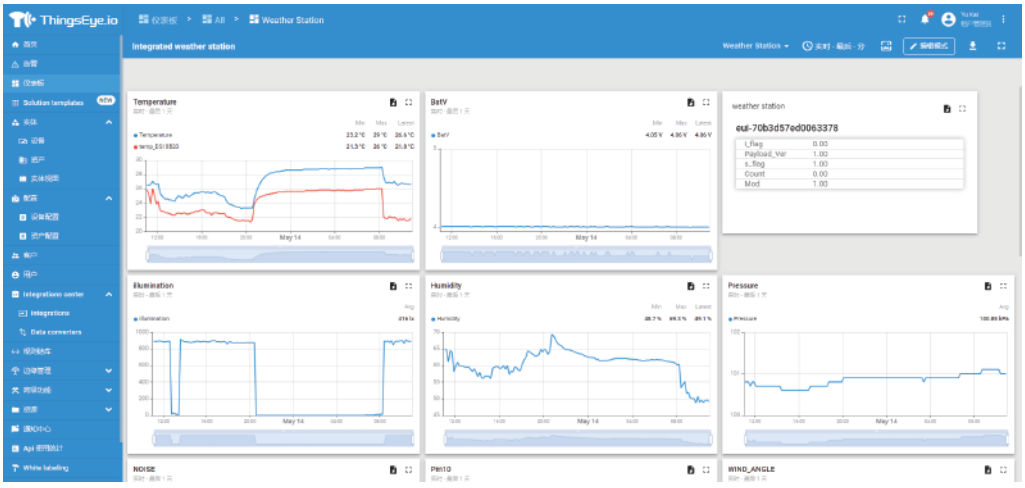




ThingsEye.io platform:

1T version with ThingsEye IoT service pre-installed. This save a lot of work from user side to confgure IoT server.

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



Dragino Technology Co., Limited

Room 202, Block B, BCT Incubation Bases (BaoChengTai), No.8 CaiYunRoad
LongCheng Street, LongGang District ; Shenzhen 518116,China
Direct: +86 755 86610829 |Fax: +86 755 86647123

WWW.DRAGINO.COM
sales@dragino.com

Ordering Information

Example: SE01-LB-EU868

Model Name:

SE01 (Soil moisture and EC sensors, using FDR method to detect soil moisture, soil temperature, and soil conductivity.)

Wirless 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, Australia
LA: For Latin America
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

Dragino Technology Co., Limited
Room 202, Block B, BCT Incubation Bases (BaoChengTai), No.8 CaiYunRoad
LongCheng Street, LongGang District ; Shenzhen 518116,China
Direct: +86 755 86610829 |Fax: +86 755 86647123

WWW.DRAGINO.COM
sales@dragino.com