



#### Features

- Friendly dashboard design
- · Real-time data transmission and alarms
- · Supports downloading and exporting various reports
- Complete installation for a field in 15mins
- Cloud and on-premise deployment options
- RESTful API web service for 3rd party system integration
- · Wireless data transmission, flexible equipment installation
- Rugged hardware design, suitable for various fields
- Supports mobile app management
- Smart defrosting detection reduces false alarms

#### Introduction

A cold chain is a temperature-controlled supply chain. An unbroken cold chain is an uninterrupted series of refrigerated production, storage and distribution activities, along with associated equipment and logistics, which maintain quality via a desired low-temperature range. Advantech's cold chain management solution spans temperature and humidity sensors, gateways, an APP for configuring the sensors and a backend dashboard that displays the data collected along the cold chain and presents a map indicating where the temperature is poorly controlled, leaving stocks at risk of being damaged. The temperature and humidity sensors pass data to a gateway, and the gateway uploads the data to the cloud. Users can monitor cold chain situations in different places simultaneously in real time on Advantech's cold chain management platform and the mobile app.

#### **Key Functions of Web Service**

#### **Overview**

- Statistics at a glance
- Statistics updated according to your selection
- Show the current abnormal event list

ColdChain ×								
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#### **Abnormal Event List**

- Statistics at a glance
- Real-time notification and data export
- Root cause response system

ColdChain	Event								
Company ID dealer 2nd Dates	Region1		Region 2		24		Asomaly Data * 🛞		
Address Set -	Please selie	0.	~ Please sole	a ~	Latiou Calif		2023/05/25 - 2023/25/21	0 1	set Send
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D Des	No.	Atomaly Time .	Almoramal -	Event Status () 17	Processing o V	Station 1	Ben 1	Monitor Rules	Openate
U Derke ⊕ Montong → ∏ Report	1	2023/05/90 8030-0	-10 20°C	(Ex) 1219	Not Processed	Food Proegar	\$52,04 (Sevp.)	Food Presper Temp. 0910 - 1410, Schlande	08
	2	2023/05/29 5(25(-0)	4200	(10) (10)	Processed	FoodFreeder	502,64 (Seep.)	Food Freezov Temp. 1972 – 1472, 12 Minute	08
	5	2023/05/29 0020-0	-5970	(14) 6440	Int Processed	Food Prescen	502_64 (Sevp.)	Food Freedow Temp. 1970 - 1471, 50 Minute	08
	4	2023/05/29 6230(-0	6.900	(11) (11) (11)	<b>NCPucasad</b>	Food Freezer	\$52_04 (Sevp.)	Food Freezer Temp. 03YC - 14YC, 10 Minute	08
	5	2023/05/28 5c35c-0	4390	(E4) (1:3)	Processed	Food Freezer	552_64(Seep.)	Food Pressor Temp. 1970 - 1470, 10 Minute	08
	6	2023/05/28 1132(-0)	4100	(11) (11)	http://www.and	Food Fineder	\$53_64 (Seep.)	Food Freezow Temp. 027C = 147C, 10 Minute	08
	7	2023/05/27 00:22(+0)	41.1010	(14) 83.90	NOPOCESSIE!	Food Preezer	552_04 (Temp.)	Food Presider Temp. 10°C - 14°C Scientings	08
		2023/05/26 2025/05	8.3PC	(11) 1120	Approximated	Food Proezer	552_04 (Seep.)	Food Pressan Tamp. (SPC = 1470, 10 bitsate	08
	٠	2823-45-25 1728(-0)	-13 70*0	(11) 1120	App Processed	Food Feeder	\$52,64 (Temp.)	Food Previour Temp. 1071 - 1411, 50 Minute	08
	10	2023/05/26 1428/40	1.40°C	(14) 1019	Pareed	Food Freezer	\$52_64 (Seep.)	Food Presider Temp. (8PC – 14PC, 90 billinger	08
	Emyca	MET 18					0.81	Page 1 0 Datase Par P	- 11 apr

#### **Latest and Historical Data**

- Detailed cold chain status list
- Can be sorted according to user's preference
- Display historical data through a line chart



#### Smart Defrosting Detection

- Select any device you want to enable the function
- No need to manually set the defrosting time precisely
- · Reduce false alarms due to temperature rise from defroster



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All product specifications are subject to change without notice.

#### **Key Functions of Mobile App**

#### Dashboard



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4	Dev	evice		
Keyword		٩	76 0	
Sens	or	Ga	teway	
ite : Linkou C	afé		Total :	
552_01			3	
Device Type	LEO-S552-	THG0		
Device ID(MA	C/EUID) : 24	E124136B3	28229	
Station : Haa	gen-Dazs Fr	ezer		
A description of the				
Monitored ite	m : 552_01,5	52_01(濕度	)	
2023/05/31 13:	sm : 552_01,5 59 (+8)	i52_01(溫度 ?	(-91) 🗎 100%	
2023/05/31 13: 552_02	m : 552_01,5 59 (+8)	i52_01(温度 ?	(-91) @ 100%	
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Total: 4

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0 7 0 Total : 18

Abnormal Data

-10.20·c

Abnormal Data

-6.20·c

Abnormal Data

Abnormal Data

-5.70°c

Device

0

Site : Linkou Café

2023/05/30 08:33 (+8)

2023/05/29 14:33 (+8)

2023/05/29 08:33 (+8)

2023/05/29 02:33 (+8)

لی Data

Station : Food Freezer

Item : 552\_04 (Temp.)

Station : Food Freezer Abnormal Data Item : 552\_04 (Temp.) -5.80 °C

Station : Food Freezer Item : 552\_04 (Temp.)

Station : Food Freezer Item : 552\_04 (Temp.)

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Advantech Sk	т		>
Service			
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v1.3.10   v7.0.0.1_	20230503		
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	Data	Davise	More

#### **Equipment Registration**



	< A4	ld Device		<	Scan Barcode
	Device Type*				
>	TREK-120		>		
	Custom Name*				
>	CCM		3/20		
>	Sc	an Barcode			
	s/N*				
Gateway	Please enter				
0	10-length alphanumeric			1000	
	Device ID(MAC/EUID)*				
*	Please enter				
	16-length alphanumeric				
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#### **Push Notification**



2023/05/30 08:3	3 (+8)
Station : Food Freez	er
Monitored Item : 552	2_04 (Temp.)
Site : Linkou Café	
Notify : ON	
Notify Group : -,Adn	iin(AE),Admin(Ph
Note	
Add Note	
Last Note : -	
Chart	
552_04 (Temp.)	
Monitor Type : Temp	erature
Device ID[MAC/EUID	): 24E124136D
Rule : Food Freezer	Temp. (-35°C ~
Abnormal Data : -10	19*C
00	-10.2°C



# **LEO-S55**



# **LEO-S57**



## **Specifications**

Frequency		US915/AU915/KR920/AS923/CN470
NFC		Y (Configuration)
Button		1 x Power Button (Internal)
Battery		2 x 4000 mAh battery (ER18505)
Battery Life		5 years (10 min interval, @25°C)*
Working Temperature		-30 ~ 70°C
Working Humidity		0 ~ 100% (non-condensing) at 25°C (77°F)
Wireless Range		100 meters+ (Line of Sight)*
Dimension		88.5 x 85.3 x 27 mm (3.48 x 3.36 x 1.06 in)
Weight		130g
IP		67
Certification		FCC, TELEC, CE**
	Range	-30°C ~ 70°C
Temperature	Accuracy	0°C ~ 70°C (± 0.3°C), -30°C ~ 0°C (± 0.6°C)
	Resolution	0.1°C
	Range	0~100% RH
Humidity	Accuracy	10% to 90% RH (±3%), below 10% and above 90% RH (±5%)
	Resolution	0.5%

## **Specifications**

Frequency		US915/AU915/KR920/AS923/CN470
NFC		Y(Configuration)
Button		1 x Power Button (Internal)
Battery		1 x 19000 mAh battery (ER34615)
Battery Life		5 years (10 min interval, @25°C)*
Working Temperature		-30°C ~ 70°C
Working Humidity		0 ~ 100% (non-condensing) at 25°C (77°F)
Wireless Range		100 meters+ (Line of Sight)*
Dimension		105.4 x 71 x 69.5 mm (4.1 x 2.8 x 2.7 in)
Weight (KG)		1kg
IP		67
Certification		FCC, TELEC, CE**
Connection Type		3-wire connection
Cable Length		1.5m
Probe Type		Stainless steel 304
	Range	-200 °C ~ 50 °C
Temperature	Accuracy	±0.5°C
	Resolution	0.1°C

 $^{\ast}$  Test under laboratory conditions and for guideline purposes only  $^{\ast\star}\text{CE}$  by project

 $^{\ast}$  Test under laboratory conditions and for guideline purposes only  $^{\ast\star}\text{CE}$  by project

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**LEO-S59** 



## **Specifications**

Frequency	US915/AU915/KR920/AS923/CN470
NFC	Y (Configuration)
LED	R/G
Button	1 x Reset Button (Internal) 1 x Tampering Button
Battery	1 x 1200 mAh battery (ER14250)
Battery Life	5 years (1080 min interval + 30 triggers per day)*
Working Temperature	$-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$
Working Humidity	0 ~ 90% (non-condensing) at 25°C (77°F)
Wireless Range	50 meters+ (Line of Sight)*
Dimension	Sensor: 50.5 x 31 x 18.5 mm (1.99 x 1.22 x 0.73 in) Magnet: 30 x 13.5 x 10 mm (1.18 x 0.53 x 0.39 in)
Weight (KG)	11g
IP	20
Certification	FCC,CE**
Detection Distance	15~20mm
Alarms	Open/Close Status, Tamper
Installation	Sensor and magnet installation plane distance <15mm, height difference <7.5mm

 $^{\ast}$  Test under laboratory conditions and for guideline purposes only  $^{\ast\star}\text{CE}$  by project

**USM-S67** 



## **Specifications**

	CPU	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
Canaral	Memory	512 MB DDR4
General	Flash	8 GB eMMC
	LED Indicators	1 x POWER, 1 x STATUS, 1 x LoRa, 1 x Wi-Fi, 1 x Ethernet
	Frequecny	US915/AU915/KR920/AS923/CN470
LoRaWAN	Antenna	2 x Internal Antennas 1 x External Antenna
	Wireless Range	100 meters+ (Line of sight)**
	Connect Q'ty	Support up to 100 x LEO-S sensors*
Connectivity	Ethernet	10/100/1000 Base-T
CONNECTIVITY	Wifi	IEEE 802.11 b/g/n, 2.4GHz
	Button	1 x Reset Button
	Power	1. DC Jack Connector for 9-24 $V_{\text{DC}}$ power supply 2. 1 x 802.3 af PoE input
	Working Temperature	-40 ~ 70°C (-40 ~ 158°F)
Othoro	Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
ULIEIS	Operating Humidity	0 ~ 95% (non-condensing) at 25°C (77°F)
	dimension	180 x 110 x 56.5 mm (7.09 x 4.33 x 2.22 in)
	IP	65
	Certification	FCC, TELEC, CE***

\* Dependent on usage scenario \*\* Test under laboratory conditions and for guideline purposes onl \*\*\*CE by project

# **USM-S67**



## **TREK-120**





## **Specifications**

		TREK-120	TREK-120 Probe				
	Measurement Range	-40 /	~ 70 °C				
Temperature	Accuracy	± 0.2 °C from 0~70 °C					
	Range	± 0.3 °C from -40~0 °C					
	Resolution	0.0	)1 °C				
Relative	Measurement Range	0~10	00% RH				
Humidity	Accuracy Range	± 2% from 0/	~100% at 25 °C				
	Resolution	0.	01%				
NEC	Frequency	13.5	i6 MHz				
	Function	Bulk download config	juration and sensor data				
	Wireless Technology	Advantech L	oRa technology				
LoRa	Frequency	920 ~ 925 M 902 ~ 928 863 ~ 870 M 470 ~ 510 M 921~922 M	MHz for Taiwan, MHz for US, MHz for Europe, MHz for China, MHz for Japan				
	Wireless Range >500 meters (Line of Sight)**						
	Topology	(	Star				
Data Storage Capacity	5000 data log readings						
LED Indicators	1 x Power status, 1 x Alarm						
Buttons	1 x Start button						
Battery		3V/2400mAh wide (non-rechar	-temperature primary geable) battery				
Data Transmissions		NFC	+ LoRa				
	Mount Options	Fixed by adhesive tape	, magnet, fastener, screws				
Mechanical	Dimensions (W x D x H)	123.47 x 65 x 24.5 m	m (4.88 x 2.56 x 0.91 in)				
	Weight	108 g (0.23 lb)	248 g (0.55lb)				
	Probe Cable Length	N/A	2 meter				
	Operating Temperature	-40 -	~ 70 °C				
Environmentel	Storage Temperature	-40 -	~ 85 °C				
Environmental	IP Rating		P65				
	Drop Tolerance	4 ft. drop	onto concrete				
	Certifications	CE, F	CC, NCC				

\*\*Dependent on usage scenario

## **Specifications**

	CPU	528 MHz, ARM Cortex-A7		
Conoral	Memory	256 MB DDR4		
General	Flash	4 GB eMMC		
	LED Indicators	1 x SYS, 1 x LoRa		
	Frequecny	US915/AU915/KR920/AS923/CN470		
	Antenna	2 x Internal Antennas		
LUNAWAN	Wireless Range	100 meters+ (Line of sight)**		
	Connect Q'ty	Support up to 20 x LEO-S sensors*		
Connectivity	Ethernet	10/100 Base-T		
	Button	1 x Reset Button		
	Power	1.802.3 af PoE input 2.5V/1A by Type-C Port		
	Working Temperature	-20 ~ 50°C (-4 ~ 122°F)		
Othoro	Storage Temperature	-40~85°C (-40~185°F)		
Utiters	Operating Humidity	0 ~ 95% (non-condensing) at 25°C (77°F)		
	dimension	Ø115 x 21 mm (Ø4.52 x 0.83 in)		
	IP	30		
	Certification	FCC, TELEC, CE***		

\* Dependent on usage scenario \*\* Test under laboratory conditions and for guideline purposes only \*\*\*CE by project

# USM-S62

## **Specifications**

General	Storage	8GB micro SD card (default), supports up to 32GB
	1/0	2 x USB 2.0 host 1 x SIM card slot 1 x Micro SD card slot (supports SDHC cards) 1 x 10/100 Ethernet RJ45 connector 1 x Reset button 1 x Lockable DC jack
	Indicators	Orange: Power and GW status Blue: Uplink status/activity
LoRa	Wireless Technology	920 ~ 925 MHz for Taiwan 902 ~ 928 Mhz for US 863 ~ 870 MHz for Europe 470 ~ 510 MHz for China 921~922 MHz for Japan
	Wireless Range	>500 meters (Line of sight)**
	Topology	Star
Connectivity	Ethernet	10/100 RJ45 connector
	Backhaul Support	802.11ac/a/b/g/n Wi-Fi (2.4 + 5 GHz) or LTE cat. 4
Power	Input Voltage	9 ~ $20V_{\text{DC}}$ via lockable DC jack
Mechanical	Dimensions (W x H x D)	128 x 156 x 27.8 mm (5.03 x 6.14 x 1.09 in)
	Weight	524 g/1.15 lb
	Mount Options	VESA, wall, desktop, pole, magnet, DIN rail
Certification	EMC	CE/FCC/NCC/TELEC/CCC*
	EMI	Class B
Environment	Vibration/Shock	10 G, IEC 60068-2-27, half sine, 11 ms duration
	Operating Temperature	-20 ~ 65 °C/-4 ~ 149 °F
	Storage Temperature	-40 ~ 85 °C/-40 ~ 185 °F
	Operating Humidity	90% @ 40 °C/104 °F (non-condensing)

## **Ordering Information**

Part Number	Description
TREK-120CCTW-01E-C	LoRa Temp/RH Sensor with Battery for TW
TREK-120CCUS-01E-C	LoRa Temp/RH Sensor with Battery for US
USM-S62CCG00-E1E-C	LoRa Gateway (LAN Only)
USM-S62CCG0W-E1E-C	LoRa Gateway with WiFi
USM-S62CCG20-E1E-C	LoRa Gateway with EU LTE
LEO-S552THG0-01E-C	LEO-S LoRaWAN Temp/Humi sensor 915
LEO-S572TPG0-01E-C	LEO-S LoRaWAN Temp Probe sensor 915
LEO-S595MSG0-01E-C	LEO-S LoRaWAN Magnetic Switch 915
USM-S67CCG0W-E1E-C	USM-S67 LoRaWAN & WIFI Gateway 915
USM-S67CCG00-E1E-C	USM-S67 LoRaWAN Gateway 915
36CSISCCWV1001	ColdChain Public Cloud License for 365days
36CSCCPRSR1001	ColdChain On-premise Cloud License for Sensor
9808CCPCS00	ColdChain On-premise Cloud Service
TREK-120-ANR000A00	Cold Chain NFC Reader
TREK-120-SENBDBAT	TREK-120 Battery+ Sensor Board (10 sets)
TREK-120-G2BATT	TREK-120 Battery (10 pcs)
1700001524	Power Cord (US/TW) for LoRa Gateway

\*by project based.