

# TREK-120

## LoRa-Based Cold Chain Temperature/Humidity Sensor



### Features

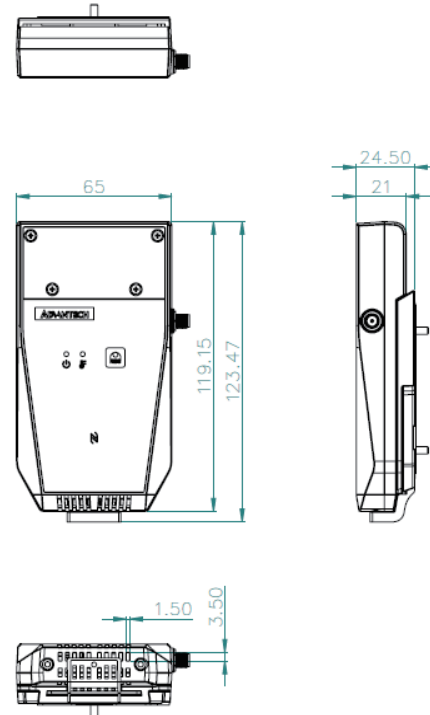
- Supports temperature/humidity sensing
- LoRa technology for efficient long-range wireless data transmissions
- Sensors can be configured to trigger alerts to enable real-time management
- Easy and simple installation in diverse refrigerated vehicles
- IP65-rated protection from water and dust ingress
- Supports IoT cloud services for centralized, real-time exception management
- Long-lasting battery life (up to 36 months depending on usage scenario)

### Specifications

Temperature	Measurement Range	-30 ~ 70 °C (-22 ~ 158 °F)
	Accuracy Range	±0.4 °C from -10 ~ 70 °C (±32.72 °F from 14 ~ 158 °F) ±0.8 °C from -30 ~ -10 °C (±33.44 °F from -22 ~ 14 °F)
	Resolution	0.1 °C (32.18 °F)
Relative Humidity	Measurement Range	0 ~ 80% relative humidity
	Accuracy Range	±3% from 0 ~ 80% at 30 °C/86 °F (with 0.05% variation)
NFC	Frequency	13.56 MHz
	Function	Bulk download configuration and sensor data
LoRa	Wireless Technology	Advantech LoRa technology
	Frequency	920 ~ 925 MHz for Taiwan 902 ~ 928 Mhz for US 863 ~ 870 MHz for Europe 470 ~ 510 MHz for China
	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-temperature primary (non-rechargeable) battery
Data Transmissions		NFC + LoRa
Mechanical	Mount Options	Fixed by adhesive tape, magnet, fastener, screws
	Dimensions (W x D x H)	123.47 x 65 x 24.5 mm (4.88 x 2.56 x 0.91 in)
	Weight	108 g (0.23 lb)
Environmental	Operating Temperature	-30 ~ 70 °C (-22 ~ 158 °F)
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)
	IP Rating	IP65
	Drop Tolerance	4 ft. drop onto concrete
	Certifications	CE, FCC, NCC

### Dimensions

Unit: mm



### NFC Reader



#### Features

- NFC Frequency: 13.56 MHz
- Host Interface: Micro USB
- Dimensions: 121.63 x 74.18 x 15.6 mm/  
4.78 x 2.92 x 0.61 in
- Weight: 52 g/0.11 lb

### Ordering Information

Part Number	Description
TREK-120-BNLTW0AO	LoRa temp/RH sensor (TW)
TREK-120-BNLS0AO	LoRa temp/RH sensor (US)
TREK-120-BNLEU0AO	LoRa temp/RH sensor (EU)
TREK-120-BNLCN0AO	LoRa temp/RH sensor (CN)

# USM-S62

## LoRa Data Gateway for TREK-120 Sensors



### Features

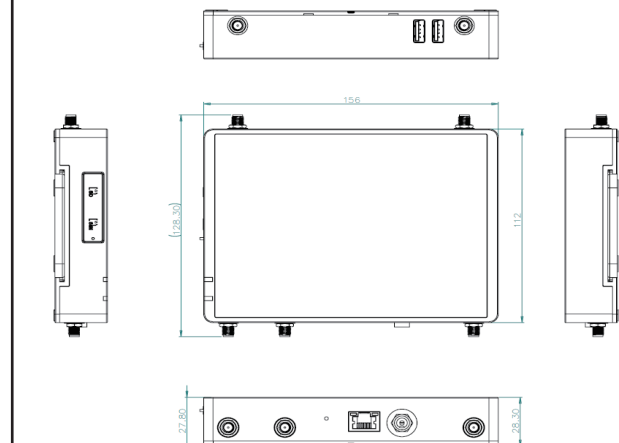
- Can support up to 200 x TREK-120 sensors
- Backhaul support for LAN/LTE/Wi-Fi
- 9 ~ 20 V wide input voltage range
- VESA mount (75 x 75 mm/2.95 x 2.95 in)

### Specifications

General	Storage	8GB micro SD card (default), supports up to 32GB
	I/O	2 x USB 2.0 host 1 x SIM card slot 1 x Micro SD card slot (supports SDHC cards, up to 32GB) 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
	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 <sub>DC</sub> 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/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)

### Dimensions

Unit: mm



### Ordering Information

Part Number	Description
USM-S62-G0000	Global LoRa gateway
USM-S62-G2000	Global LoRa gateway + EU LTE
USM-S62-G4000	Global LoRa gateway + US LTE
USM-S62-G0W00	Global LoRa gateway + Wi-Fi
USM-S62-C0000	China LoRa gateway
USM-S62-C6000	China LoRa gateway + China LTE
USM-S62-C0W00	China LoRa gateway + Wi-Fi

### Packing List

Part Number	Description
96PSA-A36W12W7-5	Adaptor A/D 100 ~ 240V, 36W, 12V C6 lockable DC jack 62368
1751000083-01	2 x LoRa antenna
1750008981-01	2 x LTE antenna (optional)
1750008772-01	2 x Wi-Fi antenna (optional)