



Product Specifications

LoRaWAN™ Animal & Asset Tracker

LT-20/ LT-20P Series

VER: 1.6



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Revised History

Rev. No.	Change History	Issue Date	Remark
0.1	Initiation	2019.10.01	Preliminary
0.2	Modify in DVT	2019.11.14	
0.3	Modify in PVT	2020.01.15	LT-20 Color
0.4	1.Remove USG web site 2.Revise wording and format 3.Revise LT-20 dimension 4.Update cradle picture	2020.02.20	
1.0	Official Release	2020.04.13	
1.1	Add LT-20P (Remove LT-20R)	2020.10.19	
1.2	Removed the Reed Sensor	2020.11.18	
1.3	Revise format, USG address, Add LoRa trademark	2020.12.07	
1.4	Removed the Bettary Life	2021.03.04	
1.5	Add the spec of Accessories	2021.04.07	
1.6	Removed the temperature sensor	2021.04.13	

Introduction

LT-20 (Animal Tag)

LT-20 is a solar LoRaWAN™ tracker designed for range animals use. The high performance solar panel can provide sufficient power for continuous LoRa® transmission. Its light-weight and tag style design allows you to easily pin on cattle's ear. Optional LT-20P bottom case and collar can be chosen for installing on cattle's back.

LT-20P (Asset and Animal Tracker)

LT-20P is a solar LoRaWAN™ tracker designed for asset and animal by collar tracking purpose. The high performance solar panel can provide sufficient power for continuous LoRa® transmission. Its light-weight and compact design allows you to easily install on surface. Ideal for placing on the roof of Animal by collar, Caravans, Trailers, Plant & Machinery, Tractors etc.

***Report interval depends on sunlight condition of region and season.**

Product Features

- Support LoRa® frequencies: US 915 MHz / AS 923 MHz / EU 868 MHz
- High performance solar panel
- Provide periodic battery status messages to server
- High sensitivity GPS/ GNSS
- Configurable setting by iOS APP via BLE
- Built-in 3-axis accelerometer for motion detection
- Low power alert
- IPX7 waterproof rating

H/W Specifications	
LoRa® Chipset	Semtech LoRa Chip
LoRa® Antenna	Internal LoRa® antenna
LoRa® Frequency	LT-20H/ LT-20PH US 915 MHz/ AS 923 MHz LT-20E/ LT-20PE EU 868 MHz
MCU	NORDIC Series
BLE	NORDIC for slave mode
BLE antenna	Internal antenna
Internal Flash	192 Kbytes
External Flash	2 MByte (for debug log)
GPS	MTK for GPS and GLONASS
GPS Antenna Type	Patch antenna (size: 25x25x2 mm)
Button	Function button x 1 (Power/ Setting/ Reset in one button)
Sensor	3-Axis accelerometer
LED Indicator	GPS, BLE, Charging LED
Operation Voltage	DC 3.3 ~ 4.3V USB 4.5 ~ 5.5V
Transmission Distance	LoRa® : 1 ~10 KM @ 980 bps BLE (Open sides): 35 M
Receiving Sensitivity	-128dBm @ 980bps (Typical)
Battery	Re-chargeable Li-polymer battery 500mAh
Operating Temperature	Operation: -20 ~ 60 °C Storage: -20 ~ 80 °C
Humidity	5 ~ 95% (Non-condensing)
Dimension	LT-20: 80*55*15.7 mm LT-20P: 80*19.17*79.10 mm
Weight	80 ± 2g both
Accessories	Charging Cradle (Optional) Metal Holder (Optional for LT-20P only)
Certification	CE, FCC, IC, TELEC(LT-20P)
Waterproof	IPX7

GPS Parameters

GPS Parameters General	
Chipset:	High Performance
Frequency:	L1, 1575.42 MHz
Sensitivity:	-146 dBm (Tracking) -158 dBm (Autonomous acquisition)
Channels:	66 channels, each is capable to receive any supported signal
Support SBAS:	WASS, EGNOS, MSAS, RTCM, GLONASS, QZSS
Update rate:	1Hz
Default datum:	WGS-84
Reacquisition:	<1 sec., average
Hot start:	< 1 sec., average
Warm start:	33 sec., average
	< 15 sec (with AGPS)
Cold start:	33 Sec., average (typical) without AGPS
	< 15 sec (with AGPS)
Maximum Altitude:	< 18,000 meters
Maximum Velocity:	< 500 meters/ second
Acceleration:	<4g

Product CMF:

LT-20:

Dimension 80*55*15.7mm



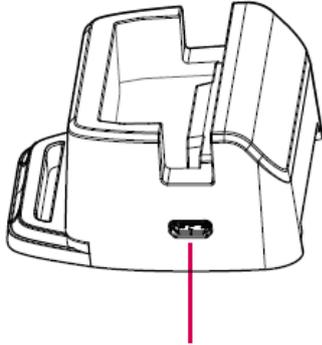
LT-20P:

Demension:80*19.17*79.10MM



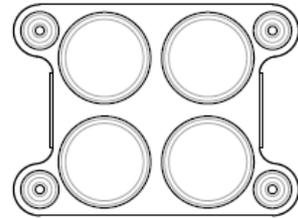
Accessories (Option):

Charging Cradle

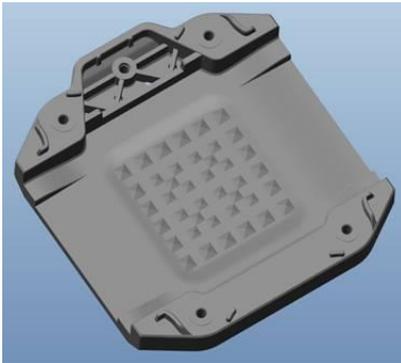


Micro USB Connection for Charging only

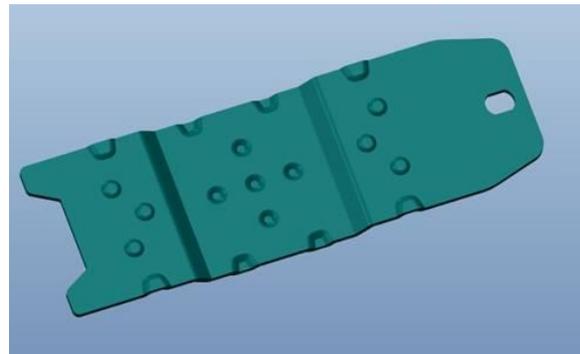
Metal Holder (LT-20P Only)



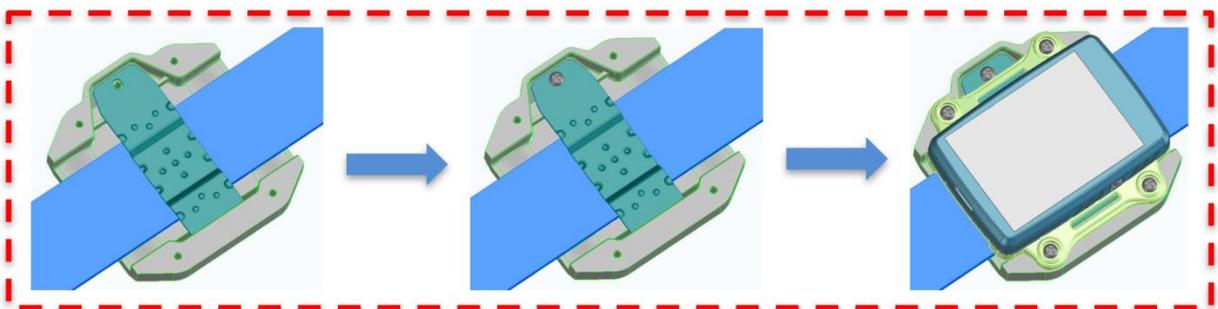
**LT-20P Only
Plastic Holder of Collar**



**LT-20P Only
Metal Bracket of Collar**



Assembly methods



LT-20P Only
Collar Set:

Part No. : N3PL23NT20P000
 Name : Double oval ring belt (Black)
 Material: Polyester with Water repellency.
 Dimension: W38mm*L1300mm*t3mm



Part No. : N3PL23NT20P020
 Name : Oval Ring.
 Material: Steel.
 Dimension: φ6 mm *WO 51.6 mm *Wi 23.4 mm *H 11.4 mm
 Name : Webbing casing ring (Black)



Part No. : N3PL23NT20P010
 Material: Polyester with Water repellency.
 Dimension: 46.60(Length)*20.00(Width)*2.30(Thickness)mm



DESCRIPTION: BLACK VINYL COVERED LEAD WEIGHTS

Part No. : N3PL27NT20P000
 Material: Lead+PVC
 Weight: 500g (±2-3%)
 Dimension: 67 X 83 X 20 mm



Installation video introduction: <https://drive.google.com/file/d/19UmkDD7n9LHI-wQVCYxq5sLHGJw8Osbl/view?usp=sharing>