

DIREKTRONIK

L3 LTE Beacon & Gateway

Designed for smart solutions of logistic, industrial, nursing



IP67 Waterproof



Solar & Magnetic Charging optional



Real-Time GPS tracking



Multi functions:

Works as LTE beacon & Bluetooth beacon & LTE gateway



Support LTE-M (eMTC) and NB-IoT

PRODUCT OVERVIEW



L3 LTE beacon uses the latest low power LTE technology and advanced processing and cellular IoT designs. KKM L3 LTE beacon support both Narrow-Band Internet of Things (NB-IoT) and enhanced Machine Type Communication (eMTC/LTE-M).

L3 LTE beacon can communicate directly to the cloud without any intermediary device. It also works as gateway which scan BLE data and upload to cloud.

The LTE beacon combines IoT technology (NB-IoT, eMTC/LTE-M), BLE and realtime GPS together, make the LTE beacon work merrily indoor and outdoor, widely used in logistics, cold chain, healthcare, nursing care and etc..



NB-IoT/LTE-M



Works as
Gateway/Beacon



HTTPS/MQTT/AES UDP
Security



Low Power IoT



GPS Real-Time
Tracking



IP67 Waterproof

USAGE SCENARIOS



Smart Logistics

Use L3 LTE beacon with other BLE beacon devices in logistics, track location in real-time. Monitoring and notifying the transportation condition (temperature, humidity) when it changes.



Smart Industry

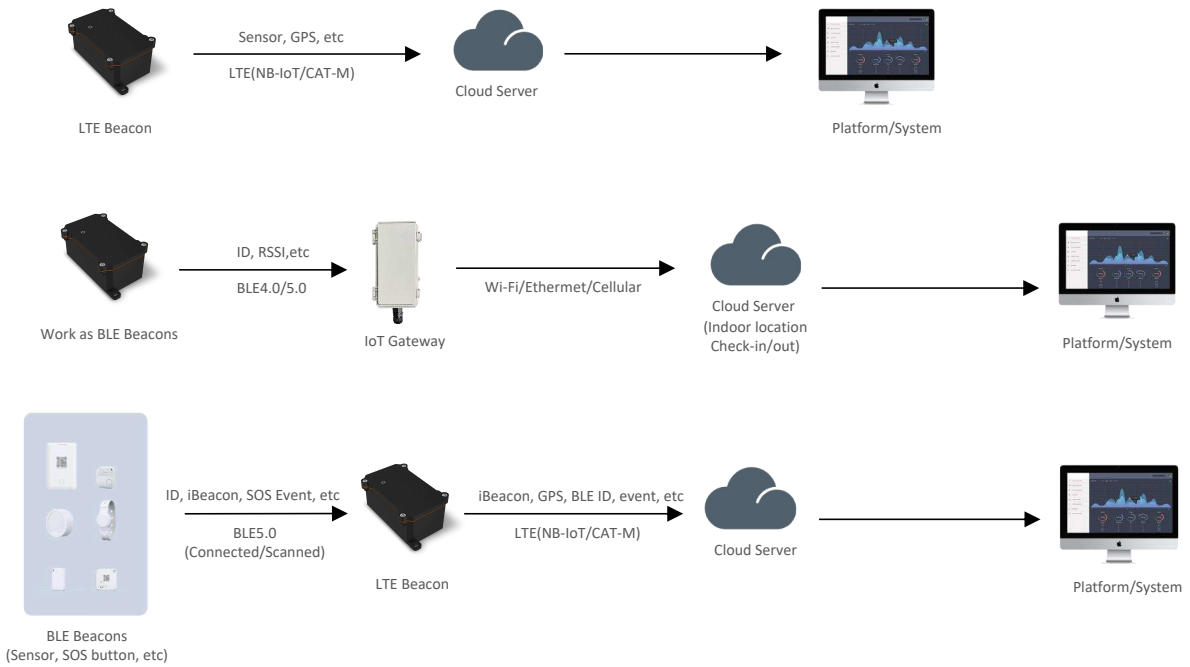
Use L3 beacon and other BLE beacon devices in industrial bases with long range and IP67 waterproof, shockproof, improve the value of use.



Smart Agriculture

Use L3 beacon with other BLE beacon devices in agricultural scenarios to complete agricultural sunlight, temperature and humidity monitoring and improve agricultural output.

HOW IT WORKS



PRODUCT FEATURE

Industrial Design

- Thickened casing and IP67 waterproof design.
- Support extended sensor (temperature & humidity, CO2, VOC)
- GPS/GNSS optional
- Rechargeable battery or 8500mAh big capacity battery optional for different scenarios

Configurable Parameters

- NB-IoT/eMTC network connection, GPS upload interval, BLE adv interval, scanning function, and etc
- API for integration to client App.

Flexible Networking

- Support independent reporting of sensor data
- Supports connecting to other BLE Beacons and reporting their sensor data to the cloud. It also supports scanning other BLE Beacons and reporting their advertisement data
- LTE Beacon itself can also act as a BLE beacon and can be managed by a Bluetooth gateway.

Bluetooth Coverage

- Up to 100 meters in the open space.
- The range depends on the environment.

Firmware Update

- Supported FOTA via Cloud
- Support FOTA from IOS/Android applicaiton
- Reserved J-Link port on the board for programming.

Compatibility

- BLE connection: iOS 8.0+ and Android 4.3+ system or other BLE4.x/5.0 BLE device.
- Cloud connection: MQTT/HTTP/UDP

BASIC SPECIFICATIONS

Model	L3/L3G/L3S
Size	L3/L3G: 90mm*50mm*42mm L3S: 90mm*50mm*51mm
Weight	214g
Material	ABS/PC
Waterproof^①	Non-rechargeable model: IP67 Rechargeable model: IP65
Working Temperature	<ul style="list-style-type: none">• Non-rechargeable model: -40 ~ 70 °C (-22 ~ 158°F)• Rechargeable model: -30 ~ 70 °C (-40~ 158°F)
Battery	<ul style="list-style-type: none">• Non-rechargeable ER26500 8500mAh• Rechargeable 3000mAH Polymer battery
Protocol	HTTP/HTTPS/MQTT/MQTT SSL/UDP/UDP AES
Battery Life^②	<ul style="list-style-type: none">• ER26500 8500mAh: Up to 10 years• Rechargeable battery: Up to 1 years per charge (lifespan depends on usage)
Interface	1 nano SIM card
Sensor	Accelerometer (Default)
Installation Way	Screws
Indicator	RGB LED indicator (Inside)
Work Humidity	Non-rechargeable: 5% ~ 100%RH Rechargeable:5% ~ 95%RH

① Both L3 and L3g support two models, charging model and non-charging model.

② The battery life will be affected by region, the network, configurations.

TECHNICAL SPECIFICATIONS

Bluetooth Version	BLE4.x, BLE5.0
Bluetooth RF	<ul style="list-style-type: none"> Tx power: -40 ~ 8dBm (up to 100 meter in open area) BLE RX Sensitivity: -108dBm @1Mbps, 0.1 %BER
Bluetooth Capability	<ul style="list-style-type: none"> Supports simultaneous connection of 8 Bluetooth sub-devices Supports scanning of at least 32 Bluetooth devices advertisement
LTE Capability	Supports NB-IOT and LTE-M base on R13
LTE Band	<ul style="list-style-type: none"> LTE-M: B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66 NB-IOT: B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B20, B25, B26, B28, B66 <p><i>mark: The L3 supports the above frequency bands, but due to the limitations of antenna design, the optimal frequency band range is 800~960MHz.</i></p>
LTE RF	<ul style="list-style-type: none"> Up to 23 dBm output power -108 dBm sensitivity (LTE-M) for low band, -107 dBm for mid band
GNSS(optional)	<p>GPS / Glonass / Beidou positioning accuracy: 30 meters Sensitivity:</p> <ul style="list-style-type: none"> Acquisiti on: -148 dBm Tracking: -162 dBm Reacquisiti on: -160 dBm

VARIATION

Model	L3	L3G	L3_Solar	L3G_Solar
				
Power Supply	<ul style="list-style-type: none"> ER26500 8500mAh Rechargeable 3000mAH battery (Type C) 	<ul style="list-style-type: none"> ER26500 8500mAh Rechargeable 3000mAH battery (Type C) 	Rechargeable 3000mAH battery (Megnetic charging)	Rechargeable 3000mAH battery (Megnetic charging)
GPS	<ul style="list-style-type: none"> Chip with built-in GPS Standalone GNSS (Optional) 	<ul style="list-style-type: none"> Standalone GNSS 	<ul style="list-style-type: none"> Chip with built-in GPS Standalone GNSS (Optional) 	<ul style="list-style-type: none"> Standalone GNSS
Sensor	<ul style="list-style-type: none"> Accelerometer Temperature & humidity external probe 	<ul style="list-style-type: none"> Accelerometer 	<ul style="list-style-type: none"> Accelerometer Temperature & humidity external probe 	<ul style="list-style-type: none"> Accelerometer
Extended other Sensors	Support	No	Support	No
Solar Panel	N/A	N/A	Panel Size: 82*78*2mm Open Circuit Voltage: 6.6V Operating Current: 86mA Storage Conditions: 10°C-40°C Operating Ambient Temperature: -20°C-60°C	Output Power: 0.47W Operating Voltage: 5.5V

BASIC OPERATION

1. Install the wall or other flat surface of asset, vehicle

Use screws or adhesive tape to mount L3 to the wall, vehicle and etc.

PRECAUTIONS

- L3 LTE beacon is powered by optional ER26500 Lithium Thionyl Chloride battery or rechargeable Lithium battery.
- To ensure proper scanning & broadcasting function of the L3, install it in an open area as far away as possible from metal objects and obstacles such as glass covers.
- If you need to configure L3, please contact our sales staff for more information about L3 configuration.

CERTIFICATIONS



* If you need specific information about the certificate, please contact the sales.

PACKAGING INFORMATION

Details	Inner Box (Battery is included)	Outer Carton (Battery is included)
Quantity	1pc/box	
Net Weight		
Gross Weight		
Size		

QUALITY ASSURANCE

We have achieved ISO 9001 quality system certification. Our products undergo rigorous testing, including PCB SMT tests (component tests, optical inspections, PCB signal value tests, high and low temperature tests, drop tests, etc.) and software tests (Bluetooth signal tests, power consumption tests, button tests, LED flashing tests, etc.).

Warranty Period: One year from the date of delivery (excluding batteries and other accessories).



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Direktronik AB | Box 234, 149 23 Nynäshamn | Besöksadress Konsul Johnsons väg 15 149 45 Nynäshamn
Telefon 08 52 400 700 | Fax | Epost info@direktronik.se | Org.nr 556281-9663 | Bankgiro 922-0179