



LocoTrack Rechargeable HGR4.



Product Highlights.

- Easy to install, and pre-configured for use
- Provides 40 days of battery life at 15 minute reporting intervals
- Works indoors & outdoors
- Waterproof
- Qi wireless charging
- Remotely configurable
- Environmental sensing (temperature & humidity)
- Damage detection
- Package open/close detection
- Secure, authenticated communications: LTE Cat-M1, GSM, WiFi
- Secure BLE Gateway to communicate with LocoTags
- Certified for use in over 10 countries and 40 airlines

How the system works.

The LocoTrack Rechargeable HGR4 is designed for supply chain applications. It provides location reporting as well as monitoring and logging accurate temperature, light, movement, tip, impact and shock levels. It will regularly report its location, upload sensor logs. This cycle is continuous unless the sensors cross configurable thresholds, upon which the device will send an additional 'alert report' regarding its condition. To ensure that the latency of alerting is low, sensors are monitored every 10 seconds. The device can be configured remotely; with defaults for multiple industries or it can be configured in detail for specific needs.

In addition to providing standalone protection, the LocoTrack Rechargeable HGR4 is interoperable with other Loco products. As such, the LocoTrack HGR4 Rechargeable can read data from LocoTags, and act as a gateway to communicate tag data.

Installation and asset association.

LocoTrack Rechargeable HGR4 is provided pre-configured with default settings. All that is required is to turn on the device, and associate the device with the asset/consignment it is being attached to. To simplify this association process, each LocoTrack Rechargeable HGR4 has a unique identifier that is presented as a number and a barcode on its label. Association is completed by scanning this barcode and entering details regarding the asset/consignment. This can be completed directly on LocoAware. Once associated, LocoAware allows the user to search for a specific asset/consignment.

Design considerations.

The system has been developed with end-to-end security in mind and protection against replay and masquerade attacks is provided as standard. Each LocoTrack Rechargeable HGR4 device has a unique key programmed at manufacture and all communication is authenticated and restricted to the Loco servers. Communications can be completed over cellular networks or via pre-configured WiFi access points.

The LocoTrack Rechargeable HGR4 devices are powered by a hybrid cellular, Wi-Fi location engine, which enables indoor and outdoor operation whilst minimising power consumption.

Applications include.

Suitable for tracking supply chain shipments across multiple industries (i.e., dry goods, food & beverage, pharmaceutical and high value goods) where sensor auditing is essential and tracking and logging is required over multimodal journeys (for example ocean, rail, air and road).



Technical Specifications.

Remote Communication

Worldwide LTE Cat M1 (1, 2, 3, 4, 5, 8, 20, 28)/EGPRS (850, 900, 1800, 1900MHz), WiFi 802.11b/g/n via Espressif ESP8266

Positioning

Loco Hybrid Positioning Engine, with locations from GNSS, visible cell towers and WiFi access points

Sensors

Temperature	<1°C (2°F) accuracy between 10 to 65°C (14 to 149°F) NIST traceable
Light	Light level to identify box open/close
Accelerometer	Orientation detection Motion detection Impact Drop

Power Consumption

Sleep	0.015mA (average)
Reporting	115mA (average)

Mechanical Charecteristics

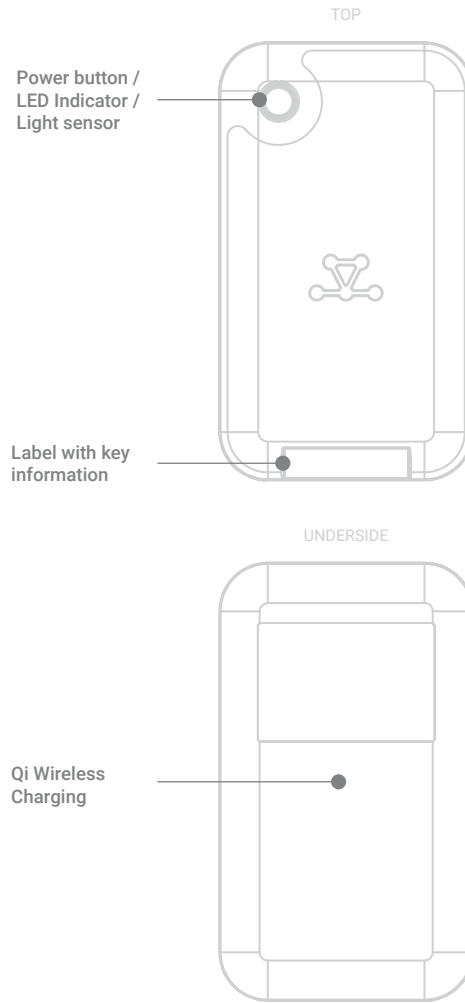
Dimensions (LxWxH)	142 x 82 x 16.5mm (5.59 x 3.23 x 0.65in)
Weight	168g (5.93oz)
Material	PC+ABS
Colour	Black

Battery Life

40 days of battery life when reporting at	1 hr (stationary); 15 mins (when in motion) 5 min sensor logging 10 sec sensor monitoring <i>(Considering 8hrs of motion per day)</i>
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Environmental

IP rating	Pending
Storage temperature	-10 to 40°C (14 to 104°F)
Operating temperature	10 to 40°C (-14 to 104°F)
Charging temperature	0 to 45°C (32 to 113°F)



LocoTag Reporting

Range	20m (65ft) indoors 80m (262ft) outdoors
Number of tags	Up to 1,000 tags per LocoTrack device
Reporting level	Configurable

Works with

LocoTrack Devices	LTR-HGR4, LTP-HGD4, LTR-HFR4, LTP-HGP4, LTP-HGC4, LF-Z1U
LocoTag Devices	LTAG-E4BL, LTAG-E4B, LTAG-P4B, LTAG-E4P, LTAG-P4P, LTAG-T1B, LTAG-C2PL

Certifications

Countries	FCC, IC, CE, UKCA, ROHS, PTCRB, MIC, KC, NCC, ANATEL, NOM, IFETEL, RAMATEL, RCM, RAMATEL
Airlines	RU, AC, CA, UX, AF, NZ, AS, NH, AA, M6, OZ, 50, 5Y, AV, SN, 5C, CV, C8, CX, CI, EK, EY, BR, HX, QX, KL, KE, LA, M3, LK, MH, KZ, PT, PO, QR, OO, WN, TP, TK, UA