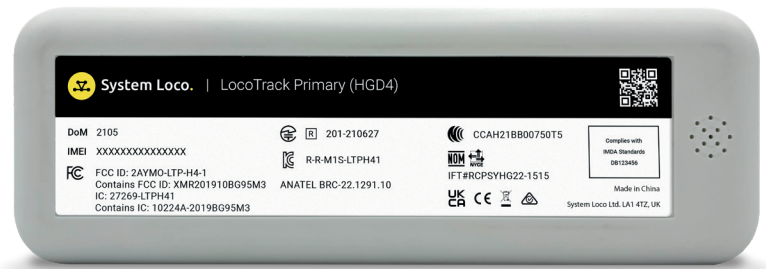


LocoTrack Primary HGD4.



Product Highlights.

- Avoid complicated reverse logistics as device is disposable
- Incentivised recycling scheme
- Provides up to 60 days of in-transit tracking
- Damage detection
- WiFi, LTE-CatM & GSM communications
- NIST traceable temperature sensor
- Detects LocoTags
- Can beacon as a LocoTag
- Waterproof
- Supports multi-modal supply chain journeys
- Certified for use in over 25 countries and 45 airlines

How the system works.

The LocoTrack Primary HGD4 is a non-rechargeable battery-operated device designed for supply chain, asset tracking – On the Road, Rail, Air or Ocean as well as various under roof applications.

The LocoTrack Primary HGD4 provides location reporting as well as monitoring accurate temperature (NIST traceable) and light level.

The LocoTrack Primary HGD4 will regularly report its location, upload sensor data and is capable of being remotely controlled for shut off commands. Configurable for many different use cases, the device by default will report while moving at 15-minute intervals and 1 hour during stationary, the LocoTrack Primary HGD4 will operate for 60 days.

In addition to providing standalone protection and visibility, the LocoTrack Primary HGD4 is interoperable with other Loco products. As such, the LocoTrack Primary HGD4 can read LocoTags and act as a hub to communicate LocoTag data. It can also beacon as a LocoTag and be discovered locally via BLE.

Installation and asset association.

The LocoTrack Primary HGD4 is pre-configured with default settings. All that is needed is to turn on the device and associate the device with the asset or shipment to which it is attached. To simplify this association process, each LocoTrack Primary HGD4 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 or shipment. This can be completed directly on LocoAware. Once associated, LocoAware allows the user to search for a specific asset or shipment.

Design considerations.

The system has been developed with end to end security in mind and protection against replay and masquerade attacks. Each LocoTrack Primary HGD4 has a unique key programmed at manufacture and all communication is authenticated and restricted to Loco servers. Communication can be completed over cellular or via pre-configured WiFi access points.

Whilst the device is designed to be disposable, System Loco offer an incentive based recycling scheme that can help reduce the system chain costs significantly and reduces the supply chain's carbon footprint.

Applications include.

Suitable for tracking supply chain shipments across multiple industries where location and sensor monitoring is required. Multi-modal shipments are supported, the device is particularly suited to journeys where reverse logistics for the device are either impossible or difficult.



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 A-GPS, visible cell towers and WiFi access points

LocoTag Reporting

Range	20m (65.6ft) indoors
	80m (262ft) outdoors
Number of tags	Up to 1,000 tags per HGD4
Reporting level	Configurable

Power Consumption

Sleep	0.015mA average
Reporting	125mA average

Battery

4 x Maxell LR6 Alkaline AA providing 60 days of battery life when reporting at	1 hr (stationary);
	15 mins (when in motion)
	5 min temperature logging
	10 sec temperature monitoring <i>(Considering 8hrs of motion per day)</i>

Mechanical Charecteristics

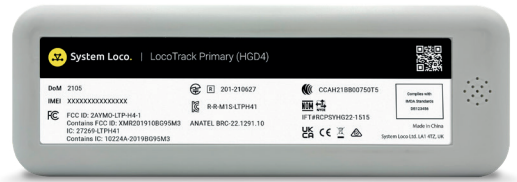
Dimensions (LxWxH)	141.2 x 49.2 x 24.1mm
	5.5 x 1.9 x 0.95in
Weight	160g (5.6oz)
Material	PC+ABS
Colour	White

Environmental

IP rating	67 (Pending)
Storage temperature	5 to 30°C (41 to 86°F)
Operating temperature	-20 to 54°C (-41 to 29°F)



Device top with ID and power button/LED indicator



Device base

Sensors

Temperature	<1°C (2°F) accuracy between -20 to 54°C (4 to 129°F) NIST traceable
Accelorometer	Motion detection
Pressure sensor	Flight mode
Light sensor	Package open/close

Works with

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

Certifications

Countries	FCC, IC, MIC, NOM, ANATEL, UKCA, CE, ROHS, SUBTEL, NCC, OFCA, NBTC, KC, WPC, RCM, RAMATEL, MoC, CRC, CITRA, ASEP, CRA, CST, ICASA, URSEC
Airlines	RU, AC, CA, UX, AF, NZ, AS, NH, AA, M6, OZ, 50, 5Y, OS, AV, SN, 5C, CV, C8, CX, CI, DL, EK, EY, BR, HX, QX, KL, KE, LA, M3, LK, MH, KZ, PT, PO, QR, SQ, OO, WN, SG, LX, TP, TK, UA