

Transport monitoring in all dimensions

Live. Worldwide. Sustainable.



ASPiON L-Track

Multi-sensor data logger with location tracking
technical data

Last updated in August 2026



ASPiON L-Track – IoT Asset Tracker for 360° monitoring

General product description

The ASPiON L-Track records sensor data such as shocks, vibrations and climate data and sends them in real time via cellular transmission to the ASPiON Cloud IoT platform. The IoT device has many different sensors such as a 3-axis accelerometer for shock detection, temperature, humidity, pressure, tilt and light sensors, etc. and can collect a variety of measurements. These are logged on an interval and/or event basis with a time stamp, depending on the setting and requirement, and temporarily stored in a buffer memory until transmission on the battery-powered device. The device can trigger a transmission with self-defined threshold values or event triggers in order to inform the user immediately in the event of critical events.

The worldwide transmission of data in more than 150 countries is wireless via mobile radio using LTE-M and 2G as fallback. If the device is unable to establish a radio connection, the buffer memory provides sufficient capacity for intermediate storage of the measured values and events. The location information is usually determined cellularly with a deviation of a few kilometres. Localisation to the nearest metre can also be carried out via satellite positioning (GPS). The current location and tracking history is displayed in the ASPiON Cloud.

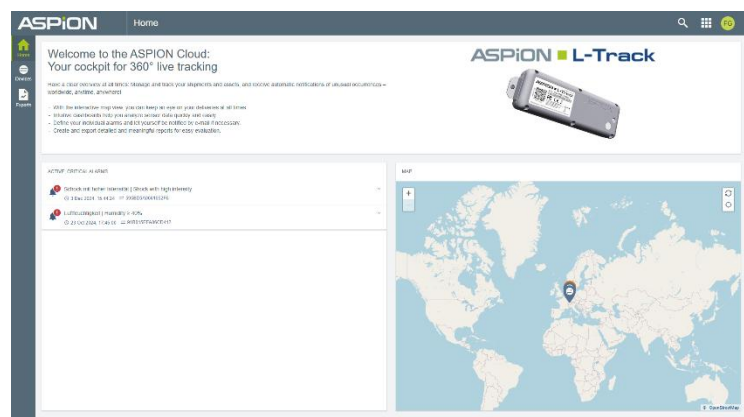
Thanks to the energy-optimized, finely tuned components and the sophisticated design, the ASPiON L-Track can be used autonomously for several years with one set of batteries. With the robust, flame-proof, UV-resistant and waterproof housing and the easy battery change by the user, a permanent use is also given for many different transport monitoring applications and up to 10 years.

The ASPiON Cloud is used to visualize the sensor data as well as location information. The sensor data is visible immediately after transmission, processed further and continuously supplemented with new data automatically. Via the ASPiON Cloud, the user sets threshold values, sets up alarms, receives data analyses and creates reports. The ASPiON L-Track can be easily activated independently and directly, regardless of location and without cloud access.

Each device has a unique ID that is on the label and stored as a barcode. The ASPiON L-Track can be screwed on with the help of the mounting straps, alternatively fixed with adhesive tape or flexibly attached with already mounted magnets.



ASPiON L-Track IoT data logger
for attachment to the transported good



ASPiON Cloud: IoT Platform for 360° live monitoring of
location, sensor data, alarms and reports

Technical data ASPION L-Track

The following table contains all the information on the sensors available in the device.

It also contains information on functions that have not yet been implemented but are planned for further development soon.

	Description	Details
Accelerometer	3 axes: x, y and z up to ± 24 g per axis	- Calibrated by the manufacturer up to ± 16 g with 2.5 % accuracy; up to ± 24 g with 3.5 % accuracy, verified by a testing lab - Adjustable threshold from 0.4 g to 12 g
	Resolution	Depending on measuring range 0.03 g to 0.2 g
	Measuring range	Adjustable between 4 g and 24 g
	Sampling rate	Adjustable between 25 Hz and 1,600 Hz
	DIN EN IEC 60721-3-2	2M4 / 2M5 / 2M6 (planned)
Temperature sensor	Calibrated by manufacturer Adjusted during production	-40 °C ... +125 °C 0.2 °C typical accuracy (at 5 - 60 °C) 0.1 °C resolution - Lower and upper threshold selectable
Humidity sensor	Calibrated by manufacturer Adjusted during production	0 % rH ... 100 % rH, non-condensing 2 % rH typical accuracy (at 20–80 % RH) 2 % rH accuracy; 0.1% rH resolution - Adjustable threshold
Pressure sensor		10 to 2000 mbar, 0,13 mbar accuracy 0,1 mbar resolution - Threshold adjustable
Light sensor	For initial activation, opening detection or lighting	0 to 7550 lux, accuracy 0,12 lux - Due to the use of an optical fiber, the light values deviate from the actual values
Tilt detection		- Tilt range 0-180° - Accuracy 1°; accuracy can decrease below 10°
Memory/logging	Non-volatile ring memory	Deliveries from July 2025: With standard settings approx. 24 months intermediate storage without data transmission -> corresponds to 20,000 measurements
BLE	Bluetooth Low Energy	- Max. 10 m range (line of sight) - Min. Bluetooth 5.0 spec., can be disabled - Bluetooth declaration ID: D060231
Mobile radio	LTE-M	LTE Bands: B1/2/3/4/5/8/12/13/18/19/20/25/26/27/28/66/85
	(2G) GSM	850/900/1800/1900 MHz - Worldwide use, 159 countries supported
Localization	Cell localization	Via mobile phone cell, accuracy is up to several kilometers
	GNSS with passive antenna	GPS, GLONASS, Beidou, accuracy a few meters (in exceptional cases up to approx. one hundred meters)

Battery	4x AA 1,5V Alkali 2Ah Battery replaceable by user	▪ Battery power level at delivery: full ▪ No labeling requirement for alkaline batteries for transport; DGR compliant ▪ Lithium batteries possible, but not approved for air transport
Battery life	Long battery lifetime depending on environmental conditions	▪ Example: With a transmission interval of 8 hours approx. 2 years (without GPS & shock) ▪ Shorter battery life at low temperatures or with poor network coverage
Battery replacement	Housing opening via Torx screws (T10)	▪ Tightening torque 0.5 Nm
Measuring interval	Temperature, humidity, pressure, light	▪ Standard: Every hour ▪ Configurable: 15 minutes ... 1 day
Transmission interval	Mobile connection and data transmission	▪ Standard: Every 8 hours ▪ Configurable: Every hour ... 2 days
GPS tracking interval	Two independent configurable intervals	▪ Periodically: Every hour ... 16 days ▪ When moving: Every 15 minutes ... 2 days
Operating and storage conditions	Operating temperature range Temperature for data transmission Storage temperature range Humidity range	▪ -30°C ... +60°C ▪ -10°C ... +60°C ▪ 5°C ... +40°C, avoid direct sunlight during storage ▪ 0 % rH ... 100 % rH, non-condensing
Housing and mounting	ABS housing; Screw mounting M4 ISO 7380 FL; optional: industrial adhesive tape, cable ties, magnetic mounting available	▪ Dimensions: 188 mm x 55 mm x 31,5 mm ▪ Distance of mounting holes: 174 mm ▪ Tightening torque: 0.5 Nm
Version	IP 65/67 protection	▪ Sensor protected by membrane ▪ Dustproof / waterproof ▪ Impact resistance rating: IK08 ▪ Flame retardant and UV resistant ▪ Weight approx. 250 g incl. batteries
Approvals/Standards	Declarations of conformity and directives	▪ CE / ROHS / REACH / WEEE ▪ RED (EU) ▪ FCC (USA) ▪ IC (Canada) ▪ WPC (India) ▪ SRRC (China, in preparation) ▪ DO160 (IATA)
Export information	Product tariff code Country of origin Data regarding legal control (ECCN or comm. control list)	▪ 9031 8080 ▪ DE (EU) ▪ AI = no, ECCN = no

Function overview ASPION Cloud

The following table provides an overview of the functions contained in the ASPION Cloud as well as the storage duration and availability of the recorded device data.

	Description	Details
User management & cloud access	One administrator account and unlimited user management	- Administrator account (created once) - Unlimited number of additional users - Unlimited access to the ASPION Cloud until 3 months after the end of the term - Assignment of user rights
Alarms & notifications	Alarms in the ASPION Cloud with optional email notification	- Freely selectable threshold values for alarms and e-mail notifications - Freely configurable geofences with alerts when entering and/or leaving the area - Multi-level alarm management - Complete alarm history (tamper-proof)
Device management	Detailed device overview in list format	Important information such as battery usage, estimated battery life, last transmission time, alarms and much more
Device configuration	Configuration of intervals for data recording and tracking	- Threshold values for shock / impact - Measuring and transmission interval - Event-based control for GPS positioning and low battery consumption during standstill
Tracking with map	Overview of the transport route	- Map with cellular and GPS locations - List with address and time of location
Storage duration	Availability and storage duration of device data	- Unlimited access to device data during the term (including renewals) - After the end of the term, device data is provided for a further 3 months - Export of device data for archiving is possible

The software bears the “Software Made and Hosted in Germany” seal of approval. This seal of quality from BITMi (bitmi.de) represents reliable GDPR-compliant data protection. All data is hosted exclusively in German data centers in accordance with European privacy policies. The ASPION Cloud is based on the robust and proven features of the Telekom Cloud of Things, ensuring a secure, scalable and powerful IoT platform.

Mounting orientation

The mounting direction is decisive for the assignment of the axes in the event of shock events. It is best to mount the data logger directly on the transported goods in a sensitive location, preferably in the upper third.

Recommended mounting

- tightening torque: 0.5 Nm
- on steel: M4 ISO 7380 FL
- on wood/sheet metal: flathead screws with a maximum thread diameter of 3.9 mm (e.g., DIN 7981)

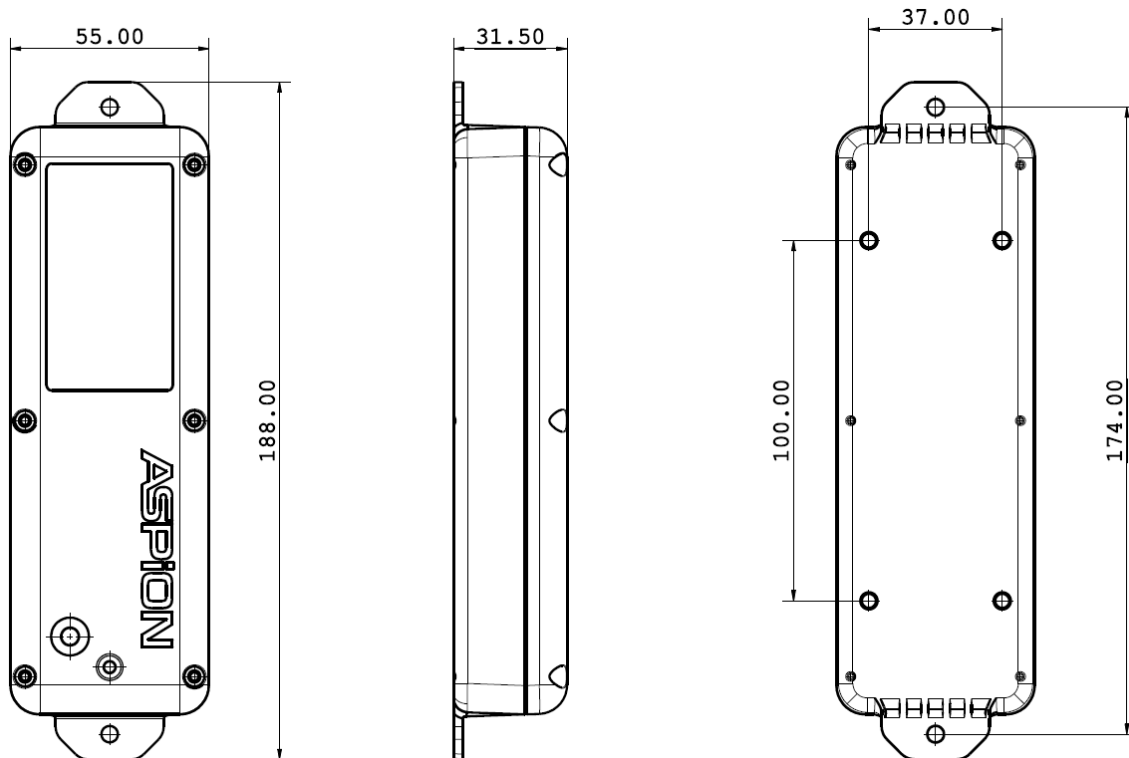


- Alternatively, industrial adhesive tape (e.g. from 3M), cable ties or magnets (available as an assembled magnet set) can be used for mounting.

Housing dimensions and cross-section

Housing without magnets

Dimensions in millimetres - not to scale



Housing with magnets

Dimensions in millimetres - not to scale

