MIKROTIK

TG-LR82

A configurable LoRaWAN sensor tag: a flexible and cost-effective tool to gather data and make informed operational decisions.

Monitor temperature, humidity, motion and events with a configurable LoRaWAN sensor tag designed for demanding IoT deployments.



LoRaWAN® CERTIFIED

1.0.4 Class A, B

TG-LR82 combines multiple sensors, intelligent event rules and flexible reporting profiles in one compact device – making it easy to monitor environments, equipment and logistics across long distances. Designed to work seamlessly with MikroTik LR8 gateways and modern monitoring platforms.

- Temperature monitoring
- Humidity, motion & tilt detection
- Magnetic reed switch support for doors, lids, cabinets
- Configurable profiles and rules
- Expected battery lifetime: ~5 years, depending on configuration
- Event-based telemetry
- IP67 rated enclosure
- Designed for long deployments
- 2.4 GHz support

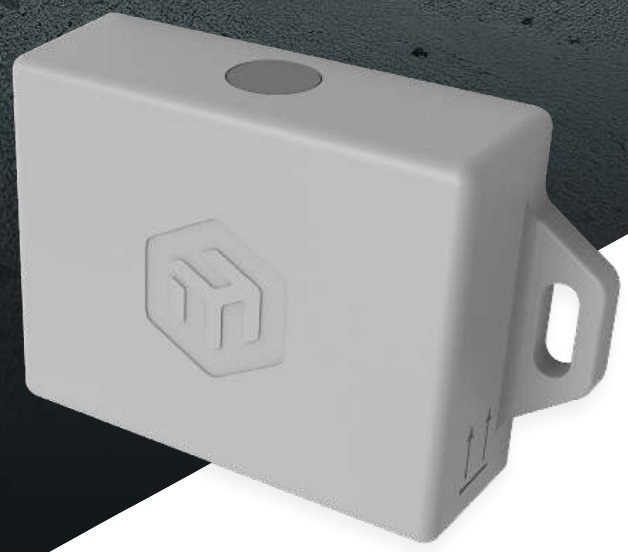
All-in-one sensor with local data processing

TG-LR82 combines environmental and motion sensing with onboard data processing. High-accuracy temperature reporting makes the TG-LR82 extra suitable for monitoring temperature-sensitive goods and environments. The device can generate temperature and humidity averages or histograms before transmitting telemetry. This reduces network traffic while preserving valuable insights about environmental conditions.

Automation: when conditions change, the sensor reacts

TG-LR82 supports multiple configuration profiles and event-based rules, allowing the device to adapt automatically to changing conditions. This enables powerful monitoring scenarios without complex backend logic.

TG-LR82 supports flexible configuration via LoRaWAN downlinks. Generate payloads using a dedicated configuration tool or integrate with platforms such as The Things Network (TTN).





Normal operation. Device sends telemetry data every 6 hours.



Door opens (magnetic switch triggered). Device switches profile and sends updates every 5 minutes.

2.4 GHz flexibility for LoRa!

TG-LR82 also supports 2.4 GHz LoRa, enabling deployments without regional frequency restrictions. Unlike sub-GHz LoRa bands that vary by region, 2.4 GHz LoRa can be used globally without frequency switching. Typical range can reach around 1.5 km, depending on gateway antenna and environment. This makes it a practical option for moving assets such as container ships or international logistics systems..

Explore the 2.4 GHz LoRa line!





Similar logic can be used for other monitoring scenarios: **temperature or humidity thresholds, impact or free-fall detection, orientation or tilt monitoring**, equipment and **asset activity tracking**, and so on. An integrated magnetic reed switch enables door or lid detection and allows simple interactions with the device using a magnet. From cold-chains to storage facilities, from logistics to environmental research – our TG-LR82 can fit many roles!

Works with your monitoring stack

Sensor data from TG-LR82 can be visualized and analyzed using modern monitoring platforms such as Grafana. With MikroTik RouterOS container support, Grafana dashboards can be deployed quickly, enabling real-time telemetry visualization and historical analysis.

Example telemetry insights include:

- Temperature and humidity trends
- Orientation and activity states
- Environmental histograms
- Battery status and signal strength



Designed for long-range IoT networks

TG-LR82 integrates seamlessly with MikroTik LR8 LoRaWAN gateways, including:



KNOT LR8G kit



wAP LR8G kit



wAP LR2 kit

Together they provide long-range connectivity for sensor deployments across buildings, industrial sites or outdoor environments.

Specifications

Product code	TG-LR82	
LoRa transceiver	LR1120	
LoRa band	868MHz / 2.4GHz	
Supported LoRaWAN protocol	LoRaWAN 1.0.4 Class A, B	
RF Transmit power	868MHz: 10.5dBm	2.4GHz: 13dBm
RF Receive sensitivity	868MHz: -141dBm (BWL = 125kHz, SF = 12)	2.4GHz: -130dBm (BWL = 812kHz, SF = 12)
Antenna gain	868MHz: -4dBi	2.4GHz: 2dBi
Additional LoRaWAN features	ADR (Adaptive Data Rate)	
ID LoRa Region	EU868	
Sensor type	Temperature, humidity, accelerometer	
Temperature sensor	NIST traceable TMP116N sensor	
Temperature sensor accuracy	±0.2°C typical (±0.3°C max) for -25°C to +85°C	
Humidity sensor	0% -100% RH	
Dimensions	76 x 45 x 19 mm	
Battery	1100mAh $LiMnO_2$, Non-replaceble	
Operating temperature	-10°C to +70°C *	

Included parts



Screw set



Mounting bracket

77 x 46 x 6.5mm. Optional, for mounting the device on metal surfaces