TRK-Zon

TRK-Zon is the backbone of INEO-SENSE RTLS solution. Placed in judicious locations, it sends periodic beacons dedicated to TRK-Tracer. More than location identification, it sends information to make the TRK-Tracer react indifferent ways: zoning logged only, spontaneous alarm or even check-in process.

Embedding Clover-Net protocol with short range and long range RF technologies, its beacon can cover restricted areas and be monitored and managed remotely at the same time. Moreover, it can be switched to operate on LoRaWAN networks to send periodic status and events from any location.

Thanks to its rugged IP66 casing, it can be installed in constrained environments for a long time.

LoRa™

Withstand field constraints

A complete set of configuration with cursors allows a wide scalability for a deployment adapted to each use case.
Deployment tools make the device setup easy and able to be confided without fear to technicians on the field.
Thanks to complex zoning mechanism, it insures a robust detection of zones even in challenging environments.

Check-in process trigger

Real Time Tracking system is addressed by involving smart and flexible RF communication capabilities to cover small or larger areas.
To transfer TRK-Tracer devices to check-in process, the TRK-Zon is configured in a particular mode which allows the tag device to know in which RF setting the collection is processed.

Zoning capabilities

As the backbone of the Ineo-Sense RTLS solution, its beacon sends information to the TRK-Tracer in order for it to react in different ways:

- Standalone zoning:
  Indicates an isolated area. The location is logged and timestamped in TRK-Tracer for delayed data recovery.
- Multi-zoning:
  For larger areas and highly constrained environments. Several TRK-Zon devices propagate the same zoning identification code with complex non-collisions beacon

These two use cases also support spontaneous alarms sending specific RF settings given by the TRK-Zon.

More than a device which pushes simple periodic messages, full 2-way mechanism with smart communication settings management allows remote configuration and monitoring.

Example
Incoming/Outgoing detection

|	
✕	**TRK-Tracer**
■	**INS-Gate**
📶	**TRK-Zon**
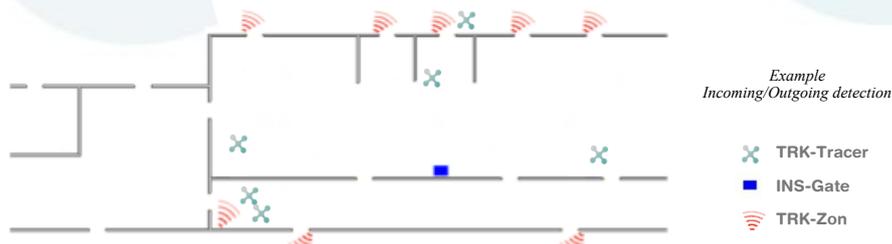
Hardware features

- ABS Grey rugged casing
- IP 66 protection
- Sealing by gasket
- Removable battery
- Average weight : 300g
- Led for activity & event alerts
- Tampering detection by tilt sensor
- Operating temperature :-20˚ to +60˚ C (–4˚ to 158˚ F)
- Highly optimized for long battery life (> 3 years)
- Optional external power supply
- Optional directional antenna for selective outdoor/open space detection

Advances capabilities

- Adjustable range detection (2-300 m)
- Range test mode for fine tuning area
- Multi zoning detection
- Periodic status frame (Battery level, status…)
- Daily scheduler allowing automatic behavior adaptation
- Full bidirectional communication by Clover-Net or by LoRaWan for remote configuration
- Able to trig different use case:
  - Real time entering detection
  - Stay in zone management
  - Localization historic
  - Check-in inventory (group detection)

Dimensions

91mm
51mm
141mm
161mm
120mm
63mm
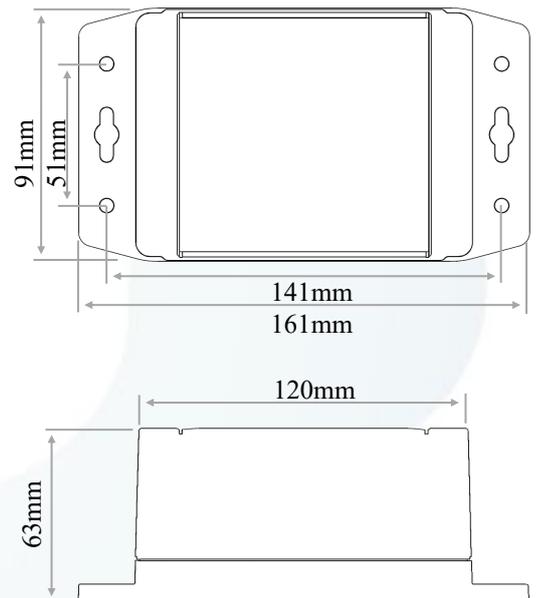
Clover-Net

Order references

Order #	Description
TRK-ZON-ST-X8X-001	TRK-Zon standard version
TRK-ZON-DR-X8X-002	TRK-Zon selective zoning version

Clover-Net generic features

- Transmission range up to 5,000m line of sight, up 500m indoor.
- Real-time 2-way communications: Scheduled transmission, automatic alarms and on-demand reading.
- Robust against physical and electronic interferences.
- Fast event reactivity, huge coexistence ability.
- Low cost for mass deployment
- Auto RTC propagation

- Native Three bands compatibilities (433, 868 and 915Mhz)
- CE & EN 300-220 & FCC 15-247 compliant
- LoRaWAN compatible
- Use Multi-channel frequencies and FHSS to avoid collision.
- Dedicated alarm frequency channel.
- Data Encryption by AES 128 with dynamic key mixt
- Include Full networks services (Broadcast with answer, Repeater, Mesh, …)

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