

# TRK Black Panther

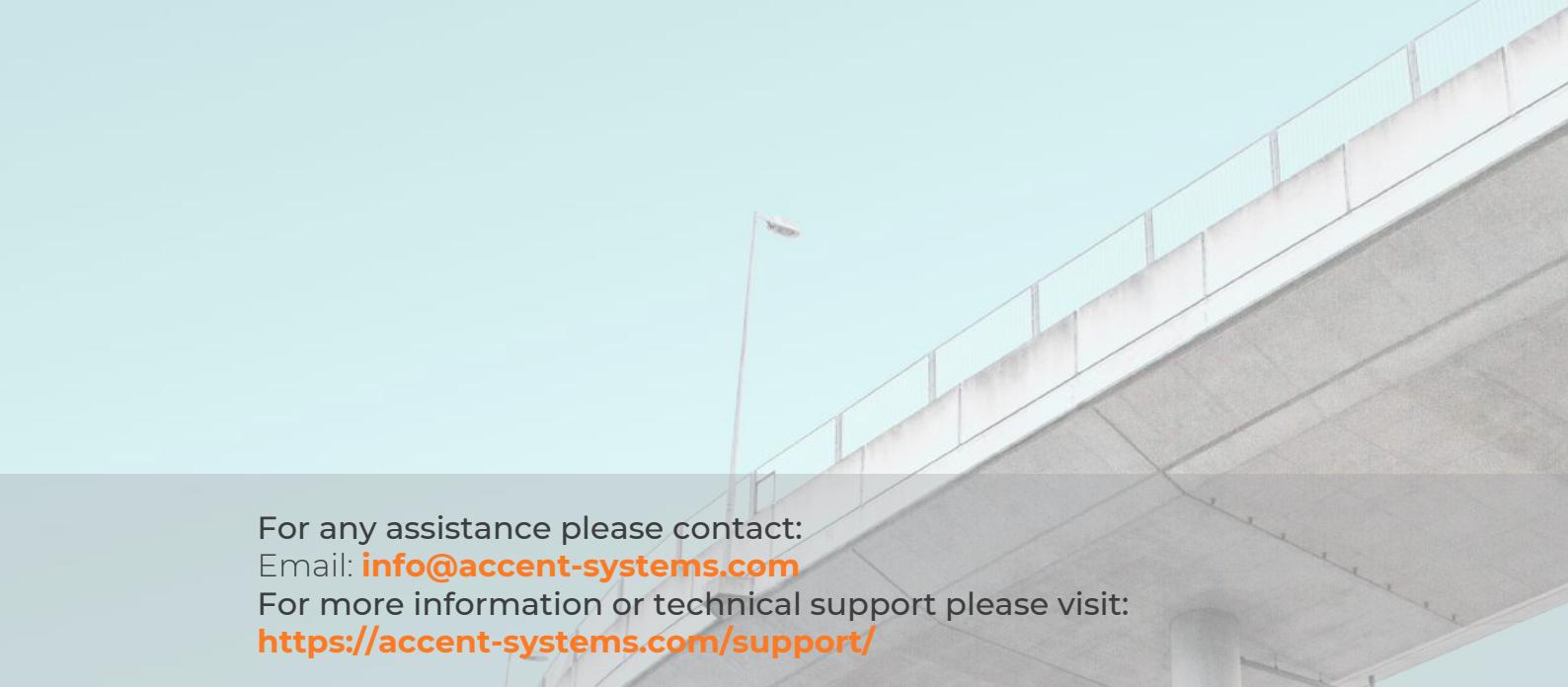
## DATASHEET

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**NB-IoT / LTE-M / EGPRS Low Power Tracker**

Rev. TRK Black Panther V1

Date: 2020-02-06



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## History

Revision	Date	Description
TRK Black Panther_V1	2020-02-06	Initial



TRK Black Panther

## Features

- ✓ NB-IOT / LTE-M (CAT-M1) / EGPRS
- ✓ Multiband
- ✓ GPS receiver for precise outdoor location
- ✓ Wi-Fi Location
- ✓ Cell ID location
- ✓ BLE indoor micro-location
- ✓ SOS Button
- ✓ Battery status LED
- ✓ Internal temperature sensor
- ✓ Shock detection
- ✓ Movement detection
- ✓ Internal buzzer
- ✓ Micro-USB for battery recharging
- ✓ Micro Sim (3FF)
- ✓ Low power management for ultra-long battery life applications
- ✓ Bluetooth Low Energy interface
- ✓ Compact size
- ✓ Shockproof
- ✓ Easy to install with 4 bolt fixing or sticker
- ✓ Customisation available under request
- ✓ BLE firmware update
- ✓ Firmware update over cellular
- ✓ End to end encryption
- ✓ Water and dust resistant: IP67 certification (pending)
- ✓ CE and FCC certification in progress

## Applications

- Logistics
- Cold chain monitoring
- Asset tracking
- Fleet management

- Agriculture
- Industry
- Smart buildings

## 1. Specifications

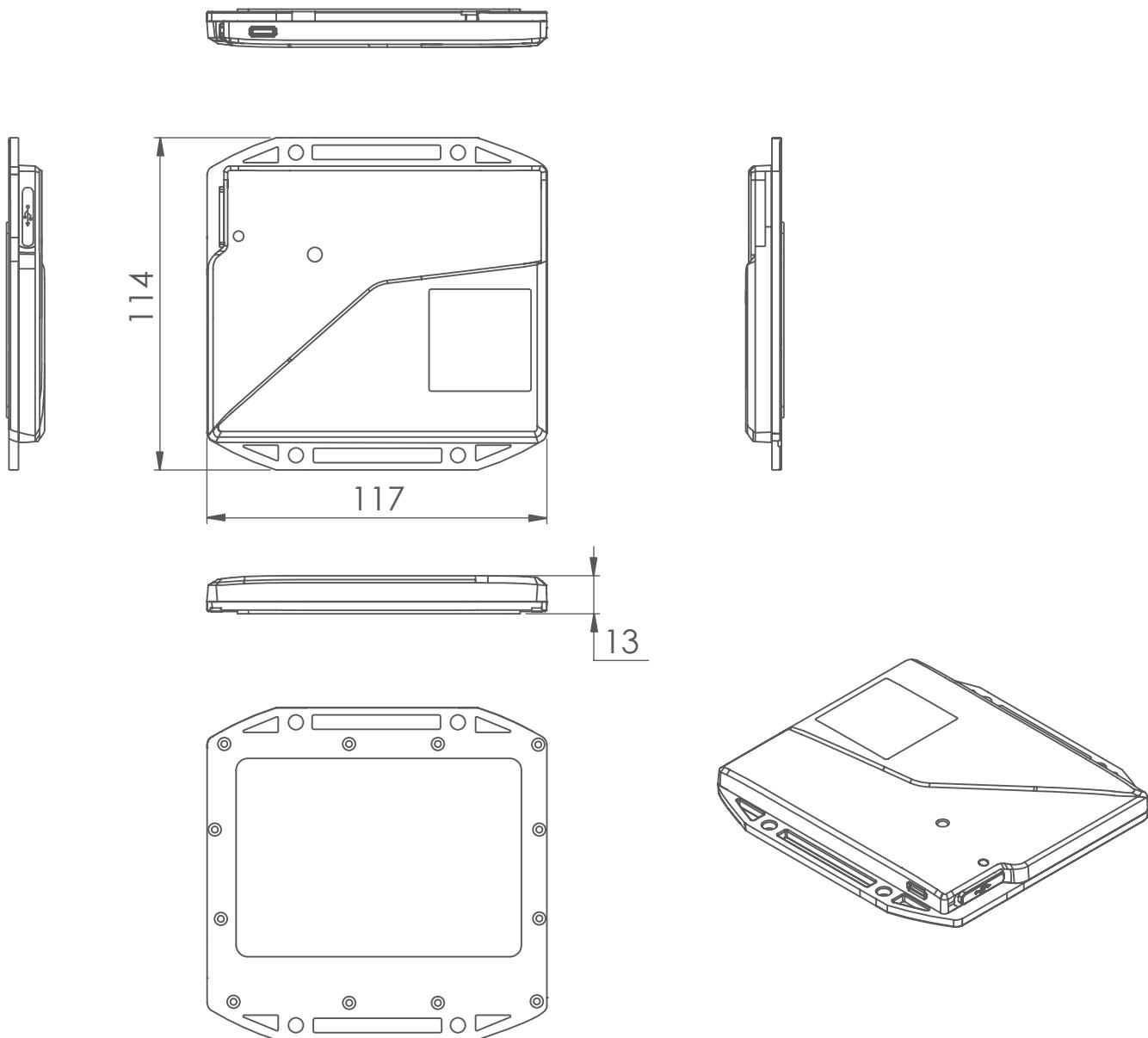
<b>Dimensions</b>	117 mm x 114 mm x 13 mm
<b>Weight</b>	160, 8 grams
<b>LPWAN technologies</b>	NB-IoT / LTE-M (CAT-M1) / EGPRS
<b>NB-IoT bands</b>	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28
<b>LTE-M bands</b>	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28/B39
<b>EGPRS bands</b>	GSM-900 / GSM-1800 / GSM-850 / GSM-1900
<b>SIM card holder</b>	Micro Sim (3FF)
<b>Location methods</b>	GPS / Wi-Fi / Cell ID / Bluetooth Low Energy Beacons
<b>GPS antenna pattern</b>	Omnidirectional
<b>Secondary wireless interface</b>	Bluetooth Low Energy
<b>Battery</b>	LiPo rechargeable battery. Micro-USB connector for battery recharging
<b>Battery capacity</b>	3000 mAh
<b>Low battery indication</b>	Reported to cloud platform LED sequence
<b>Sensors</b>	Accelerometer, temperature
<b>Human interfaces</b>	Push Button Buzzer RGB Led
<b>Firmware update</b>	Over Bluetooth update / Over cellular update
<b>Operating temperature</b>	-10°C to 50°C
<b>Case material</b>	ABS
<b>Button material</b>	TPU
<b>Fixing methods</b>	4 M3 bolts Sticker External flange

## 2. Order information

**TRK Black Panther**

Global version (works in all countries)

## 3. Mechanical drawings



Black Panther mechanical drawings, units in mm

## 4. Location methods overview

**TRK Black Panther** have 4 methods for establish the position of the device:

- GPS: for outdoor location with high accuracy.
- Wi-Fi: for urban or indoor areas, less accuracy than GPS but more efficient in terms of energy consumption. The position is calculated in Accent Systems Inmolecular cloud platform.
- Cell ID based location: coarse location implicit in every data upload to cloud by the device. The position is calculated in Accent Systems Inmolecular cloud platform.
- Bluetooth Low Energy: optional location method using BLE beacons for indoor micro-location. The position is calculated in Accent Systems Inmolecular cloud platform.

## 5. Energy consumption

**TRK Black Panther** is designed to provide very high efficiency in terms of power consumption and be able to be active in long periods.

## 6. Basic functions

The device is connected to Inmolecular cloud platform using NB-IOT, LTE-M or EGPRS and there are 4 different modes:

- **Interval:** period of time to send data defined by the user, could be defined two different intervals in function if the device is moving or not. Every time that **TRK Black Panther** connects to the Inmolecular platform sends information of coarse location (Cell ID), fine location if is available (GPS/Wi-Fi), ambient temperature and battery level.
- **SOS button:** every time that the SOS button is pressed **TRK Black Panther** connects to the cloud server and sends a SOS alarm with the current position..
- **Temperature alarm:** if the temperature is out of the limits set by the user the device sends temperature alarm to Inmolecular platform. This alarm could be disabled by the user.
- **Shock detection alarm:** every time that a shock above the threshold defined by the user, the devices send the event to Inmolecular platform. This alarm could be disabled by the user.



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