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ITALY



This device is manufactured in Taiwan.

All information are subjected to change without notice.
Responsible for placing on the EU market (D.Lgs. 269/2001 Art. 13 / Com. 4):
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TraX

GPS solutions

X-TraX Group



X-MAGNETIKA

Magnetic tracker

Attention please:

- Please strictly follow installation rules and suggestions reported into this manual.
- This device must be installed from professional and expert staff.
- In order to avoid any warranty restriction please don't not open the housing and / or modify the device in any way.
- Using of this device is under the full responsibility of the installer and the user. It is therefore necessary to use it carefully and in full compliance with the local legislation in force.
- This device is compatible with 128K SIM Card on 2G GSM network at 900/1800MHz.
- X-TraX S.r.l. is not responsible for any damage or disservice due to inappropriate installations or improper use of the device.

8. Directives and conformities

This device is consistent and in conformity to the following International Directives:

- EU/2002/96 Directive (RoHS)
- FCC Conformity (Federal Communications Commission)
- With the essential requirements and other relevant provisions of the Directive RED 2014/53/EU
Which requires as a prerequisite compliance with the Directives:
 - . Low Voltage Directive 2014/35/EU (to the applicable parts)
 - . Electromagnetic Compatibility Directive 2014/30/EUIn conformity with the following normative European and International standards:
 - . Directive 2014/53/EU Art. 3 par. 1 / a) – Safety/Health:
EN 50385, EN 60950-1/A11, 1/A1, 1/A12, 1/A2
 - . Directive 2014/53/EU Art. 3 par. 1 / b) – EMC:
EN 301 489-1/52
 - . Directive 2014/53/EU Art. 3 par. 2 – Radio Spectrum:
EN 301 511



7. Accessories

Included accessories:

- AC travel charger (Input AC 100-240V/0,3A – Output DC 5V/2A)



- Waterproof charging panel with removable screw



INDEX

- 1. Package list***
- 2. General description***
- 3. Specifications***
- 4. Status LED and description***
- 5. Quick start***
- 6. Suggestions and implementing rules***
- 7. Accessories***
- 8. Directives and conformities***

1. Package list

- ***X-MAGNETIKA*** portable magnetic tracker with built-in Gemalto GSM/GPRS dual-band module and Ublox dual-mode GPS/GLONASS receiver
- Li-Ion rechargeable battery (5200mA/h)
- Built-in GSM and GPS/GLONASS antennas
- AC charger (AC 100/240V)
- Waterproof charging panel with removable screw
- Magnetic basement for easy fixing

2. General description

X-MAGNETIKA is a smart portable magnetic GPS/GLONASS & GSM/GPRS tracking device, with compact size and magnetic basement for easy fixing on metal surfaces.

It comes with built-in superior GPS/GLONASS & GSM/GPRS modules, efficient capacity Li-Ion battery, ultra-low standby power consumption and waterproof casing for outdoor environment.

X-MAGNETIKA provides the best choice to your GPS tracking applications, with its reliability, convenience and flexibility.

Moreover, the unit is able to detect abnormal radio disturbance (e.g. Jamming), reducing vehicle steals attempts.

Thanks to GPRS channel, it guarantees high level performance maintaining low the operating costs.

No installation is required. It does not manage Voice calls.

3. Specifications

- Size: 102 x 47 x 45mm. Weight: 280gr (battery included)
- Operating temperature: from -20°C to 60°C
- Rechargeable battery: 5200mA/h Li-Ion (3,7Vdc) - up to 8 months of autonomy in "deep sleep mode" (based on 1 position report per day without extra charge)
- Full charging time: 8h (typical)
- The battery life of the device depends on the working configuration and on the outdoor conditions where it's used. In good environment conditions and with full battery the device can stand for:
 - . one position every **60 seconds** > **48 hours** of autonomy
 - . one position every **30 minutes** > **1 week** of autonomy
 - . one position every **60 minutes** > **2 weeks** of autonomy
 - . one position every **8 hours** > **4 months** of autonomy
 - . one position every **12 hours** > **6 months** of autonomy
 - . one position every **24 hours** > **8 months** of autonomy
- Power consumption: in "operating mode" (GPS, GSM, G-Sensor ON and GPRS in transmission) <80mA; in "idle mode" (GPS and GPRS OFF, GSM and G-Sensor ON) <26mA; in "sleep mode" (GPS, GSM and GPRS OFF, G-Sensor ON) <7mA
- GSM/GPRS and GPS/GLONASS Status LED
- Gemalto GSM/GPRS dual-band module with built-in antenna
- Communication channels: SMS and GPRS (TCP/UDP)
- GSM and GPRS channels simultaneously
- Unit programming by USB, SMS or GPRS
- SIM card PIN code protection
- 5 VIP SMS numbers
- Sophisticated power saving mode setting (separate setting for both GSM and GPS modules)
- Mileage Counter (by GPS/GLONASS)
- Roaming setting (On-Off)
- Real time Tracking and Logging (Time, Distance and/or Heading)
- Daily Timer report (up to 24 pre-defined Timers per day)
- Low battery report
- Wake-up on movement and Entering sleep mode reports
- Speed limit report (by GPS/GLONASS)
- Removal unit report (Detaching) and Replaced unit report (Attach)
- Jamming function
- Magnetic base for easy fixing on metal surfaces
- High sensitive Ublox GPS/GLONASS dual-mode receiver with built-in antenna
- Journey logging up to 80,000 fixes
- Built-in G-Sensor (adjustable sensitivity by remote)
- Unit password setting (for Control Base Center only)

6. Suggestions and implementing rules

- **X-MAGNETIKA** is a smart portable magnetic GSM/GPS device working by rechargeable battery.
In order to recharge the internal battery please use the supplied travel charger which is included into the kit. Please remove the metal panel placed on the side of the device in order to approach to the charging connector. When the red LED stops blinking and becomes fixed (ON) then the battery is fully charged. The typical fully charging time is around 8 hours. For the first recharging is recommended to leave the unit under recharging for 12 hours. In order to obtain a complete charging and to optimize the battery life, please always turn OFF the device while is in recharging progress. The device can live up to 8 months depending on the environment conditions and on the configuration, which is uploaded from reference Control Base Center.
- In order to get the first valid fix it's necessary to place the device in an appropriate place (open sky) avoiding any metal surface obstructing it.
- If well sealed, the housing is dust and splash resistant. The device is temperature sensitive and it works between -20° C and 60° C. Based on this please take care of the device and use it in appropriate environment conditions.
- Please strictly follow implementing rules and suggestions reported into this manual.
- In order to avoid any warranty restriction please don't not open the housing and / or modify the device in any way.
- Using of this device is under the full responsibility of the user. It is therefore necessary to use it carefully and in full compliance with the local legislation in force.
- X-TraX S.r.l. is not responsible for any damage or disservice due to inappropriate installations or improper use of the device.

5. Quick start

- 1- After inserting the SIM card and fully charging the battery (12 hours for the first recharging), please turn ON the device by moving the **red switch** (placed inside the SIM card hole) to **ON** position. When the device is switched ON then **violet LED** (red GSM + blue GPS) starts blinking (100 ms On / 100 ms Off).
- 2- Please wait for few seconds till the phone module successfully authenticate to the GSM network. When the connection is established then **red LED** starts blinking (1 sec On / 1 sec Off), or **violet LED** (red GSM + blue GPS).
- 3- In order to get the first valid fix it's necessary to place the device in an appropriate place (open sky) avoiding any metal surface obstructing it. When GPS is fixed then **blue LED** starts blinking (1 sec On / 1 sec Off), or **violet LED** (red GSM + blue GPS).
- 4- Fix the device on a smooth and clean metal surface paying attention to the strong magnetic attraction.
- 5- By sending an SMS message to the unit it's possible to pair your mobile phone number (up to 2 numbers) and to assign an ID name to the device (max 12 characters). The SMS string you need to send is:
#CFG*Cell.1*Cell.2*Name#
Example of string you need to send for enabling one SMS phone number only and for assigning an ID name:
#CFG*+391234567890XMAGNETIKA#**
- 6- In order to send a "Removal" report please remove the device from the metal surface (**Tamper** switch released).
- 7- When the device is turned ON and GSM module is ON (red LED or violet LED blinking) it's possible to query the position from your mobile phone by sending **XPOS** SMS string. Only pre-defined numbers from Control Base Center or by CFG SMS self-setting procedure (please refer to point N.5) are able to manage this function.
- 8- In order to turn OFF the device please move the **red switch** to **OFF** position.

Attention please: For a better management and functionality the device must be pre-configured from the reference Control Base Center.

Attention please: Since magnets placed on the bottom of the device are very strong please pay attention during the installation on metal surfaces handling the device carefully.

4. Status LED and description

Device status LED:

GSM LED - Red	
Status	Description
Off	Phone module switched off or in "sleep mode"
Blinking 1 sec On / 3 sec Off	Battery under charging (if LED has been enabled)
On	Battery recharging completed (if LED has been enabled)
Blinking 300 ms On / 300 ms Off	SIM card not inserted, Pin code enable (to be removed) or GSM network authentication in progress
Blinking 100 ms On / 1 sec Off	GPRS Server successfully connected

GPS LED (Dual-mode GPS/GLONASS receiver) - Blue	
Status	Description
Off	GPS/GLONASS receiver switched off or in "sleep mode"
Blinking 300 ms On / 300 ms Off	Invalid GPS/GLONASS fix
Blinking 100 ms On / 1 sec Off	GPS/GLONASS position successfully acquired, valid fix

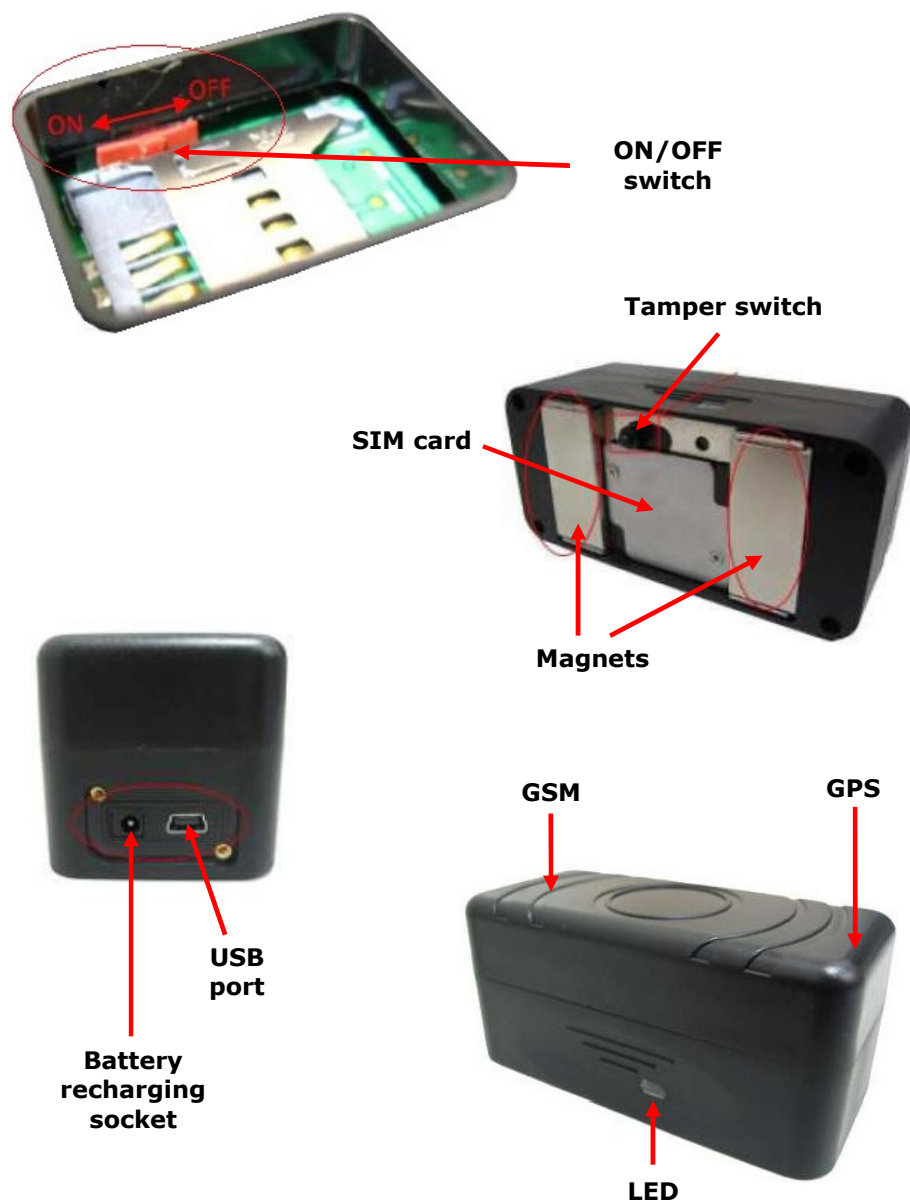
Note: When both Red and Blue LEDs are blinking (GSM & GPS signals enabled), then the LED coloring will become Violet.

Attention please: Before power up the device it's necessary to insert the SIM card into the card reader which is placed on the base side of the unit. Please remove the protection metal panel in order to approach to the card reader.

Attention please: By using a cell phone, please disable the SIM card Pin code before inserting it into the device.



Device overview:



- **ON/OFF switch:** Master switch for turning ON and OFF the device. The red switch is placed inside SIM card hole, on the back side of the unit. Switch it to left side to turn the unit ON; switch it to right side to turn the unit OFF.
- **Tamper switch:** This tamper switch is used for detecting when the unit is removed from fixing surface. When the unit detects tamper switch detached for more than 3 seconds then it automatically sends a report.
- **SIM card:** The SIM card tray is covered by a metal panel with rubber ring that guarantees the waterproof protection. In order to maintain the waterproof protection please pay attention to recover the metal panel as well as possible after inserting the SIM card.
- **Magnets:** Strong magnets for well fixing on metal surfaces. In order to obtain the best possible installation please fix the device on clean and smooth metal surfaces.
- **Battery recharging socket:** Jack connector for recharging the unit internal battery. When the unit detects insufficient battery level then it automatically sends a report.
Unit remains working even during battery recharging process.
- **USB port:** This port is dedicated for FW upgrade process (mini USB cable is not included into the kit). Please note that this operation is reserved for Control Base Centers only.
- **GSM:** Built-in GSM antenna.
- **GPS:** Built-in GPS/GLONASS antenna.
- **LED:** Status LED showing 3 different colors for device self-diagnostic:
 - . Red LED shows both battery recharging status and GSM/GPRS modem status
 - . Blue LED shows GPS/GLONASS receiver status
 - . Violet LED shows both GSM/GPRS and GPS/GLONASS modules are enabled and successfully working.

Attention please: Never connect the **Battery recharging socket** and **USB port** at the same time. Not following this rule could damage the device irreparably.