

8D5899 _ Look@BOX

User' Guide

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ENGLISH ITALIANO

digicom
B810 GROUP

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PREFACE

In order to guarantee your safety and a correct functioning, be sure to follow these safety warnings. The whole set (with cables included) must be installed in a place lacking of or distant from:

- Dust, humidity, high temperatures and direct exposure to sunlight.
- Heat irradiating objects, which may damage your device or cause any other problem.
- Objects producing a high electromagnetic field (Hi-Fi speakers, etc.).
- Corrosive liquids or chemical substances.

ENVIRONMENTAL CONDITIONS

Environment temperature: from 0 °C to +45 °C Relative humidity: from 20 to 80 % n.c.

Any sudden change in temperature and humidity must be avoided.

CLEANING INFORMATION

Use a soft dry cloth and avoid any solvents or abrasive materials.

SHOCKS OR VIBRATIONS

Caution against shocks or vibrations.

BACKUP BATTERY

WARNING: this device is supplied with a backup battery.
This battery may get burnt, explode or cause serious burnings. DO NOT disassemble, weld, burn or throw the battery into water. Keep out of children. Replace only with a same model battery and reserve the operation only to qualified staff. The use of a different battery may cause fire hazard or explosions. Italian laws consider batteries as dangerous urban waste that must be disposed according to the law provisions in force (Italian DPR 915/82 and local provisions).
The backup battery is excluded from warranty.

EVALUATION BOARD/KIT IMPORTANT NOTICE AND DISCLAIMER

This evaluation board/kit is intend for use by professionals only, for internal development and evaluation of the final user. It is not a completed product and may not comply with the technical and legal requirements applicable to completed products, including but not limited to norms or rules relating to the electromagnetic compatibility, recycling (WEE), FFC, CE or UL.

ASSISTANCE AND CONTACTS

After reading the instructions carefully if you are unable to solve the problem, contact Digicom technical support.
E-mail: support@digicom.it

SAFETY WARNINGS

Read these instructions and norms carefully before powering the device. Violation of such norms may be illegal and cause hazard situations.
For any of the described situations please refer to the specific instructions and norms.
The device is a low power radio transmitter and receiver. When it is ON, it sends and receives radio frequency (RF) signals.
The device produces magnetic fields. Do not place it next to magnetic supports such as floppy disks, tapes, etc.
Operating your device close to other electrical and electronic equipment - such as a television, phone, radio or a personal computer - may cause interferences.



INTERFERENCES

The device, like all other wireless devices, is subject to interferences that may reduce its performances.



ROAD SAFETY

Do not use your device while driving. In case of use on cars, you must check that the electronic equipment is shielded against RF signals. Do not place the device in the air bag deployment area.



AIRCRAFT SAFETY

Switch off your device when on board aircrafts by disconnecting the power supply and deactivating the internal backup battery. Using GSM devices on aircrafts is illegal.



HOSPITAL SAFETY

Do not use the device near health equipment, especially pacemakers and hearing aids, in order to avoid potential interferences. Take care when utilizing the device inside hospitals and medical centres, which make use of equipment that could be sensitive to external RF signals. Switch it off when use is expressly forbidden.



EXPLOSIVE MATERIALS

Do not use the device in refuelling points, near fuel or chemicals. Do not use the device where blasting is in progress. Observe restrictions and follow any specific regulation or instruction.



INSTRUCTIONS FOR USE

Do not use this device in direct contact with the human body and keep a minimum distance of 20 cm from it and from the antenna. Use approved accessories only. Consult the user's manual of eventual other equipment connected to this device. Do not connect incompatible products.

INFORMATION TO USERS

according to Art. 26 **"Information to Users" - Legislative Decree 14 March 2014, n. 49 "Actuation of the Directive 2012/19/UE on the waste of electrical and electronic devices (RAEE)."**



The symbol of a crossed waste container marked on the apparatus or on its package indicates that at the end of its useful life the product must be collected separately from other waste materials.

The user must therefore take the apparatus which has reached the end of its useful life to appropriate separate collection centres for electronic and electro-technical waste materials, or deliver it back to the reseller when purchasing a new apparatus of an equivalent type for a domestic unit, giving one piece in for one piece out, according to Art. 11, paragraph 3 of the above mentioned Legislative Decree.

Furthermore, as per Art.11, paragraph 3 of the above mentioned Legislative Decree it is possible, in the sale point, the free insertion of recyclable materials into appropriate receptacle, without any purchasing obligation for the very small size RAEE, coming from domestic units.

Suitable separate waste collection for then sending the cast-off apparatus for recycling, treatment and environmentally friendly disposal, contributes towards preventing any possible negative effects on the environment and on health and encourages recycling of the materials the apparatus is made up of. Unauthorised disposal of the product by the user will lead to payment of the administrative sanctions in force in the country where it is put on the market.

1. INTRODUCTION

Dear Customer, thanks for purchasing Look@BOX.

Look@BOX is an IoT sensor for elevator designed to be installed on the car top and it has the task of "capturing" accelerometric tracks.

Through specific algorithms it is able to identify for each elevator trip: up or down, travelling Time, Speed, traveled Distance, Blocks and unknown and abnormal Vibrations.
Look@BOX is able to send the accelerometric traces via FTP for additional analyzes.



1.1. PACKAGE CONTENT

- n.1 Look@BOX
- n.1 Switching power supply (IN: 100-240 Vac / 50-60Hz / 0.5A – OUT 12 Vdc / 1A)
- n.1 GSM Antenna with a 3 meters cable
- n.8 terminal block connectors
- n.1 Bracket for wall mounting
- n.2 Caps for bracket fixing
- n.1 User's Guide

1.2. TECHNICAL FEATURES

- GSM/GPRS/EDGE Quad-Band:
  - GSM 850 MHz – E-GSM 900 MHz – DCS 1800 MHz – PCS 1900 MHz
- GSM/GPRS Power Class:
  - Power Class 4 (33 dBm) for GSM/E-GSM bands
  - Power Class 1 (30 dBm) for DCS/PCS bands
- EDGE Power Class:
  - Power Class E2 (27 dBm) for GSM/E-GSM bands
  - Power Class E2 (26 dBm) for DCS/PCS bands
- Processor: ARM7 EJ-S @260Mhz
- 3 axis accelerometer
- Sampling frequency: 100Hz
- Tri-axial data storage of each trip (max 60sec)
- Data transfer via GPRS (every 10 trips)
- 4 Inputs (e.g. to detect opening and closing doors)
- Tri-color Status led indicator
- Bluetooth Interface
- Mini-SIM support
- Power: 12-24Vdc - 1A min
- Recharge battery backup (2xAAA)
- Operating Temperature: from 0°C to +45°C

1.3. MECHANICAL FEATURES

- 17 pins terminal block
- Plug-in SIM card (1,8V - 3V compatible)
- External GSM antenna on SMA/f connector
- Bracket for wall mounting
- Dimensions: 115 x 80 x 45 mm
- IP 30 protection

1.4. STATUS LED

Thanks to the STATUS led of Look@BOX you can check the different status:



LED	MODE	DESCRIPTION
Status	Off	Device turned OFF
	RED On	GSM Network Searching, SIM card not present, PIN not inserted
	RED Blinking	Low GSM Signal Level
	GREEN On	Device ready: Good GSM Signal Level
	GREEN Blinking	Data transfer in progress
	BLUE On	Saving data (trip in progress)

1.5. CONNECTORS PANEL



	CONNECTOR/PIN	DESCRIPTION
1...13	N.U.	For future use
14	[–] GND	GND
15	[+]	Output power
16	[+] (12-24Vcc)	Power supply
17	[–] GND	GND
A	Antenna	SMA / f connector for 2G external antenna
B	SIM	SIM holder
C	Switch	Switch to enable/disable internal battery

2. INSTALLATION

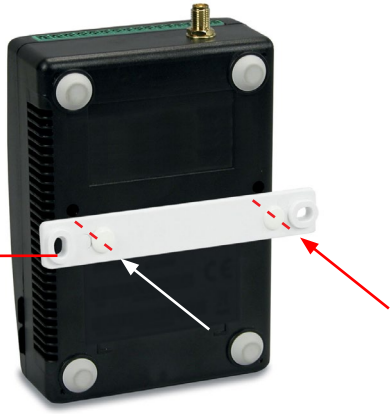
2.1. MECHANICAL INSTALLATION

Look@BOX must be fixed on the cabin roof in order to detect the vibrations of the cabin during the trips. For a correct installation is necessary to use the bracket fixing.



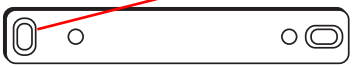
1. Place temporarily the bracket on the wall where you want to install the device and mark the **mounting points**.

2. Before fixing the bracket to the wall you need to plug it to the device using the **two fixing caps** supplied in the package.



3. Align the bracket on the back of the device in correspondence of the holes as shown in the picture.

NOTE: the left external hole must be in vertical position.

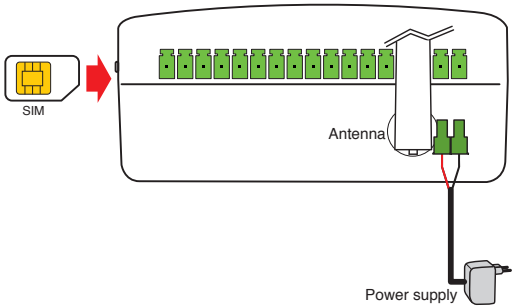




4. Insert the two caps by **pressing** them until you hear the click closing.

NOTE: for a correct installation please use size 5 screws (not included in the package).

2.2. INTERFACES CONNECTION



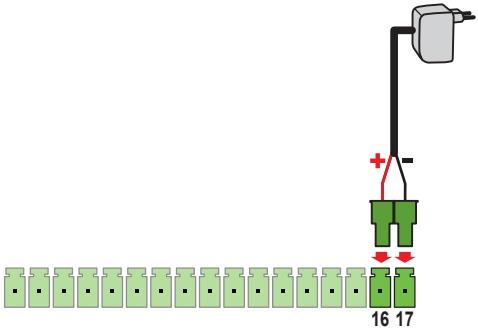
1. Connect the GSM antenna found in the package to the SMA connector.

ATTENTION: Apply the magnetic base of the antenna only on metal zone, without connection to earth. Please use eventually the metal support, find in the package, fixed it to the wall.

2. Insert the SIM Card into the SIM holder. Be sure the SIM is inserted in the correct way being careful of the SIM corner, so that the golden contacts are placed downwards.

3. Use only the power supply found in the package. **Use the 16 and 17 pins:**

Pin 16	+12Vdc	(red wire on the power supply)
Pin17	GND	



We suggest to use Digicom power supply for Look@BOX:

Switching power supply (IN: 100-240 Vac / 50-60Hz / 0,5A – OUT 12 Vdc / 1A)
USE ONLY A LIMITED POWER SOURCE (LPS) POWER SUPPLY, ACCORDING TO EN 60950-1 (2.5) REQUIREMENTS.

2.3. CHECK AFTER THE POWER ON

After fixing of Look@BOX on the car roof and after connecting the interfaces (antenna, SIM card, power supply) it is possible to switch ON the device.

Check that the **status LED is initially RED on steady**, then after a few minutes:

- **if RED On** = check that the SIM card is enabled and that the unlock PIN is not required
- **if RED Blinking** = move the antenna where the GSM signal is higher(*1)
- **if GREEN On** = device ready, good GSM signal

When the GREEN LED status is fixed ON the installation has been completed.
Now it is possible to proceed with the setup and then at least 10 trips in order to verify the correct transfer of the data to the server.

(*1) = Look@BOX checks the GSM signal and if necessary updates the led status approx. every 20 seconds.

2.4. BACKUP BATTERY

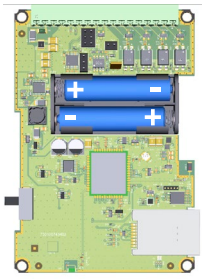
The backup battery is placed into the product.
Backup Battery features: 2 AAA NI-MH 1,2V – 600mAh rechargeable.
At the first power on, leave the device connected to the power supply for at least 20 hours for a correct and complete battery charging.

ATTENTION
Look@BOX is equipped with a built-in battery charger specifically for NI-MH batteries. The use of different batteries than those provided may damage the device or cause fire of the battery.

NOTE
The batteries must be replaced every 4 years.
Italian laws consider batteries as dangerous urban waste that must be disposed according to the law provisions in force (Italian DPR 915/82 and local provisions). Please check how the local laws consider the batteries.

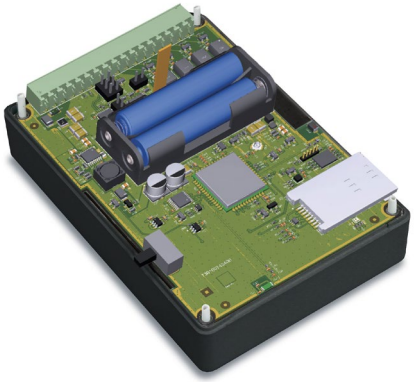
2.4.1. REMOVE THE BACKUP BATTERY

The replacement of battery must be carried out by qualified staff.
To remove the battery disconnect the device from the main power and exclude the battery moving the switch.



Open the device, removing the upper and lower cover: there are no screws, you need special tools.

Remove the batteries to be replaced paying attention to the battery holder, avoiding any damage to the electronic board.
Insert the new batteries **checking the right polarity**.
Close the battery holder and put the device back ON.



NOTE

NOTE

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