TECNOSICUREZZA
Locks & Security Systems

AmpliSec Lock

Installation instructions

Table of contents

Models and characteristics

Code	*Description*
T1031/I/01	Metal lock body, satin chrome in colour
NI187	Battery box, satin black in colour. Includes printed circuit (batteries not included).
N2324	Connector cable 45cm white/white
NI200	External BLE antenna

Accessories

Code	*Description*
NI202	Lithium 3.6V Battery Saft LS14500 Required quantity: 2 pcs for each lock
NI203	KIT MICROSWITCH NMC/3 + CABLES
NI204	KIT MICROSWITCH NMC/4 + CABLES

Electrical parameters

Parameter	*Value*
Product Name	Amplisec
Model Number	TIS0001
Frequency Band	2402-2480MHz
Output Power	9 dBm maximum 0 dBm typical

Certifications

The updated product certifications are available on the official websites of Tecnosicurezza:

www.tecnosicurezza.it

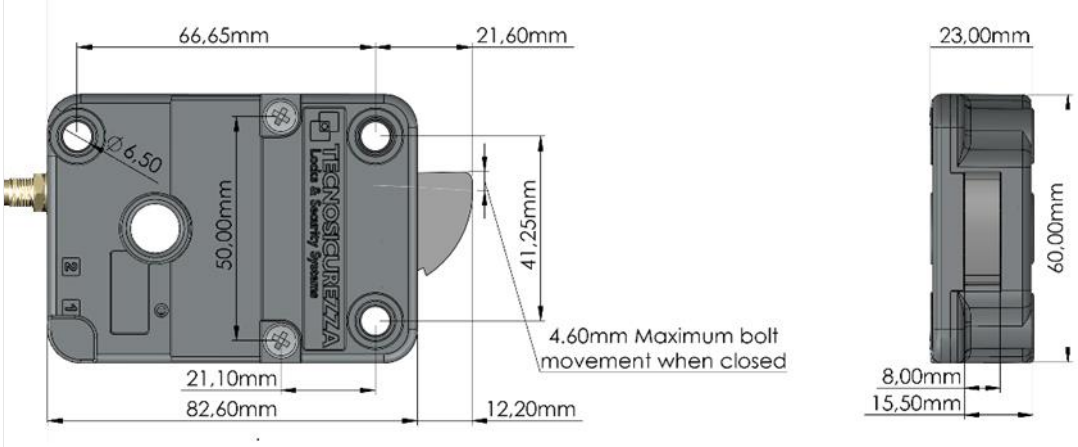
Important notes!

- Read and fully understand the installation and operating instructions before installing the product.
- The SwingBolt lock can be installed in all safes.
- The SwingBolt lock must be mounted on secure metal storage (preferably steel) units only.
- It is recommended to install the SwingBolt lock on doors away from any through holes to protect against external attacks.
- Electronic parts must be properly protected and not easily accessible even when the door is open.
- The operating conditions for the SwingBolt lock are between -5°C to + 50°C and in non-condensing humidity between 25% and 90%.
- Standard mounting dimensions (magic module).
- Use the screws provided by Tecnosicurezza to install the lock. Any other screw must be approved in advance.
- The SwingBolt lock is supplied with metric (M6) mounting screws. However, ¼”-20 UNC mounting screws are available upon request.
- The type of material and the length of screws must be selected to guarantee reliability and long life.
- Tighten the screws to a torque of between 2,5 and 5,5 Nm.
- The mounting surface must be perfectly flat.

- To prevent the screws from loosening, it is recommended the use of LOCTITE® thread-lock and/or washers positioned under the head of the screw.
- Do not lubricate the SwingBolt lock.
- The distance between the bolt and the boltwork must be approximately 1mm.
- Components to be fixed to the lock bolt must be previously approved by Tecnosicurezza before installation.
- The maximum load on the SwingBolt must not exceed 1KN for TIS0001.
- All cables must be secured away from moving parts by using cable ties.
- The lock will not require any maintenance in normal domestic or office environments. However, after 10,000 opening/closing cycles, it is recommended to test and ensure the correct and complete operation of the product.
- Use only SAFT™ 3.6 Volt Lithium thionyl chloride (Li-SoCl2) batteries (2pcs required for each lock), both batteries must be replaced at the same time.
- Emergency Battery Instructions
    - **Use DURACELL™ 9 Volt Alkaline batteries.**
    - **Install the emergency connector outside the safe** so it is easily accessible even when the door is close, as it is the only direct access to the lock in case of failure.
    - **Connect the emergency battery only in case of a lock malfunction.** During normal use the battery should remain disconnected.
    - **Protect the 9V connector** from accidental contact with metallic objects.
- Batteries must be replaced as soon as the App indicates a low battery level.
- To clean, use a damp cloth. Do not use any chemical, abrasive or alcohol-based cleaning agents.
- Do not spray liquid directly onto the components.
- The battery pack is equipped with supercapacitors that improve the durability and efficiency performance of the batteries. Removing the batteries will not result in the lock shutting down, and its power supply can last for hours. To perform a complete restart of the lock, it is necessary to disconnect the N2324 cable.

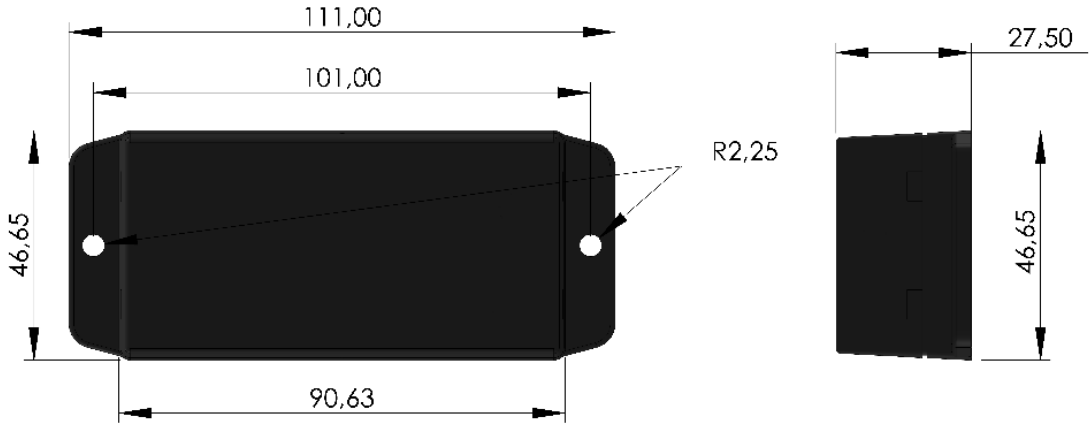
SwingBolt lock dimensions

TIS0001



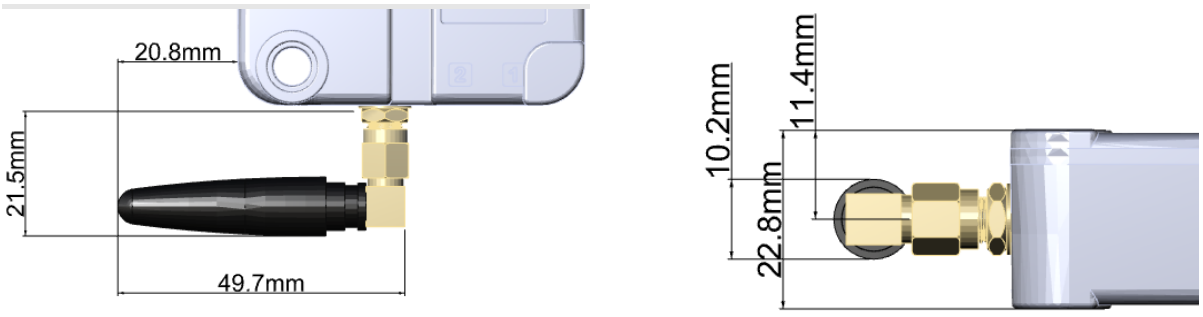
Battery box dimensions

TIK0002



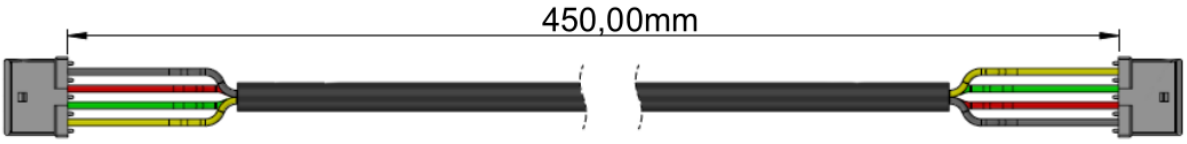
Antenna dimensions

NI200



Cable dimensions

N2324



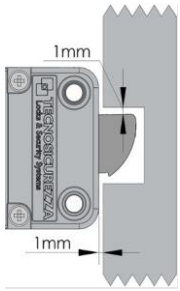
SwingBolt lock installation instructions

The SwingBolt lock can be mounted in all four directions even upside down.

The lock can only be unlocked through the mobile application, following authentication, and remains active for 4 seconds, allowing the safe to be opened.

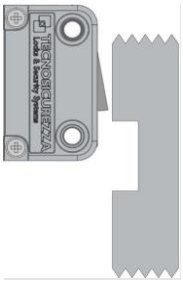
The bolt automatically locks when the safe handle, or the safe door mechanism, is moved to the locked position.

If the SwingBolt lock is used in conjunction with other locks, the safe door mechanism must ensure that the SwingBolt closes before the other locks.



When locked the distance between the bolt and the framework should be approximately 1mm.

The bolt must be able to move freely without force being applied to it.



The maximum load applied to the bolt must not exceed 1 KN. Contact Tecnosicurezza in case of heavier loads.

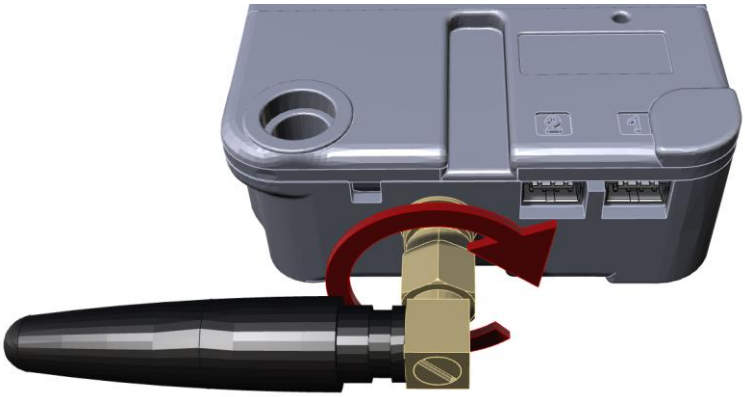
Installation procedure

The following procedure must be undertaken by a qualified competent person using the appropriate personal protective equipment (PPE).

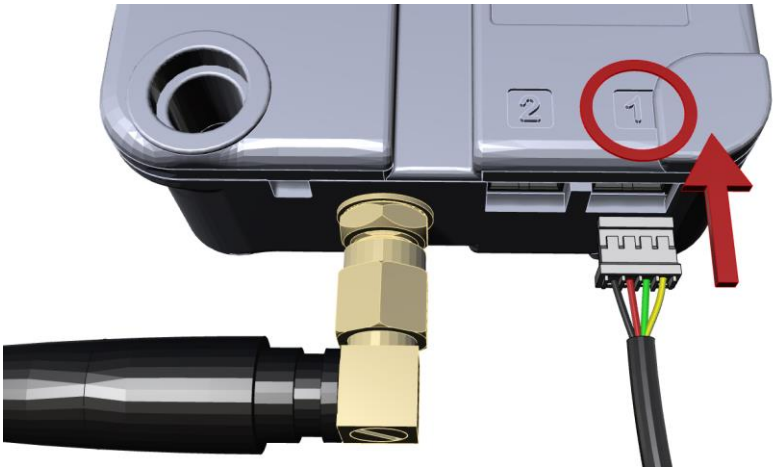
1. Follow the instructions provided and place the lock in its designated position.

2. Position the battery box close enough to the lock so that the N2324 cable reaches and ensure that it is securely fastened so that it does not vibrate during the door's opening.

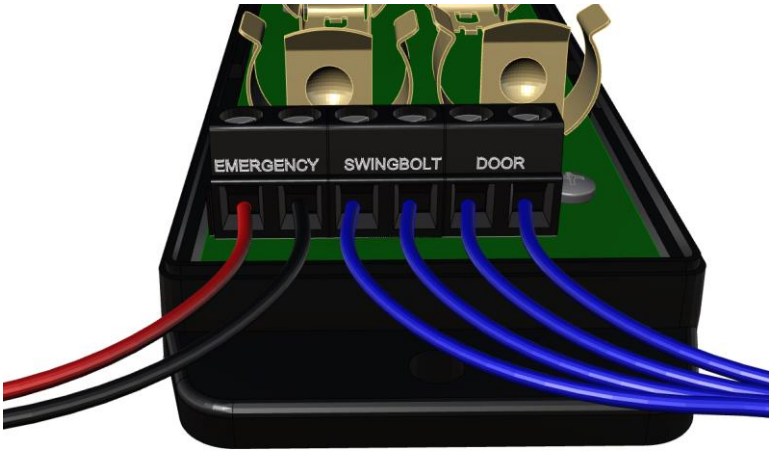
3. Connect the NI200 antenna to the SMA connector and fully tightened. To prevent the antenna from loosening, it is recommended the use of LOCTITE® thread-lock.



4. Connect the N2324 cable to the lock using port N.1 as shown in the picture.



5. Using the terminal block, connect the external 9V battery holder and the two switches for the door and SwingBolt. Verify that the wires are securely fastened in the terminal block, then secure the cables with cable ties in a position that does not interfere with the safe's mechanical movement.



6. The "DOOR" push-button switch must be positioned inside the door in such a way as to monitor its status (closed/open), while the BOLTWORK level switch must monitor the rotation status of the external handle. Each safe may have pre-existing provisions for housing the switches. If not, it is necessary to identify the most suitable position for installing the switches, ensuring they do not interfere with the normal mechanical operation. It is recommended to place the switches in a position where both are pressed when the safe is closed and secured.

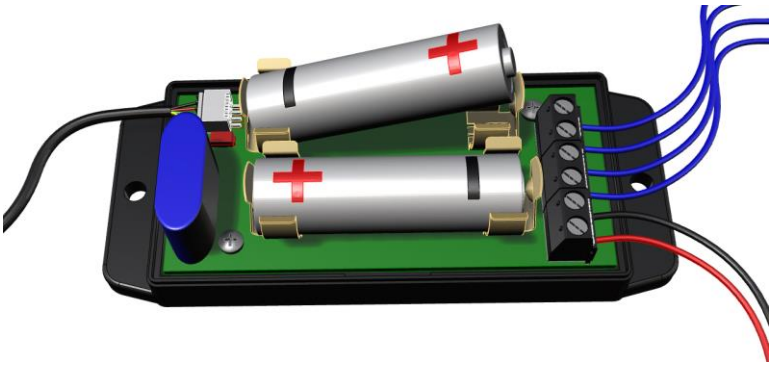
7. Ensure that the 9V battery holder cable is correctly attached to the terminal block. The red V+ wire should be placed on EM-P, and the black wire on GND. The 9V battery holder must be positioned outside the safe and insulated to prevent the terminals from short-circuiting.

IMPORTANT NOTE:

- In case of a low battery emergency status, it is possible to connect a 9V battery to this connector to power the lock.
- In case of generic malfunction, perform a hardware reset by briefly creating a short-circuit between the two connectors (the device will NOT be reset to factory mode, just rebooted).
- The recovery operations (i.e., connecting the battery and hardware restart) must be carried out exclusively by a certified installer. Incorrect handling could cause irreversible damage to the lock.

8. Connect the opposite end of the N2324 cable to the battery pack, as shown in the picture.

9. Once all connections are completed, insert the batteries while ensuring the polarity is correct. 3.6V lithium batteries (Li-SoCL$_2$ technology) are to be used.



IMPORTANT NOTE:

1. To remove power from the lock, disconnect the N2324 connector from either the lock or the battery pack.
2. Removing the batteries will not remove the power because the capacitors will power the lock for some time.

10. Close the battery cover, ensuring the cables pass through the designated slots.

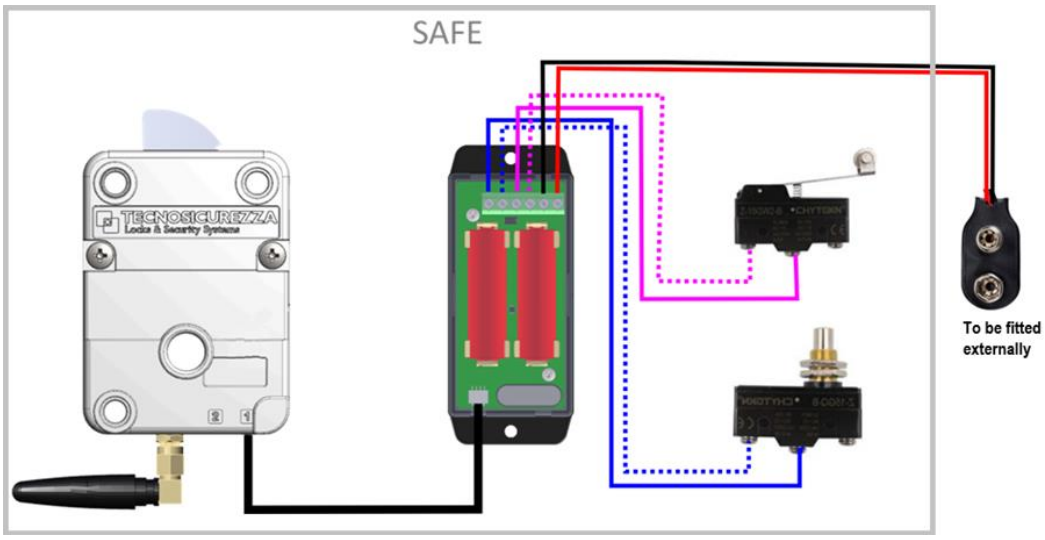
ATTENTION:

1. **DO NOT CLOSE THE SAFE**. Initialise the device and perform the test as described in the Functional tests chapter.

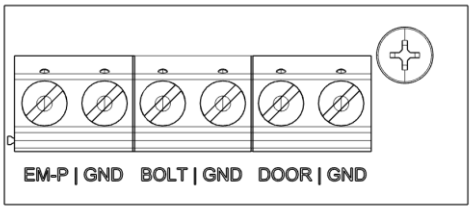
2. After registering the lock on the mobile device and completing all tests, a specific test must be performed to verify the correct connection of the 9V emergency connector. To properly execute the test, remove the two 3.6V AA batteries and connect the 9V battery to the emergency connector. Since the lock can use the residual energy from the capacitors to unlock, it is mandatory to test the lock opening at least 5 times. Ensure that the lock opens successfully all 5 times.

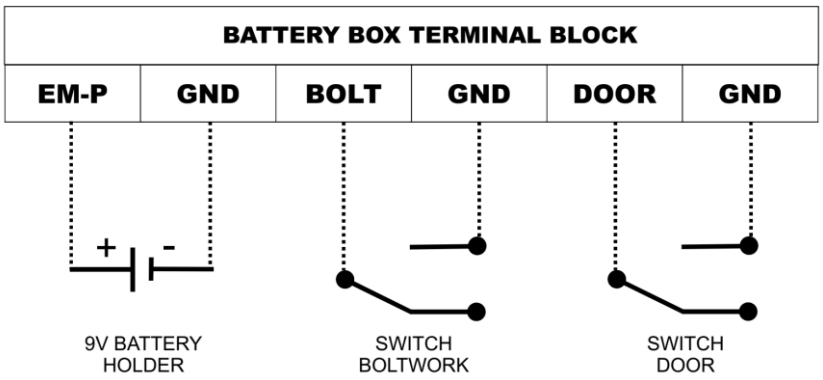
Connection example

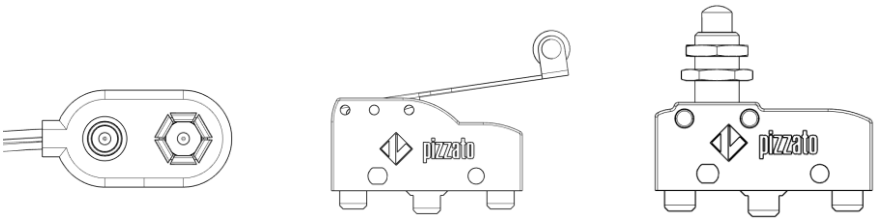
- Lock connected to the switches (DOOR/BOLTWORK) and the 9V battery emergency connector via battery box.
- Connect the two microswitches (for the door and the swingbolt) so that both are configured to provide a closed contact signal when the safe is locked. For example, if both microswitches are made when the safe is closed, connect the terminals to the Normally Open (NO) contacts.
- I/O Interface connection example



- Schematic diagram







NI205 **NI203** **NI204**

Functional tests

The following functional test is to be undertaken with the door open with reference to the Gunnebo iQ User Manual:

- The AmpliSec lock / device must be added to the Gunnebo iQ.
- The AmpliSec lock / device will need to be added to a site and group on the Gunnebo iQ.
- The user must be added to the Gunnebo iQ and they must have downloaded the GSS Access App onto their mobile device.
- Create the “Initialisation Work Order” (see Gunnebo iQ User Manual).
- The user must open the GSS Access App and initialise the AmpliSec lock.
- Create the “Access Work Order” (see Gunnebo iQ User Manual).
- The user must open the GSS Access App, select the “Access Work Order”.
    - Before selecting “Unlock” on the “Work Order” ensure the bolt does not move.
    - Select “Unlock”, ensure an audible click is heard, wait four seconds and ensure an audible click is heard again, and ensure the bolt does not move.
    - Select “Unlock”, ensure an audible click is heard, verify that the bolt moves fully to its open position, and keep it in that position for four seconds.
    - Release the bolt, it should move to the closed position. Then, ensure the bolt does not move.

LED Indications

The device is equipped with a service LED that provides visual feedback only during installation, initialization, and software update phases.

During normal operation, the LED remains off in order to minimize battery consumption.

The following table summarizes the LED behaviors and their meaning:

Phase	Device status	Led indication
Normal operation	Device running / No batteries inserted	Off
Initialization	In progress	Short blink about every half second
	Failed	Solid light for about 3 seconds
	Completed successfully	Short blink about every second for about 5 seconds
Software update (OTA)	In progress	Short blink about every half second
	Failed	Solid light for about 3 seconds
	Completed successfully	Short blink about every second for about 5 seconds
Pre-initialization (within 5 min after battery insertion)	One of the switches detected in non-default position	Solid light for about 2 seconds

NOTES

Correct disposal of this product:
(Waste Electrical & Electronic Equipment)

Applicable in the European Union and other European countries with separate collection systems.

This marking displayed on the product, or its literature indicates that it should not be disposed with other wastes at the end of its working life.
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

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