
HOTEL CARD LOCK

ALV3M Series

< Type ALV3MA/ALV3M, V3HTMA/V3HTM >

Operation and maintenance manual

Ver. 1.0

June 22, 2021

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1. Functional overview

The separate type hotel card lock ALV3MA/ALV3M, V3HTMA/V3HTM is a Hotel card lock that allows the card(contactless IC card "Mifare®") issued by the dedicated card issuing system to be used as keys. The V3HTMA / V3HTM is equipped with a BLE module and can also use a smartphone (guest mobile) with key data registered as a key.

This equipment mainly consists of a card reader for communicating with a card/smartphone, LEDs for displaying the authentication result and communication status, an infrared (IrDA) sensor for communicating with the DTU (Data Transfer Unit) for making various settings of this equipment, a door lever for opening and closing doors, a lock front section, and an escutcheon (key seat), thumb turn for double lock operation, and has various functions corresponding to the key data read from the card and smartphone.

<How to operate smartphone (guest mobile)>

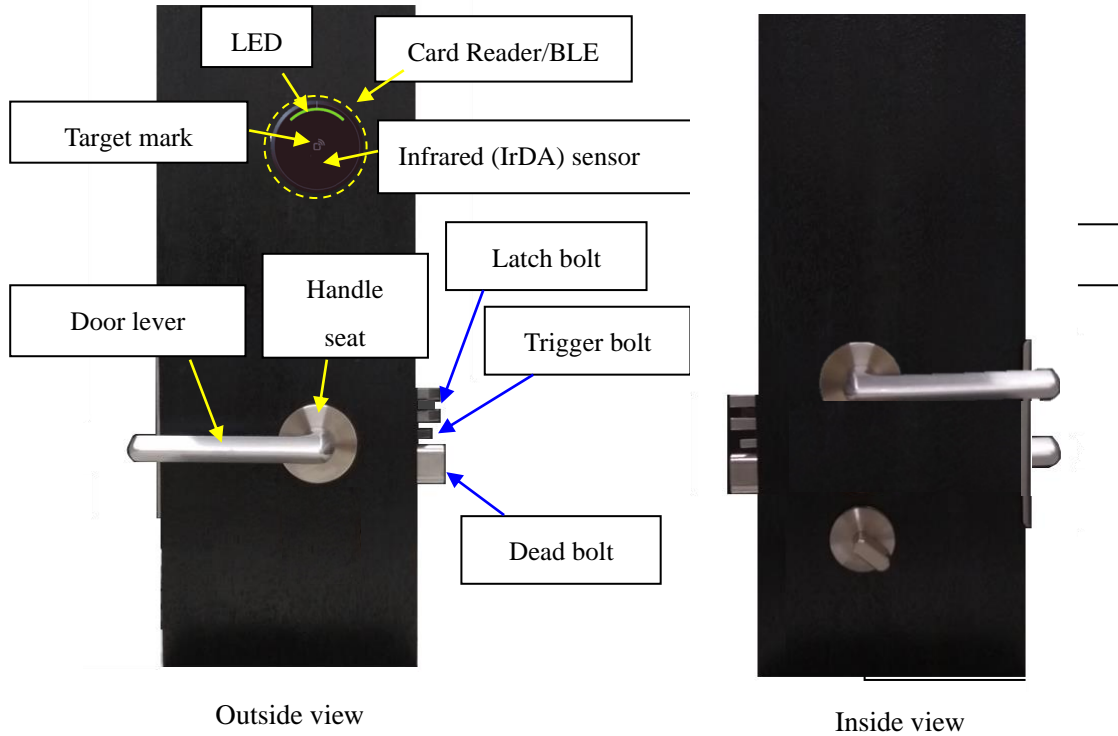
When using a smartphone in V3HTMA/V3HTM, start a dedicated application with BLE communication enabled, tap the "Unlock" button, and hold the smartphone over it. ※1

The operation method is subject to change without notice for the purpose of improving convenience and security.

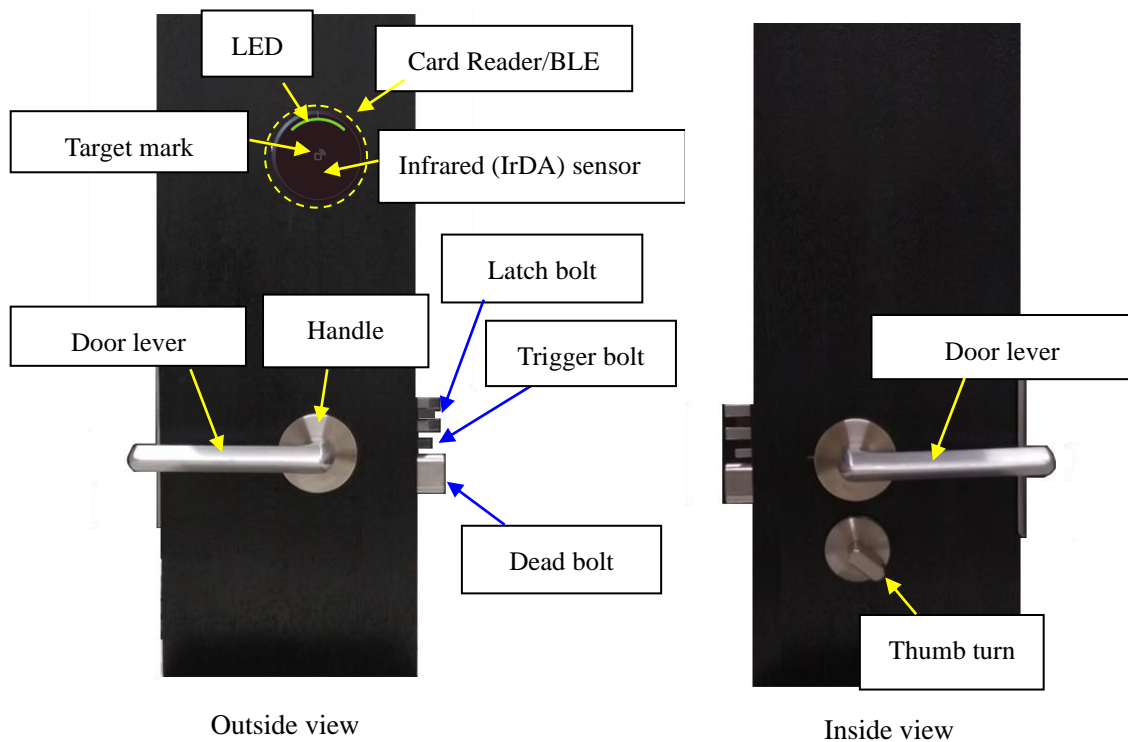
※ 1:The operation method may differ depending on the smartphone app used.

1.1 Appearance and Names of Parts

■ type ALV3MA/V3HTMA



■ type ALV3M/V3HTM



1.2 Mechanism

(1) Lock mechanism

There are two modes. The setting is performed by the DTU (Data Transfer Unit).

- Non-latch mode... Auto lock mode (Normal use)

When unlocking a lock with the card and smartphone, a lock is automatically locked up after the specified unlock time elapses. The door can be opened/closed freely within the unlock time. Also, when the door is opened and then closed, the door is automatically locked up after the unlock time elapses.

- Latch mode.....Repeat unlocking mode(Special use)

Continuous unlocking and locking are repeated for each valid card and smartphone operation.

(2) Double-locked lock mechanism

For ALV3M/V3HTM, use dead bolt to protect customer privacy

- Turn a thumb turn in the room to push out the dead bolt and double lock the door. Double locked state is not unlocked except for emergency card (emergency unlocking).
- When non-unlockable card and smartphone is used during the double locked state, the verification NG lamp (red LED) flashes.
- Even in the double-lock state, you can unlock with the emergency card. (Dead Bolt Override Function)

Otherwise, you can select the operation mode by setting the card.

For ALV3MA/V3HTMA, the dead bolt will be protruded automatically when the door is closed, but it will not be in the double-lock state. (Auto Dead Bolt Function)

When the thumb turn is operated, the unit enters the double lock state.

(3) Anti-panic mechanism

- Even in the locked state, unlock from the indoor side only with the door lever operation.
- Even in the double lock state, the dead bolt is pulled in by operating the door lever to unlock.

1.3 Functional overview

(1) Data verification function

- The card lock is unlocked only when the data (property code, room number, time, etc.) set in advance by the DTU and the key data (property code, room number, shelf life, etc.) read from the card and smartphone are verified and determined to be valid.
- When a valid card is holden on the card reader (target mark), the LED on the top of the card reader lights up in green and unlocks.
If the key data is judged invalid, the LED lights in red and does not unlock.
- When you hold a valid smartphone over the card reader (target mark), the LED on the top of the card reader flashes orange and then lights green to unlock.
If the key data is determined to be invalid, the LED flashes in orange and then lights in red and does not unlock.
If the room number is different, the LED flashes in red and verification isn't performed.
- If reissued and newly issued valid card and smartphones are used, the card and smartphone that were previously available cannot be used. As a result, prevents unauthorized use of missing card and smartphones

(2) Usage history function

- Record up to 600 unlock operations using the card and smartphone, and operation history using the DTU from the new date and time.
When the number exceeds 600, the oldest data is overwritten.
- Up to 100 unlock operations with verification error are recorded in newest to oldest order.
When the history data exceeds 100, it is overwritten in oldest to newest order.

(3) Power source

- Uses four AA alkaline batteries, and the battery life is about one and half years (when used 10 times a day).
- When master card/ sub-master card/ master lock-out card/ housekeeping lock-out card/ cancel card/ daylight saving card/ is used, you can detect low remaining battery level by using LED and buzzer (low battery detect function).

(4)LED/ buzzer

- Notifies the user of card verification result and lock state with LED and buzzer.

The main states are listed below.

- Buzzer ON/OFF can be changed based on the setting.

Status	LED	Buzzer	
		Sound	Initial Settings
Card/smartphone verification OK (other than DTU card)	Lit green	Beep	OFF
Card/smartphone verification NG DTU card verification OK	Lit Red Lit orange	Beep beep Beep	
Battery LOW Detection (When using MS/SMS)	Flashed green	Beep, beep, beep	ON
Battery END detection	Flashed Red	Beep, beep, beep	ON
Non ALV3 card detected	Flashed Red	None	—
Smartphone communication in progress	Flashed orange	None	—
DTU communication in progress	Flashed orange	None	—

※If battery LOW is detected, replace all batteries with identical new ones within approximately 3 days. Continued use will cause the battery to become END, and you will not be able to unlock with a valid card or smartphone.

※If a battery END is detected, use an external power supply device to unlock with a valid card key.

(5)Other functions

- IrDA communication (infrared communication) function

Uses a portable terminal, known as DTU (Data Transfer Unit), to write/check the card lock setting data and check the usage history data.

For communicating with DTU, the IrDA communication (infrared communication) function is used.

※DTU is an abbreviation for Data Transfer Unit.

- Flash memory

Lock data is stored in the flash memory, so the data is held even when the battery runs out.

- Connection terminal of auxiliary power supply (For no cylinder setting)

Power can be supplied externally when the battery runs out.

- Time hold function

Clock in a lock runs for 5min during a battery exchange.

※Complete battery exchange within 5 minutes.

2 How to operate

2.1 General operation

(1) Card unlock operation

Hold the card over the card reader to unlock.

The usage history is recorded in any of the verification OK/NG.

① Hold the center of the card over the target mark on the card reader until the LED lights.

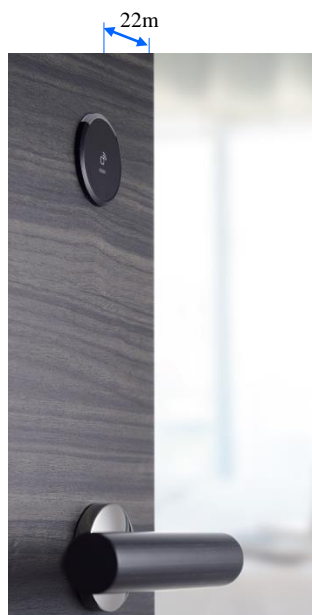
NOTE) Do not remove the card until the LED lights.

② When the valid card, the LED will light green and unlock.

Operate the door lever while the LED is lit to open the door.

When the preset unlocking time has elapsed, the card lock is automatically activated. (Default: 5 sec.)

③ When the invalid card, the LED lights red or flashes red and does not unlock.



To the reader and card for detection distance
approx. 22mm at centering

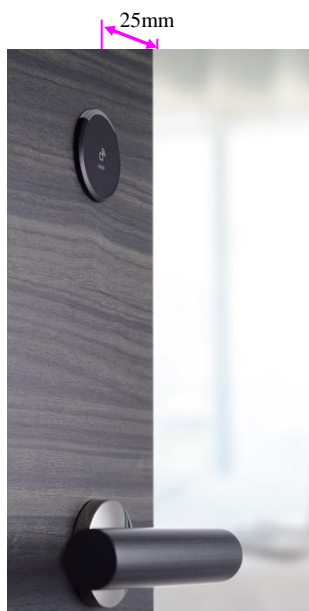
※ Bringing a hand, metal, or other object that carries electricity close to the card reader part may cause the LED to flash in red four times.

(2) Smartphone unlock (V3HTMA/V3HTM only)

Hold your smartphone over the card reader to unlock it.

The usage history is recorded in any of the verification OK/NG.

- ① Launch the special app and hold the smartphone on the target mark of the card reader until the LED flashes orange within 30 seconds after tapping the "unlock" button on the accommodation information display screen.
- ② If it is a valid smartphone, the LED will flash orange, then turn solid green and unlock.
Operate the door lever while the LED is lit to open the door.
When the preset unlocking time has elapsed, the door is automatically locked. (Default: 5 sec.)
- ③ For invalid smartphone, the LED lights red or flashes red and the card lock does not unlock after flashing orange.
- ④ For smartphone with an invalid room number, the LED flashes red and the card lock does not unlock.



The detection distance is approximately 25mm
from the center of the reader.

※ Bringing a hand, metal, or other object that carries electricity close to the card lock reading part may cause the LED to flash in red four times.

2.2 In case of emergency

- Unlock using an emergency card.

The card lock can be unlocked even when the unit is in the double-lock state.

- When unlocked with the emergency card, it is continuously unlocked. During this time, the LED lights in green continuously.
- The continuous unlocking state of the emergency card is released by the dead bolt operation with the thumb turn or release operation with DTU, and the normal state is restored.

※ During continuous unlocking of Emergency Card batteries, the batteries will be severely depleted, and should be released promptly after use.

After the release operation, confirm that the LED turns off and locks (the indoor handle is fixed).

2.3 When card is lost

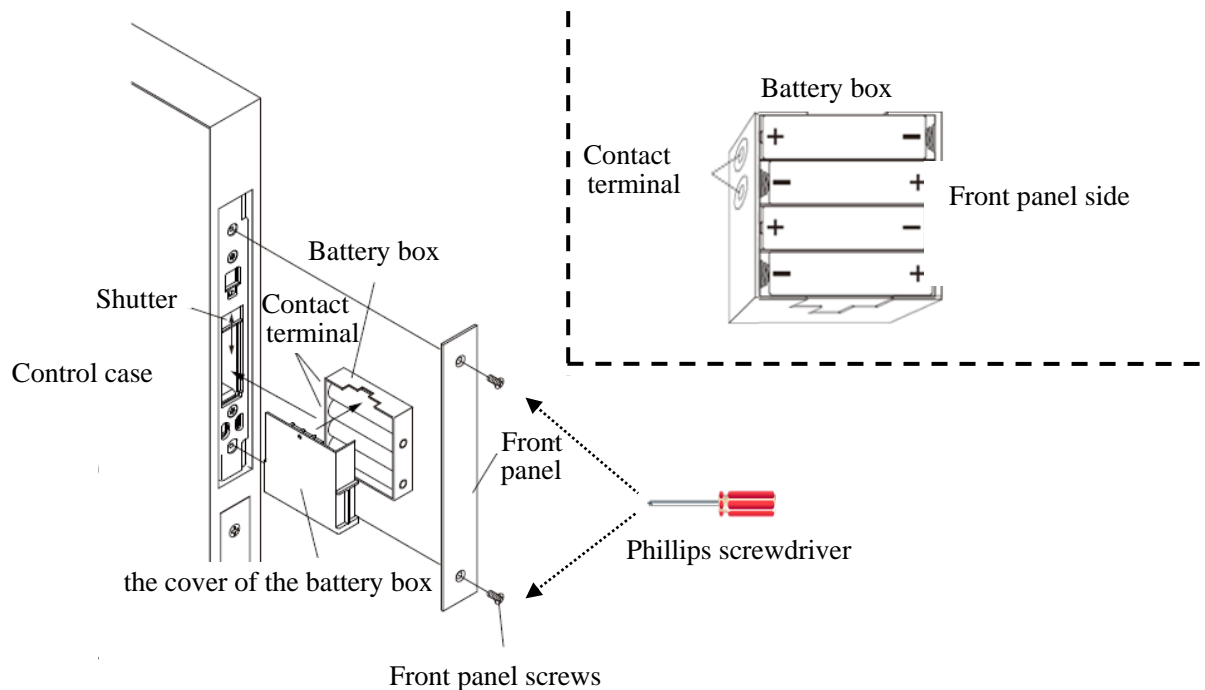
In the unlikely event that the card is lost, take the following actions:

Card type	Action
Emergency card Master card Housekeeping lockout card Master lockout card Cancel card Daylight Saving Card	Hold the newly issued valid card of the same type over all card locks in the hotel. Holding the Emergency Card will result in continuous unlocking state. Be sure to perform thumb turn operation or DTU operation to cancel continuous unlocking state.
Submaster card	Hold a newly issued valid card over all card locks at the applicable level.
Guest Card Multi-guest card One-shot card Standby Card Guest Mobile (Smartphone) Passage card (continuous unlock card)	Hold a newly issued valid card over the card lock in the applicable room. When a second room is set for the guest card and the smartphone, hold the card over the lock in the appropriate second room as well.

3 Periodic maintenance

3.1 Battery replacement

- (1) Use a Phillips screwdriver to remove the front panel of the control case side.
- (2) Raise the shutter and remove the battery box.
- (3) Open the cover of the battery box, remove all batteries, and replace them with new batteries of the same type. At that time, be sure to check the polarity (+/-) of the battery.
- (4) Close the cover of the battery box, raise the shutter and push the battery box into the control case after the contact terminal side of the battery box is turned toward the control case.
- (5) Confirm that the shutter has fallen and use a Phillips screwdriver to attach the front panel.



※ Precautions

- Complete battery replacement within 5 minutes.
- Do not mix old and new batteries or mix batteries of different manufacturers as this may cause leakage or ignition.
- Be careful not to reverse-insert the battery.
Incorrect orientation of the battery may cause operation failure, battery leakage, symptom battery depletion, etc.
(Check the direction of + and - thoroughly.)
- Dispose of used batteries according to local regulations.

3.2 Confirmation of locking, door lever, and construction status

※Check the operation with the door opened first to prevent the lockout from the room.

(1)Check with the door open

(a)Is the outdoor handle fixed and locked.

(b)Can the dead bolt be moved in and out by the thumb-turn operation.

(V3MA and V3HTMA with auto specifications of dead bolt function are excluded)

(c)Is the latch bolt retracted by the indoor handle operation.

(d)Is it possible to carry out indoor handle operation with dead bolt protruding and pull in dead bolt and latch bolt at the same time.

(2)Operation check when closing the door

(A) Is latching (the latch bolt enters the strike while sliding in, and protrudes in the strike) possible.

(3)Operation check with door closed

(i)Does it not open even if the door is pressed in a locked state.

(ii)Is the same operation as checks (a) to (d) with the door open.

3.3 Card authentication and operation check

※Check the operation with the door opened first to prevent the lockout from the room.

(1) Is it possible to unlock by holding the construction card or the master card when it is in operation and the LED lights up in green.

(2)After unlocking, does the LED turn off and lock after the set time elapse.

(3)Does the LED of the card lock light up in green and is it in a continuous unlocking state by holding the emergency card over the card lock during management of the hotel card lock system.

If the LED lights in red or flashes in red, start over the procedure.

3.4 Smartphone authentication and operation Check (V3HTMA/V3HTM only)

※Check the operation with the door opened first to prevent the lockout from the room.

(1) Does the card lock light up in green on the LED and unlock after the smartphone is held over the card lock and the LED flashes yellow.

(2)After unlocking, does the LED turn off and lock after the set time elapse.

If the LED lights in red or flashes in red, start over the procedure.

4 Compliance statement

4.1 USA-Federal Communications Commission (FCC)

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This unit complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This unit may not cause harmful interference, and
- (2) This unit must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.

• Responsible Party – U.S. Contact Information

MIWA LOCK CO.,LTD. USA Office

9272 Jeronimo Road, Suite 119, Irvine, CA 92618

Telephone : 1-949-328-5280 / FAX : 1-949-328-5281

4.2 Innovation, Science and Economic Development Canada (ISED)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules as this equipment has very low levels of RF energy.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE puisque cet appareil a un niveau très bas d'énergie RF.