

1. Overview

This product is an electric steering lock with Handsfree-System designed to prevent theft.

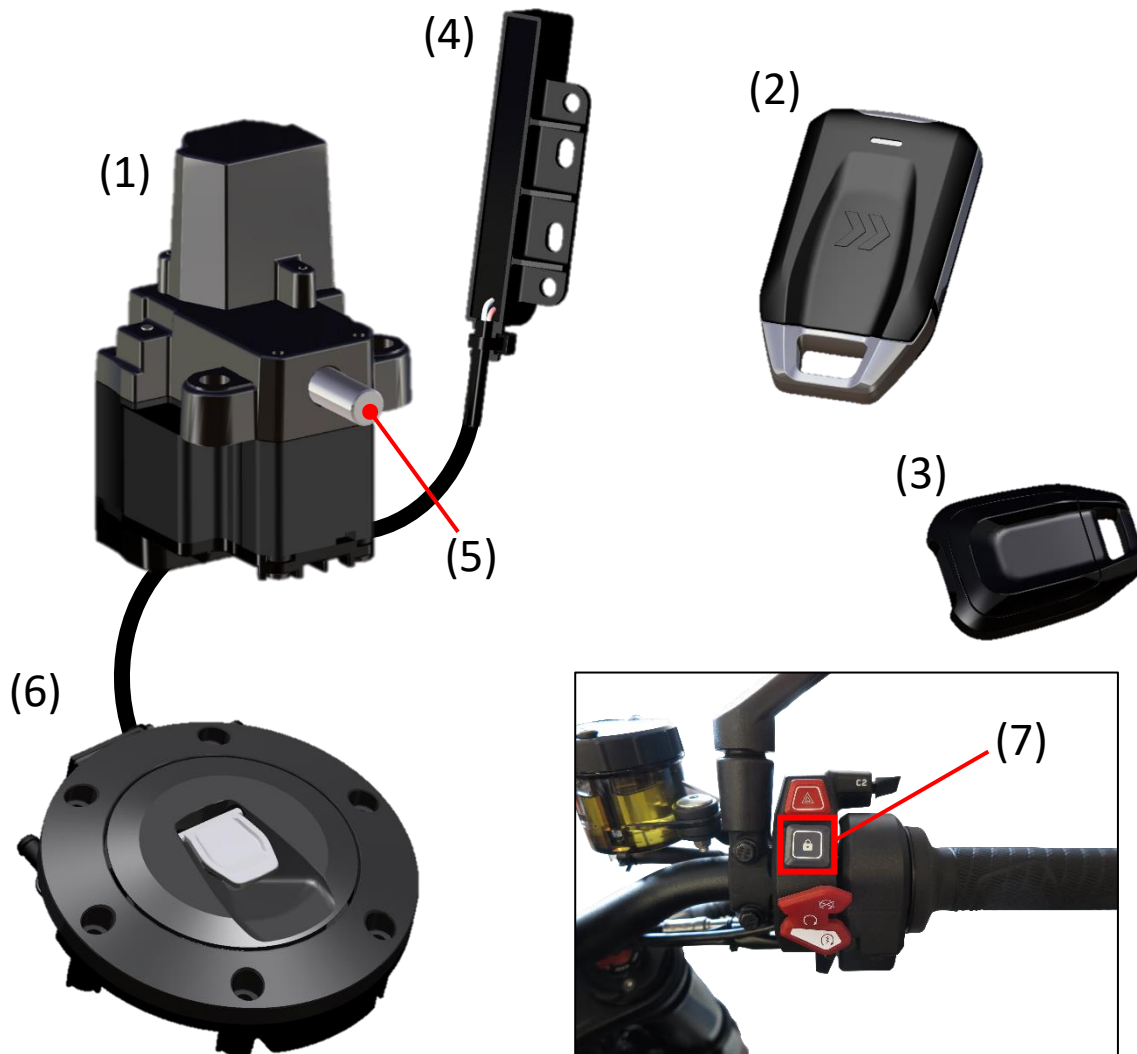
The system is composed of:

- The steering lock referred to as Main Unit (1), which provides the following functions:
 - User recognizer, by means of an Active Transponder (2) or a Passive Transponder (3).
 - Lock and Unlock of the steering, by moving the Lock bar (5).
 - Enable and disable of the ignition of the bike.
- The smart key referred to as Active Transponder (2). It can also be used as an RFID transponder.
- The RFID transponder referred to as Passive Transponder (3).
- Antenna Unit (4)

The Handsfree-System combines the transponder functionality (LF: Low Frequency) and the radio controller transmission (RF: Radio Frequency) to recognize the right user of the motorcycle.

The Handsfree-System can manage the Fuel Tank Cap (6)'s open/close state.

The system is integrated in CAN bus for all data transfer with the other electronic units on the motorcycle.



1.1. Key ON (Unlocking of the steering)

1.1.1. Active Transponder

User recognition with the active transponder (2) is performed as described below:

- A. Press the Lock-Unlock-Button (7) on the handlebar of the motorcycle less than 1.5 second.
- B. The Main unit (1) requires the transponder (2) for a radio frequency identification with an LF signal transmitted by the Antenna Unit (4).
- C. If the active transponder (2) is within a range of 1.5 m from the vehicle and the battery is adequately charged, replies to the Main unit (1) and starts authentication.
- D. After successful authentication, when unlocked state of Lock bar(5) is confirmed, T15 is turned ON and the engine can be started.

1.1.2. Passive Transponder

User recognition with the passive transponder (3) is performed as described below:

- A. Press the Lock-Unlock-Button (7) on the handlebar of the motorcycle less than 1.5 second.
- B. If the passive transponder (3) is within a range of 3 cm from the Antenna Unit (4), replies to the Main unit (1) and starts authentication.
- C. After successful authentication, when unlocked state of Lock bar(5) is confirmed, T15 is turned ON and the engine can be started.

1.2. Key OFF

When the motorcycle speed is below 3 km/h, Key OFF is initiated by pressing Lock-Unlock-Button (7) on the handlebar.

Neither active transponder (2) nor passive transponder (3) are required for Key OFF

1.3. Lock of the steering

To lock the steering lock:

Stop the motorcycle, then put it on the side stand and steer the handlebar rightward or leftward to the lockable position.

Hold down the Lock-Unlock-Button (7) and hold it depressed for more than 2 second or more.

Then the Steering lock will be locked (the Lock bar of the system (5) comes out).

Neither active transponder (2) nor passive transponder (3) are required for Key OFF

Note: In case of failed locking of the steering lock, the signal LED will blink 4 times.

1.4. Fuel tank cap management

After successful key authentication with either 1.1.1 or 1.1.2, the fuel tank cap (6) can be opened.

1.5. Replacing the battery in the Active transponder



[Important]

Take special care (A) when removing the key battery.

This symbol (B) warns the user about important use and maintenance instructions contained inside the documents provided with the equipment.

[Warnings / Caution]

Risk of battery leakage, heat generation, and explosion

- Do not expose the key to high temperatures, such as on the dashboard, and under direct sunlight.
- Do not mechanically crush or cut the key.

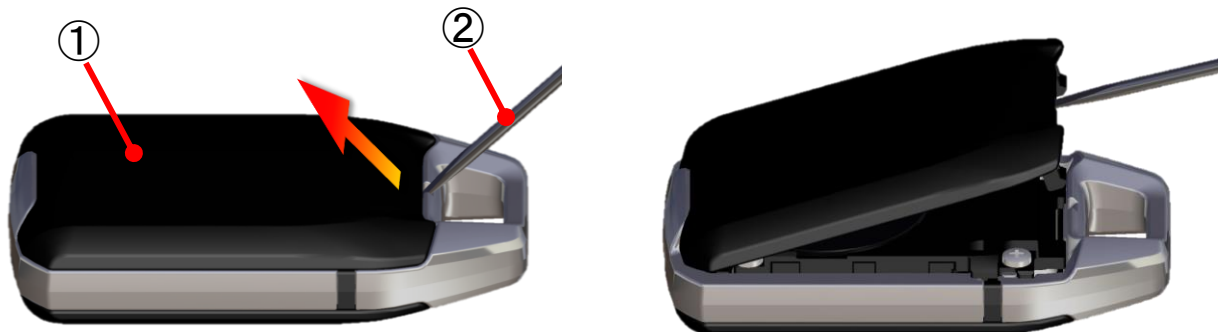
Risk of explosion if the battery is replaced by an incorrect type

- Always use only the same or an equivalent type of CR2032 3.0 [V] coin batteries.

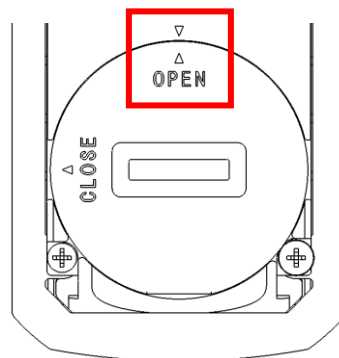
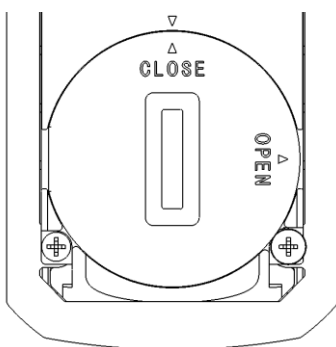
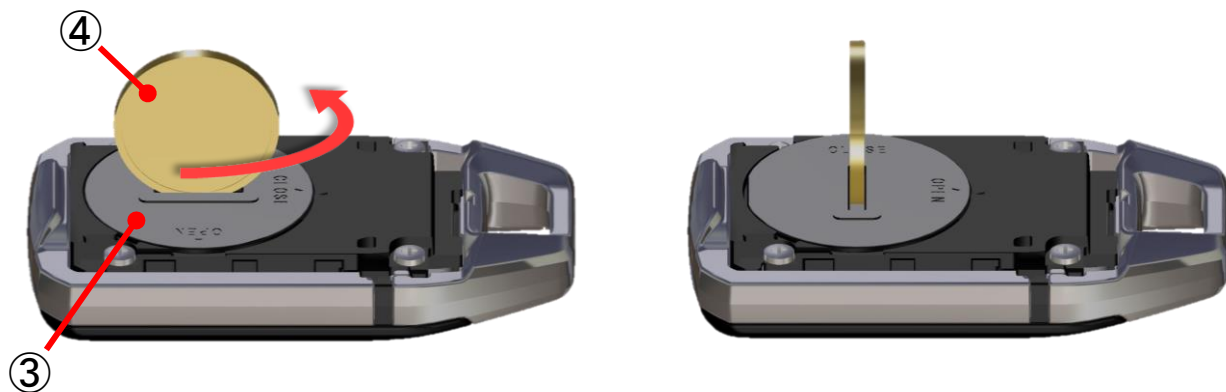
Do not include a coin battery in your mouth. There is a risk of burns from chemical substances.

- This product contains a coin battery.
- If coin batteries are accidentally ingested, chemical burns, penetration of mucosal tissue, etc. or in the worst case, death may result in just 2 hours.
- Keep new and used batteries away from children.
- If the battery cover does not close securely, stop using the product and keep it away from children.
- If you suspect that a battery is might have been swallowed or placed inside any part of the body, seek immediate medical attention.

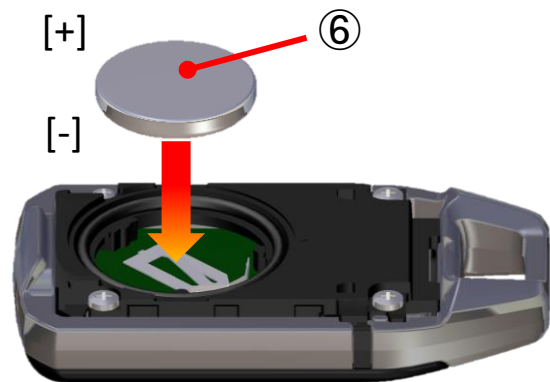
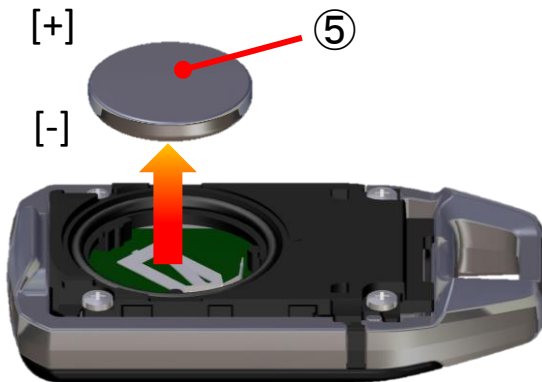
1. Insert ② "screwdriver" into the dent of ① "Rear plastic cover".
Raise the inserted ② "screwdriver" in the direction of the arrow and remove ① "Rear plastic cover".



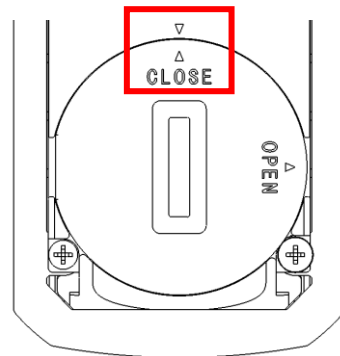
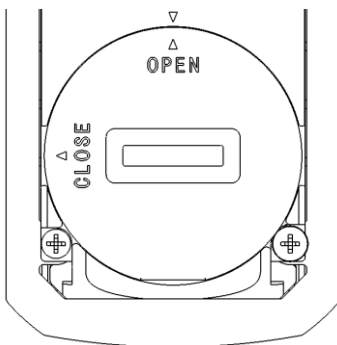
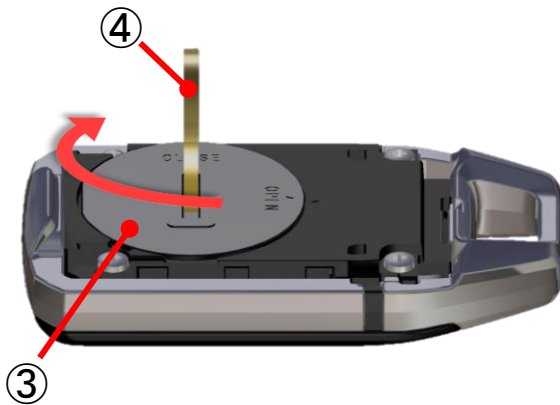
2. Insert ④ "Coin" into the dent in ③ "Coin battery cover", turn 90 degrees counterclockwise so that the OPEN position comes to ▽, and remove ③ "Coin battery cover".



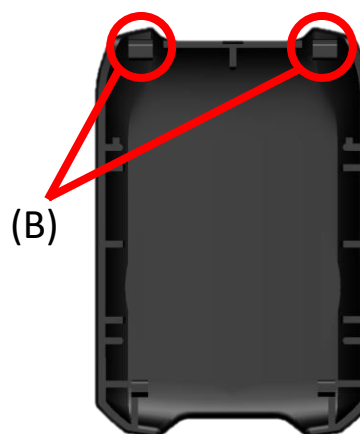
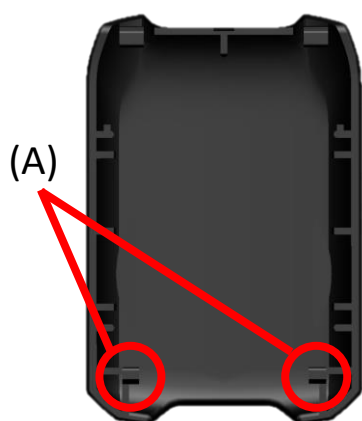
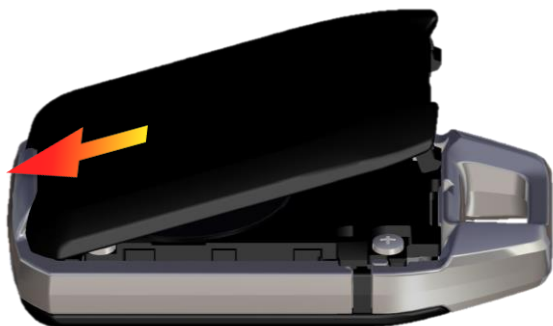
3. Remove ⑤ "Used coin battery" and replace it with ⑥ "New coin battery".



4. Attach ③ "Coin battery cover" and use ④ "Coin" to fix ③ "Coin battery cover" by turning 90 degrees clockwise so that the CLOSE position comes to ▽.



5. Attach ① "Rear plastic cover" with hooks in the order of (A) → (B).



2. Installation notes

2.1. Handsfree-System attachment

Handsfree-System consists of Main Unit, Active Transponder, Passive Transponder and Antenna Unit.

These are attached to a vehicle by factory/field personnel.

2.1. Access to Active Transponder internal parts

It is strictly forbidden to have access to the inner electrical components, except used battery to be replaced.

2.2. Product modifications

It is strictly forbidden to modify or tamper products included in the Handsfree-System including the Antenna Unit.

2.3. If the product fails

All damaged components, must be replaced.

3. Technical Specification

3.1. Steering lock (Main Unit)

Parameter	NOTE	MIN	NOM	MAX	UNIT
Nominal voltage	-	11.8	12	12.2	V
Operating voltage	-	8.5	-	16.0	V
Operating temperature	-	-20	-	+70	°C
Storage temperature	-	-30	-	+80	°C
Operating current	-	-	-	5500	mA
Sleep current	-	-	-	100	μA
Operating frequency	-	133.8	134.2	134.6	kHz
Modulation	ASK	-	-	-	-
Frequency channel	1 channel	-	-	-	-
Data rate	-	-	1.6	-	kbps
RF Power	-	-	-	25	dBμV/m @3m
Digital transfer controller operating frequency	-	-	20	-	MHz

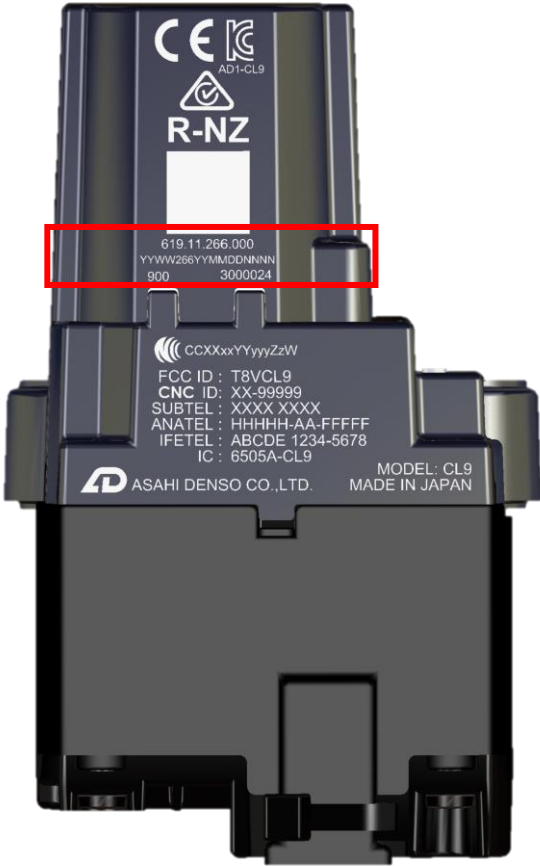
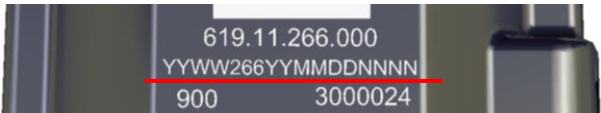
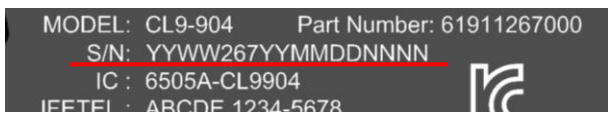
3.2. Smart key (Active Transponder)

Parameter	NOTE	MIN	NOM	MAX	UNIT
Nominal voltage	-	-	3.0	-	V
Operating voltage	-	2.1	-	3.3	V
Operating temperature	-	-20	-	+70	°C
Storage temperature	-	-30	-	+80	°C
Operating frequency	-	433.54	433.92	434.30	MHz
Modulation	FSK	-	-	-	-
Frequency channel	1 channel	-	-	-	-
Data rate	-	-	2.4	-	kbps
RF Power	-	-	-	70	dBμV/m @3m
Digital transfer controller operating frequency	-	-	13.56	-	MHz

3.3. RFID transponder (Passive Transponder)

Parameter	NOTE	MIN	NOM	MAX	UNIT
Operating temperature	-	-20	-	+70	°C
Storage temperature	-	-30	-	+80	°C
Modulation	FSK	-	-	-	-
Frequency channel	1 channel	-	-	-	-
Operating frequency	High	121.9	123.6	125.9	kHz
	Low	131.7	133.7	136.2	kHz
Data rate	-	-	-	8	kBaud

4.3. Label printing position and the date of manufacture

Steering lock	Smart key
	
	

YY	...	Year of manufacture
MM	...	Month of manufacture
DD	...	Day of manufacture
WW	...	Week of manufacture (January 1 is the first week)
NNNN	...	Manufacturing number

4.4.6. FCC(USA) certification

Product name	Steering lock	Smart key
FCC ID	T8VCL9	T8VCL9-904

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device 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.

4.4.7. ISED(Canada) certification

Product name	Steering lock	Smart key
IC	6505A-CL9	6505A-CL9904

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.