

Product name : DK ECU
Type : T1AEA0001
Brand : AlpsAlpine
Manufacturer name : ALPS ALPINE CO., LTD.
Manufacturer Address : 6-3-36, Nakazato, Furukawa, Osaki-city, Miyagi-pref., JAPAN 989-6181

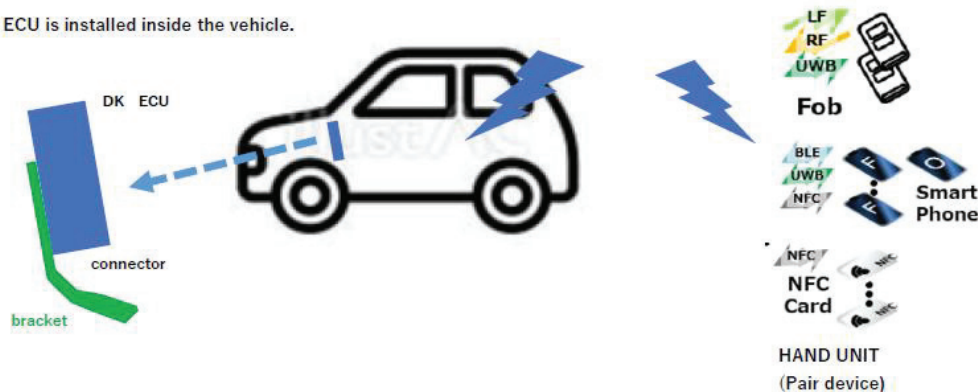
This unit is installed in vehicle. This unit has the following functions

Smart(FOB/DK) function

Provide to user who has paired "FOB" or "DK Device that can use UWB" the following feature.

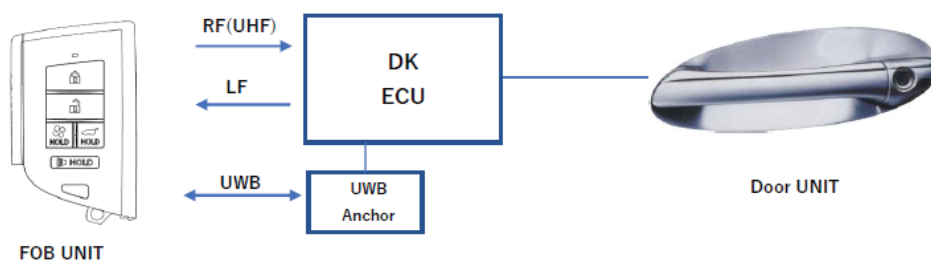
- Lock or unlock the doors or opens lids when touching door handle.
- Useful automatic features, "Walk away auto lock (WAL) ", "Approach auto Unlock (APU) , Welcome light , " Power tail gate walk away auto close (WAC)" , " Auto power ON/OFF" , " IVI login cooperation " .
- Vehicle power ON when pushing start switch.
- Detect the door open or close in ignition ACC/ON situation.
When take FOB or DK Device out of car, alarm to user.
- If FOB battery is empty, vehicle power control by backup authentication using SSSW antenna.
Warn and perform safety action when shouldn't leave "FOB" or "DK Device" in the car.
These features are provided by LF, RF , BLE and UWB communication.

DK ECU is installed inside the vehicle.



FOB mechanism for Smart Function

With the user approaching the vehicle, the door unit can be locked or unlocked by operating the door unit (gripping the handle or operating the request SW).



DK Keyless function

The switch on DK application of DK device is touched, the DK ECU performs action according to touched switch. Furthermore the ECU transmit operation result to DK device.

This operation is performs by BLE communication.

FOB Keyless function

The FOB switch is pressed, The DK ECU performs action according to pressed switch.

This operation is performs by RF communication.

Remote parking function

The Entry ECU informs the auto parking unit that DK device is within the remote parking permission range during remote parking sequence.

The device ranging method is selected BLE RSSI Ranging or UWB Ranging.

This function also provide related service to remote parking , for examples power off & lock after park etc.

NFC function

This function is include lock / unlock by external NFC reader authentication and ,Vehicle power control by internal NFC reader authentication.

These service can be performed with paired NFC card keys or DK devices.

Vehicle monitor function

The DK ECU transmits vehicle status to DK Device via BLE communication.

DK management function

This function includes owner & friend digital key pairing / terminate and related services.

TPMS function(SWC)

The DK ECU receives RF data from TPMS sensors and alarms if need.

Operation Voltage	typ. 12.0V / max 16.0V
Battery	none
Operating temperature range	-40~+85 degree
Weight	0.22 kg

■CAUTION■

Pay attention to the following.

(The operation range might be changed by the environment.)

- It may not be operated when using the equipment of the same frequency band in the vicinity.

Please DO NOT the following. Engine is not started by failure of electronic parts.

(Product can not receive the signal correctly)

- Give a shock.
- Disassembly and modification.

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

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

RF Exposure Compliance

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment must be installed and operated keeping the radiator at least 20cm or more away from person's body.
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. This equipment must be installed and operated keeping the radiator at least 20cm or more away from person's body.
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. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

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