

1. Model No.

IMMOBILIZER : SISJC10BEM

2. Make

**Shinchang Electrics Co.,Ltd.**

3. Name and address of manufacturer

**Shinchang Electrics Co.,Ltd.**

**734-2, Wonshi-Dong, Ansan-Si, Kyonggi-Do, Korea.**

4. Address of assembly plant

**Shinchang Electrics Co.,Ltd.**

**734-2, Wonshi-Dong, Ansan-Si, Kyonggi-Do, Korea.**

## 1. Product description

### 1.1 product summary

Immobilizer is a vehicle anti-theft system by electronic identification of owner.

The starter does not operate if a thief forces the door open and the engine started.

### 1.2 specification

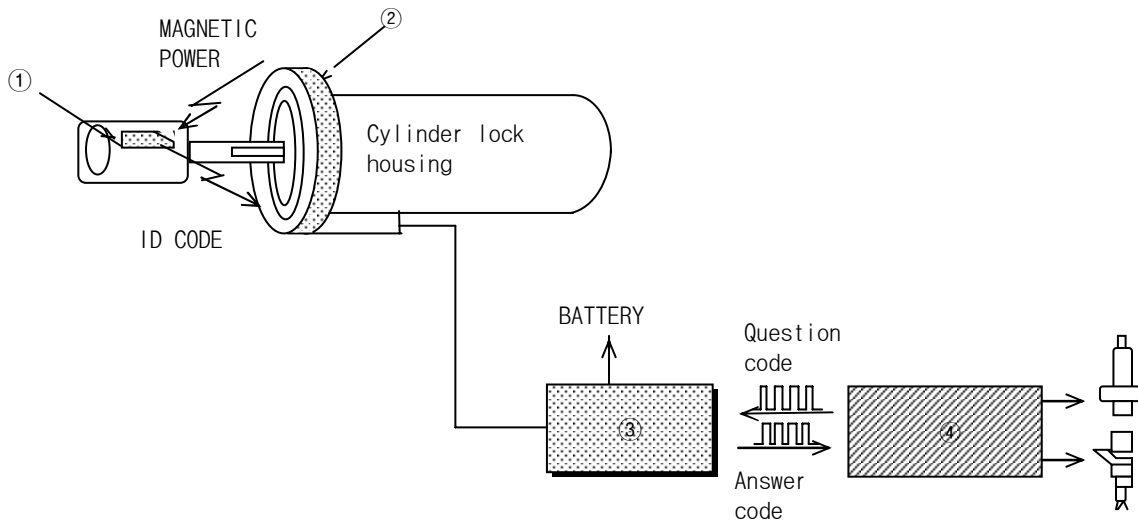
list	specification
use frequency	output freq. 134.2kHz input freq. 0 : 134.2kHz 1 : 123.2kHz
consumption current	30ms(typ.) 500mA(Max.)
use power	DC12V (vehicle BATTERY)
oscillation method	RESONATOR
modulation method	AM modulation
signal form	F1D
communication method	intermittent run HALF DPX
use temperature	-30 ~+80°C
weight	28.7g(inclusion Case)
size(W*H*D unit:mm )	65*60*25
amplifier	nothing
antenna type	none
antenna length	-
antenna gain	-
oriented nature	directivity
polarization	none
connect type	connector type
produce/model	SINCHANG/IMMOBILIZER

\* The two reason why two reason for input frequency:

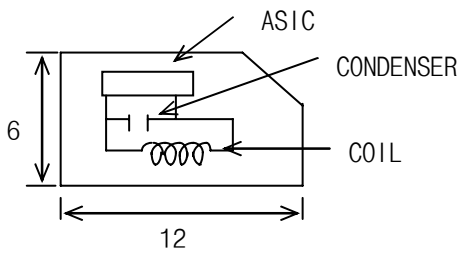
CPU can recognize when CPU recognition CODE used for immobilizer send described data as radio frequency at transponder using binary code.

That's why we establish 134.2khz and 123.2khz for recognizing 0 or 1 at CPU

### 1.3 Structure



#### ① TRANSPONDER



Transponder send response and SERIAL NUMBER to immobilizer changed ENCRYPTION KEY in ASIC whenever the Transponder receive ENERGY or CHALLENGE from radio frequency.

#### ② COIL ANTENNA

$L_s$  (Inductance) :  $444 \pm 20 \mu H$  at 134.2KHz (equipped with STR'G LOCK)

coil antenna is supplied the energy and challenge to transponder

That is receiving and transmitted the signal from transponder to IMMOBILIZER in the SHL (STEERING HANDLE LOCK)

#### ③ IMMOBILIZER ECU

IMMO is operated the COIL ANTENNA.

The information, that is Receiving signal from COIL ANTENNA compared and analyzed, is transmitted to ENGINE ECU

#### ④ ENGINE ECU

If the Ignition is on, ENGINE ECU are received related with transponder information from IMMOBILIZER ECU then perform engine starting or impossible starting.

## User Information

Operation is subject to the following two conditions:

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

This device complies with Part 15 of the FCC Results.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

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

### WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

"CAUTION: Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.