

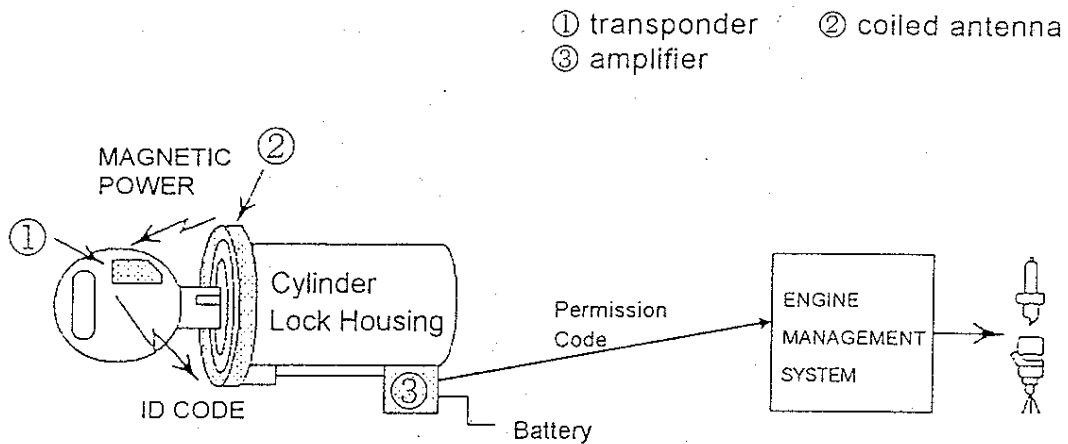
TECHNICAL DESCRIPTION

1. Name: immobilizer

MDL: RI-4ATY(a)

This immobilizer system is to be installed on motor vehicles as OE (= original equipment) item. It is intended to prevent unauthorized use of the vehicles.

2. System Construction:

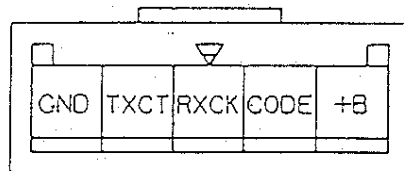
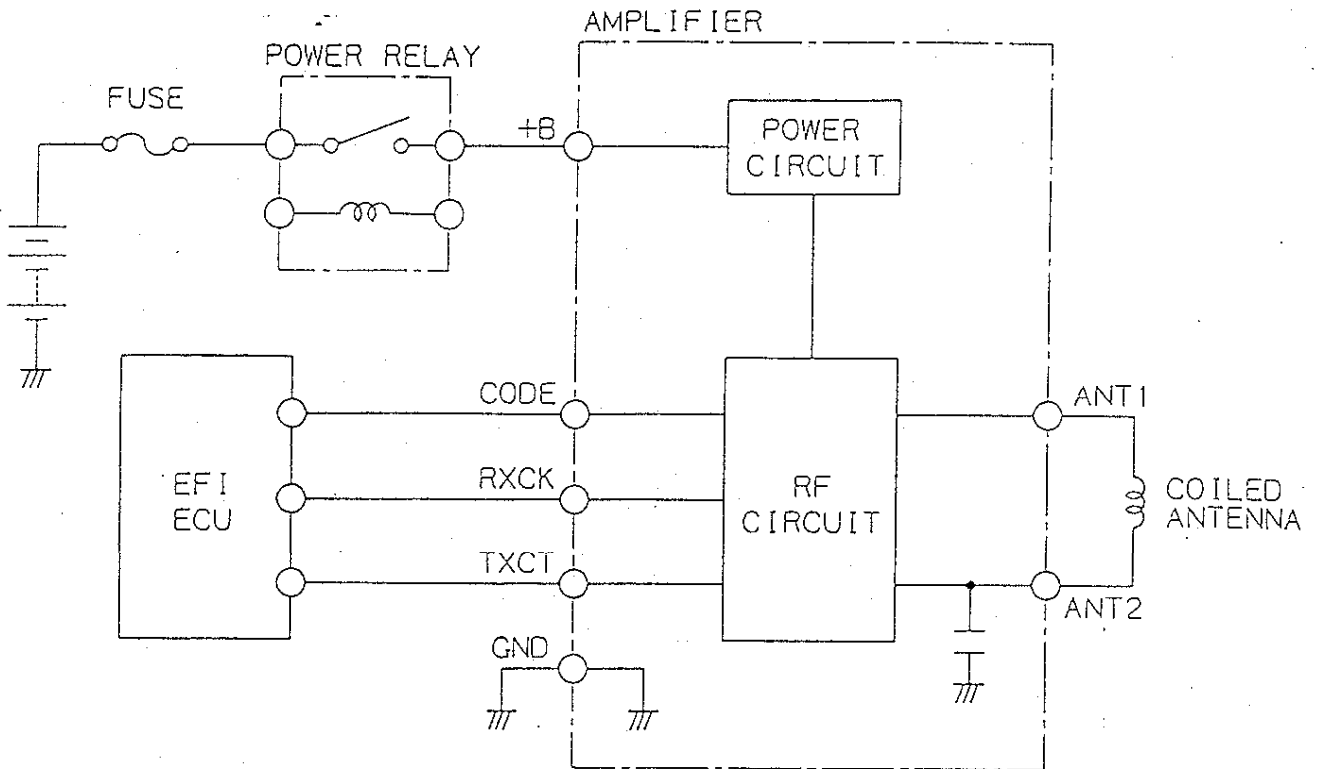


3. Specifications

Items	Specifications
rated voltage	12 V
operating voltage range	8 to 16 V
operating temperature range	-40 to 85°C -40 to 60°C (key)
frequency (transmitting)	134.2 kHz \pm 1 %
frequency (receiving)	128.7 kHz \pm 3 %
modulation	pulse width modulated carrier
antenna output (max)	60 dB μ V/m at 10 m (10 mW)

3. Specifications (continued)

Block Diagram of Amplifier



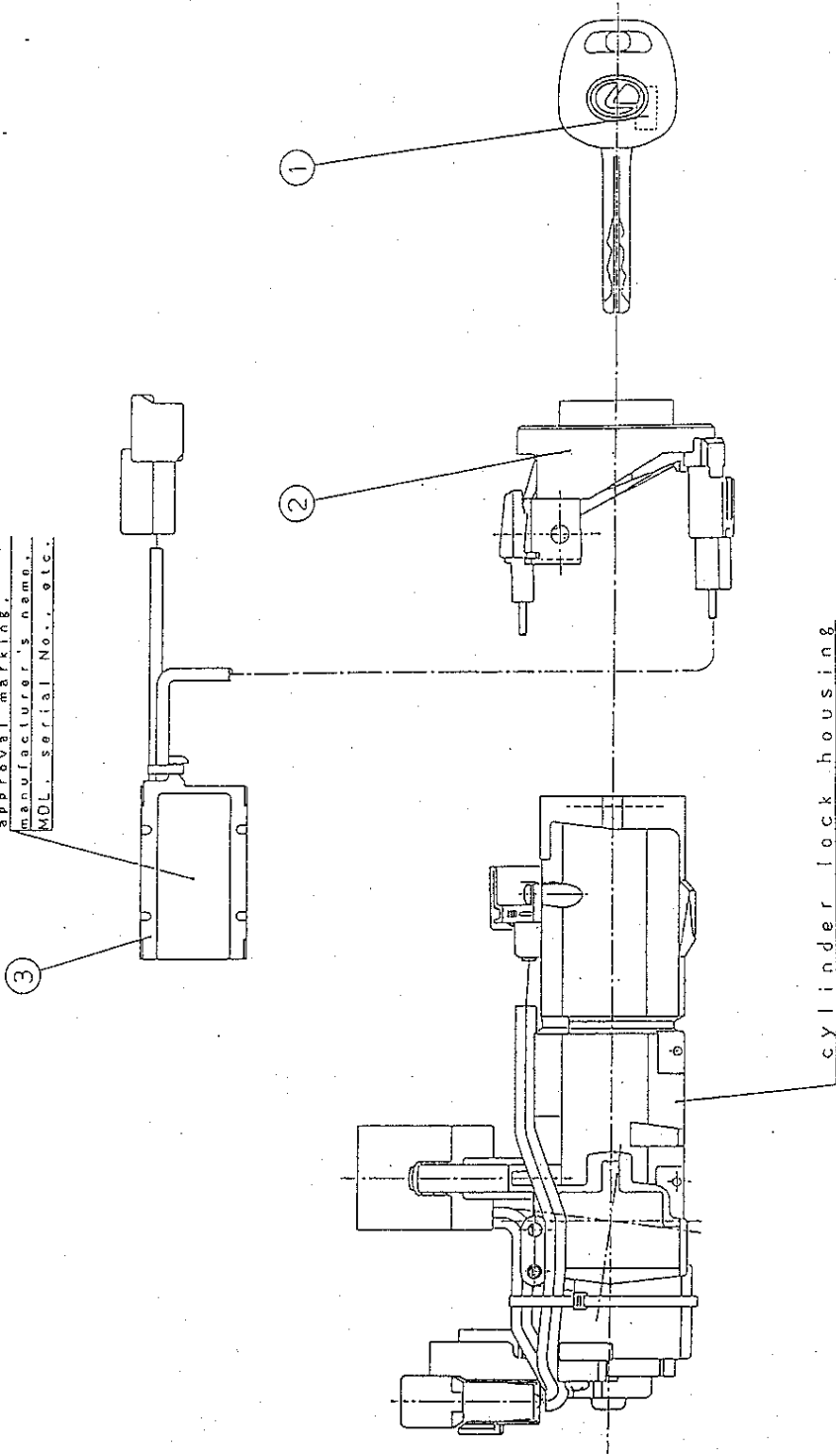
amplifier

4. Operating Summary

- ① By the driver of the vehicle, the key (a transponder incorporated in the key grip has a certain code ID code already registered to the controller) is inserted into the key cylinder.
- ② When the key is inserted into the key cylinder, the controller part in engine management system supplies electric power to the amplifier, and the amplifier supplies high frequency electric power to the coiled antenna.
- ③ Then the electromagnetic wave generated in the coiled antenna supplies the electric power by means of electromagnetic induction to the transponder incorporated in the key grip.
- ④ After receiving the electric power from the coiled antenna, the transponder transmits the ID code using the received electric power.
- ⑤ The ID code is received by the coiled antenna. Then it is amplified and shaped to 0-5 V digital signal at the amplifier and transmitted to the controller.
- ⑥ The controller judges whether the received ID code corresponds with the registered one. When correspondence is recognized, the controller transmits a permission code to the engine management system.
- ⑦ When the engine management system receives and recognizes the permission code, it starts the engine.

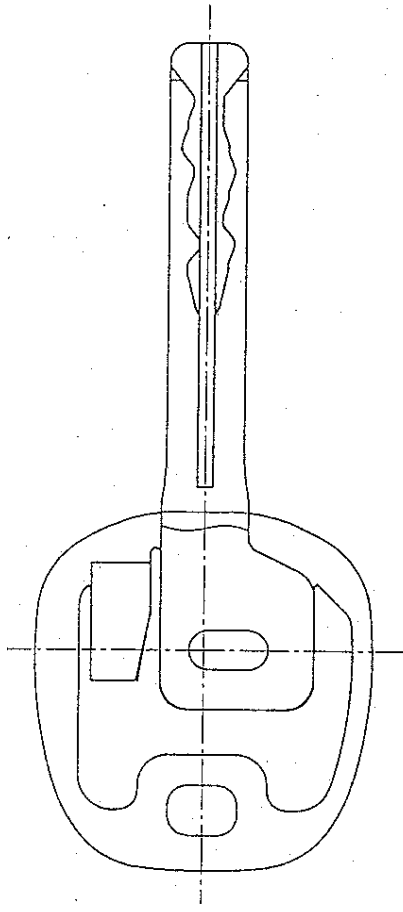
SYM NO	PART NO.	PART NAME	QTY
1	271315-002	TRANSPONDER	1
2	627372-000	COILED ANTENNA	1
3	627586-000	AMPLIFIER	1

approval marking,
 manufacturer's name,
 MDL, serial No., etc.



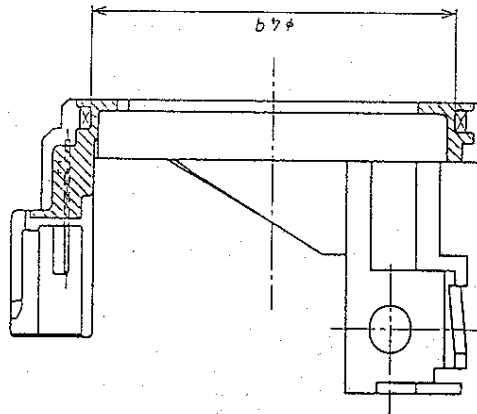
* For the purpose of radio-technical test,
 cylinder lock housing is a support for
 fixing the coiled antenna.
 The shapes is designed for each
 vehicle type.

NAME	IMMOBILIZER
MDL	RI-4ATY(θ)
SCALE	FREE

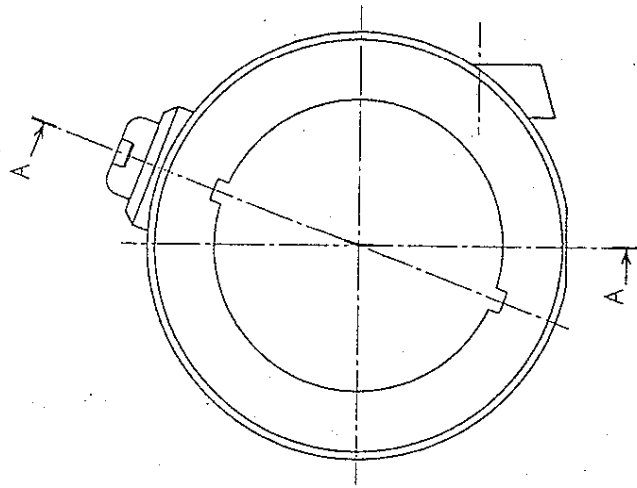


* Key plate and plastic mold part are designed for each vehicle type.

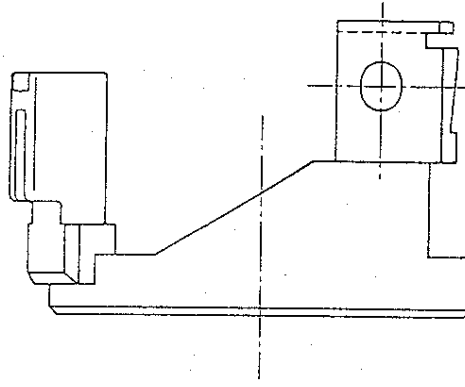
NAME	TRANSPONDER
PART NO	271315-002
SCALE	FREE



A-A



FRONT VIEW



SIDE VIEW

*Plastic mold part of coiled antenna is designed for each vehicle type.

SPECIFICATIONS

(when installed on cylinder lock housing)

Wire: 2PEW; #0.3

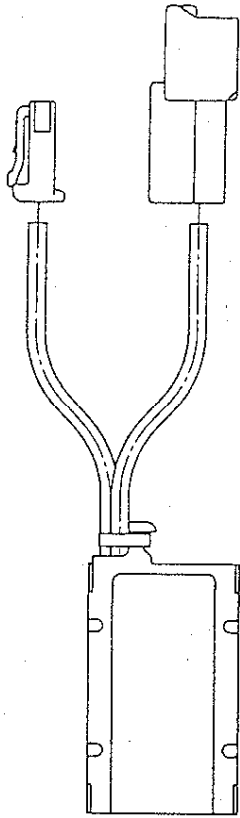
Turn: 19T

Inductance: 30μH (f=134.2kHz)

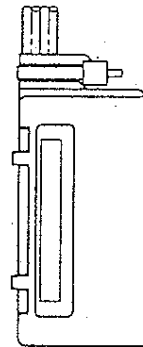
Q: Min. 13 (f=134.2kHz)

Resistance: 0.76Ω

NAME	COILED ANTENNA
PART NO.	627372-000
SCALE	FREE



TOP VIEW



SIDE VIEW

* Mounting bracket of amplifier is designed for each vehicle type.

NAME	AMPLIFIER
PART NO	627586-000
SCALE	FREE