Functional Description

User Manual

IC: 267T-5WK49182 FCC ID:KR55WK49182

Functional Description / User Manual

of

SIEMENS VDO

Immobilization system

type Suzuki Gasoline

FUNCTIONAL DESCRIPTION

System Components

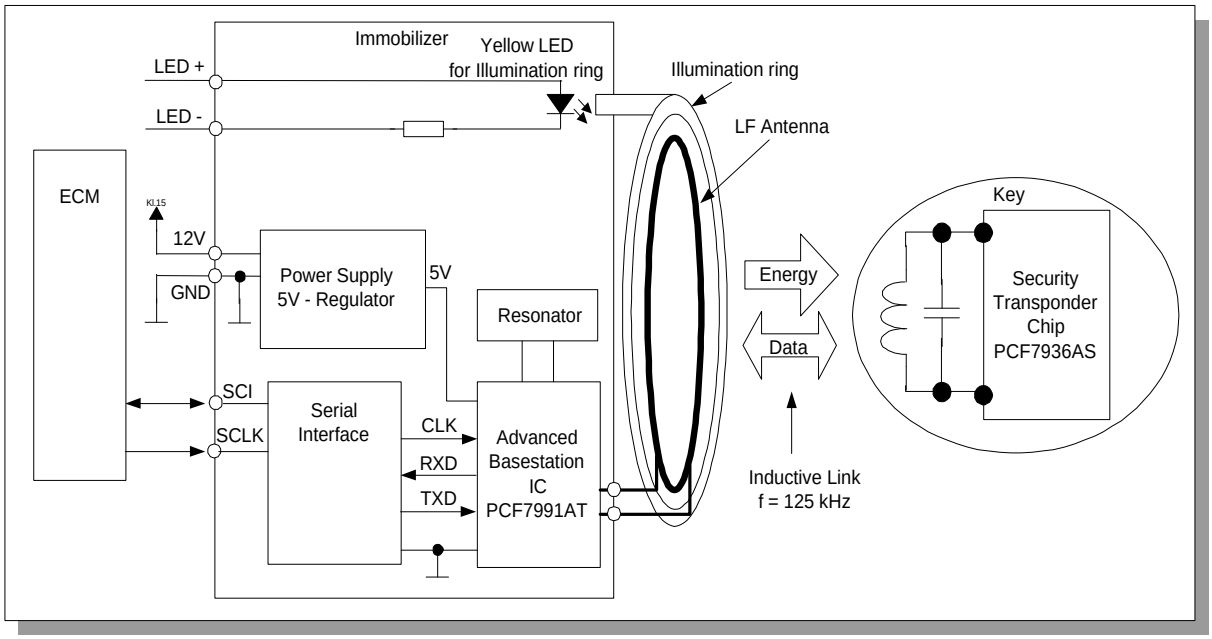
The Suzuki Gasoline immobilization system consists of the immobilizer antenna, a transponder and the Engine control unit. The immobilizer antenna is located on the vehicle's ignition lock. The transponder is located within the ignition key. The transponder is magnetically coupled to the immobilizer antenna. The immobilizer antenna is connected to vehicle power and to vehicle ground via a wiring harness and to the Engine control unit via serial interface.

For the illumination, a side LED which is connected to a light pipe is used. The LED is powered externally via two resistors.

System Operation

This immobilizer system is a passive immobilization system. The immobilizer antenna uses a magnetic couple to read the transponder's identification code. The immobilizer compares the identification code received from the transponder via immobilizer antenna with identification codes stored in its non-volatile memory. If the identification code from the transponder matches one of the identification codes stored in memory, the immobilizer sends a "Valid Key" message to the Engine Management System controller. If there is no match, the immobilizer sends an "Invalid Key" message to the Engine Management System controller. This causes the Engine Management System to turn off the engine.

Block Diagram



Variants

type designation	remarks
5WK49182	immobilizer antenna with LED assembled
5WK49181	immobilizer antenna without LED assembled

Both variants use the same pcb, schematic and layout. They differ only in the assembly of the illumination LED ring which does NOT influence the RF characteristics of the immobilizer.

Technical Data

Carrier frequency:	125 kHz ± 2kHz
Carrier field strength:	< 40dBµA/m @10m
Modulation:	ASK
Supply voltage:	12 V
Battery type:	Car battery
Range:	< 55mm

Typical usage pattern

50 immobilizer operations in 24 hours with a typical transmission duration of 0.12 seconds → 6 seconds transmission duration in 24 hours → 0.25 seconds transmission in 1 hour

Transmitter ON	0.25	seconds / hour
Transmitter OFF	3,599.75	seconds / hour

Duty Cycle: T_{ON} / $T_{(ON+OFF)}$ x 100% = 0.25 / 3,600 x 100 % =0.006 %

NOTE

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

Label Design

Siemens VDO

5WK49182

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CE

This device complies with part 15 of the FCC Rules and RSS-210. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

Siemens VDO

5WK49182

Model: 5WK49181

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