



Product description

and

Technical specification

Type
BCAI010
Immobiliser for
FIAT AUTO 137/139

Abstract

This document summaries the technical characteristics of the device providing information of both a specific and a general nature.



Technical Description

1. Main Performance

The Immobilizer has to read out the data code from a Transponder, located inside the key, and checks whether that key is authorized to start the engine of the vehicle.

In case of an authorized key, a start-enable code is sent to the requested Engine Management System (EMS) via CAN-line. Else, the starting of the engine is disabled by sending a negative answer to the request of the EMS.

2. System Components

2.1 Transponder inside key

The Transponder is composed of a receiver/transmitter coil and an electronic circuit, featuring rectifier, voltage regulator, sequencer and memory. The Transponder is power-supplied by means of the 125kHz electro-magnetic field. The Crypt-(security)-Transponder is based on a bidirectional communication (amplitude modulation and demodulation).

2.2 Transmitter/Receiver coil (Antenna) at the ignition lock

The Antenna supplies the transponder with energy, sends commands and data to the Transponder and receives codes from the transponder.

2.3 Immobilizer Unit of the Bodycomputer

The Immobilizer unit of the Bodycomputer is directly connected to the Immobilizer Antenna and stores the authorised key codes in a nonvolatile memory. The Bodycomputer is permanently supplied with battery voltage (KL30). The Immobilizer function operates with ignition (KL15) on.

3. Normal Starting Sequence

1. Initialize the immobilizer function of the Bodycomputer with key on (ignition, KL15 on)
2. The 125kHz electromagnetic field is switched on
3. The Immobilizer read out the fixcode of the Transponder
4. If the fixcode is recognized a bidirectional authentication protocol is proceeded (max. 300ms)
5. The received authentication code is verified (the received codes are verified)
6. If the verification procedure is passed, wait for request from EMS

4. Pinning of the Bodycomputer immobilizer unit

AV-4	signal from coil
AV-5	reference coil
KK-4, KK-5	GND
KK-6	CAN (H)
KK-14	CAN (L)
CY-9	switched power supply (KL15)
CY-17, CY-18	battery voltage

Block diagram for the Bodycomputer with immobilizer unit

