Immobilizer configuration explained

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Functionality description is based on latest firmware - 55.01.02.Rev.01.

Immobilizer's functional purpose

Immobilizer prevents anyone from starting the transport without scanning an iButton key/RFID card with a reader or until device detects BLE Beacon first.

DOUT, that is selected under Output Control section will turn to High state (1) and <u>block engine</u> in such cases:
• Ignition is detected (if *Depend On Ignition* is **enabled**);
• Immediately after scenario is enabled in any priority (if *Depend On Ignition* is **disabled**).

If iButton key/RFID card is scanned with a reader or BLE beacon is detected, then DOUT switches to Low state (0) and the <u>engine can be started</u>.

If ignition will be turned OFF in authorized state, then after *Ignition Off timeout* configured value passes, DOUT will be set to High level (1) and authorization procedure will be required again.

Functionality examples

Example No. 1

Configuration:

Features section
- Immobilizer scenario - High priority;
- Output Control - DOUT2;
- iButton List Check - Enable;
- Depend On Ignition - **Enable**;
- Ignition Off Timeout - 30.

System section
- Ignition Source - DIN1;
- Input/Output Mode - Digital Output 2 selected.

If *Depend On Ignition* is **Enabled** and wiring is done following [this](#) scheme, then you enable Immobilizer feature, DOUT stay at low level (0) and waits for ignition to be detected with DIN1. After ignition is detected (Ignition=1), DOUT switches to high level (1) preventing the starting of the engine and waits for authorization.

After attaching iButton/RFID or detecting BLE beacon, DOUT switches back to low level (0) allowing the engine to be started fully. When ignition is switched OFF (Ignition=0), *Ignition Off timeout* starts countdown. After this countdown passes, functionality resets, meaning that after Ignition will be detected again (Ignition=1), DOUT will switch to high level (1) and ask for authorization again.

Example No. 2

Configuration:

Features section
- Immobilizer scenario - High priority;
- Output Control - DOUT2;
- iButton List Check - Enable;
- Depend On Ignition - **Disable**;
- Ignition Off Timeout - 30.

System section
- Ignition Source - DIN1;
- Input/Output Mode - Digital Output 2 selected.

If *Depend On Ignition* is **Disabled** and wiring is done following [this](#) scheme, then when you enable Immobilizer feature, DOUT **immediately** switches to high level (1) **without waiting** for Ignition.

After attaching iButton/RFID or detecting BLE beacon, DOUT switches back to low level (0) and Ignition switches to high level (1) allowing the engine to be started fully.

When iButton/RFID is removed from the reader and Ignition is switched OFF, *Ignition Off timeout* parameter is considered to be *RFID Off timeout* and after configured time passes, DOUT switches back to high level (1) and ignition switches to low level (0).

Example No. 3

Configuration:

 • Immobilizer scenario - High priority;
 • Output Control - DOUT2;
 • iButton List Check - Enable;
 • Depend On Ignition - **Disable**;
 • Ignition Off Timeout - 30.

 • Input/Output Mode - Digital Output 2 selected.

If _Depend On Ignition_ is **Disabled** and wiring is done following scheme below (**without using DIN wire for Ignition**), then when you enable Immobilizer feature, DOUT **immediately** switches to high level (1).

After attaching iButton/RFID or detecting BLE beacon, DOUT switches back to low level (0).

When iButton/RFID is removed from the reader, _Ignition Off timeout_ parameter is considered to be _RFID Off timeout_ and after configured time passes, DOUT switches back to high level (1).