TOR

OPERATING MANUAL

AUTHOR

version 803.1

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General information

TOR – a digital CAN-bus relay aimed to provide complex protection of car with the IGLA system installed.

Engine locking

TOR uses the additional locking circuit that is activated in case the connection with the engine control unit via CAN-bus is faulty or disrupted. Locking allows to activate the Operating engine shutoff option and Anti Hi-Jack option* for car without digital locking of an operating engine.

Locking algorithm

TOR locking activates at attempt of driving without authorization (or in Anti-Hi-Jack mode) when a CAN bus lacks data required for TOR operation or the IGLA system digital locking has failed. In other cases the activation of the additional circuit is impossible.

Locking is released by entering a PIN code of IGLA system or by turning off the ignition (yellow wire).

* Depending on a car model, see the section System compatibility on the website author-alarm.com

Locking scheme

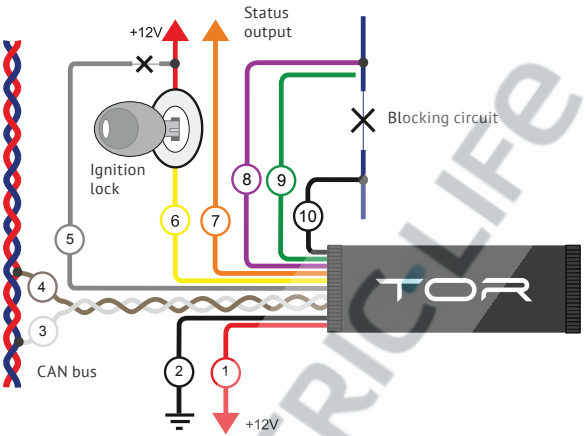
Locking is made on normally closed circuit or normally opened circuit. It is used only in the event of emergency (when the digital locking is not available) so it can be used for any circuit break that blocks the engine even if it leads to temporary errors (for instance, in the crankshaft sensor or injector power supply sensor circuit).

The locking mechanism is in breaking of a contact between the purple and the white-black wires or by contact closure between the green and the white-black wires **when the ignition is on or the engine is started**.

Device installation

The status output (orange wire) is for connection of siren and other equipment, GPS alarm system for example. When the locking is activated the output has the negative potential that disappears in 5 seconds or right after the locking is deactivated. Negative potential can be also provoked by IGLA system when it is in the Anti-Hi jack mode and the car is moving and has already crossed more than 300 meters. The TOR locking will be activated only when the car stops (for the security reasons).

Wiring map



1. Red. Power supply «+».

2. Black. Ground/earth «-».

3. White. CAN-L.

4. Brown. CAN-H.

5. Grey. To connect with IGLA module to power supply «+».

6. Yellow. Ignition lock (required for connecting a locking relay).

7. Orange. Status output for the connection of the external devices (max. 250 mA).

8. Purple. Normally closed contact.

9. Green. Normally opened contact.

10. White-black / brown. Relay common contact.

ATTENTION! Grey and red wires should be simultaneously connected to power supply «+» to connect with the IGLA anti-theft device when it is in PIN code change mode.

Connecting IGLA and TOR

Only one TOR relay can be connected to IGLA. In order to harmonize the devices do the following:

1. Switch IGLA to PIN-code change mode by one of the following ways:
   - connect the grey wire from IGLA to power supply «+» and turn on the ignition;
   - if the device is already connected, after the authorization is successful enter the current PIN-code once again while pressing the accelerator pedal as far as it can go.

ATTENTION! If the current PIN-code include «Slight touch on accelerator pedal», it is necessary to enter the PIN-code once again after the authorization and then press the accelerator pedal as far as it can go. Then perform item 2.

2. Connect TOR relay to the wiring according the wiring scheme above.

ATTENTION! Connection of IGLA and TOR modules shall be done **without** connection of orange wire (status output), yellow wire (ignition), purple, green and white-black/brown wires (analogue locking).

3. Apply power supply «+» to grey and red wires **at the same time**.

4. There will be 2 IGLA indication signals and afterwards the signalling shall stop*. After that you can turn off the ignition and disconnect the grey wire from power supply «+». Modules are connected.

Follow these steps to test the correct operation of TOR module:

1. Turn off the ignition.
2. Activate the standard alarm system.
3. Deactivate the security system.
4. Disconnect the power supply form IGLA system.
5. Start the ignition and attempt to drive.

If TOR module locks the engine, the module operation is correct. Otherwise repeat the procedure of IGLA and TOR connection.

* Depending on the firmware of the device, it is possible the signalling continues until the ignition is off.

Specifications

Operating voltage ..... 7.5-15 V
Current consumption in the standby mode ..... 5 mA
Nominal/peak communication current:
TOR 02 ..... 1A / 2A
TOR 20 ..... 10A / 20A

Contents of the set

TOR module	1 pcs.
Operating manual	1 pcs.
Packing	1 pcs.

Made in Russia
Manufacturer: LLC «DMA Group»
C-RU.MT49.B.01595

The developer and the manufacturer retain the right to make technical updates not specified in this operating manual. To learn more visit our web-site:

http://author-alarm.com

WARRANTY CERTIFICATE

Warranty is 12 months from the date of the purchase. During this period technical support and maintenance are guaranteed for free. The warranty does not apply to the items with:

- mechanical damage, burnt and char pieces, components, conductive tracks etc.;
- traces of an independent repair;
- damage caused by natural hazards, fire, social factors;
- violation of the tamper-evident seal, damage or absence of a factory/trade label.

Only items in complete set and with the original packing are taken for warranty repair.
Absence of packing is regarded as noncompliance with transportation rules. The warranty does not apply to the damage incurred to another equipment operating together with this device.

Item (model) _____

Sale date _____/____/_____

The contents of delivery ___, functioning ___, absence of mechanic damage ___ are checked.
I am acquainted and agree with the condition of warranty service:

Buyer _____

Seller _____ seal

Supported Cars List App.

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