User Manual

General

StarLine R7 multi-purpose code relay module is designed to secure vehicles from theft by engine blocking and to extend the main security system functionality.

Key advantages:

- compact size allows you to mount it invisibly into the factory wiring harness
- with the waterproof housing it can be installed in engine bay with high humidity and temperature environment
- communication between relay and security system main unit is carried out via StarLine Bus encoded digital interface
- 2 built-in full contact group relays provide blocking of independent engine control circuits
- 5 output and 2 input configurable channels
- buil-it accelerometer detects vehicle motion

> Compatible with StarLine E9, S9, AS9, B9 series security systems

StarLine R7 has two built-in full contact group relays, for each an individual engine blocking delay and duration can be set. It helps to perform a cut of two circuits simultaneously, i.e. the first relay may block crankshaft position sensor and the second - camshaft position sensor.

StarLine R7 has 5 universal open collector outputs and 2 universal inputs with negative polarity. It helps to extend security system functionality by performing extra security and comfort features.

The relay unit is always in contact with security system main unit and executes the engine blocking commands received from main unit. And it shall block engine autonomously at a drive attempt when connection with the main unit is lost in Armed mode.

Technical specification

Features	Values
Input voltage	5 – 18 V
Rated current with relays activated	28 mA

Rated current with inactive relays	1 mA
Max relay load current	500 mA
Max outputs load current	200 mA
Operating temperature range	–40 °C ... +105 °C
Waterproof rate	IP67
Dimensions, mm	62,5×10×11 mm

Relay registration into security system

The optional **StarLine R7** relay must be registered into the security system main unit.

> Max 5 R7 relays can be registered in one main unit

The relay is registered via StarLine Bus encrypted interface as below:

1. connect R7 white-black wire (StarLine Bus) with white-black wire of security system (StarLine bus)
2. apply input power
3. switch the security system main unit into “Device registration mode”
4. successful registration is confirmed with the double beep sounds and double valet LED blinking

General installation requirements

StarLine R7 relay unit is dedicated to installation in road vehicles with 12V on-board voltage. Mount it into the hidden pace (i.e. in engine bay, inside factory wiring harness or relay/fuse box) away of the moving or highly heated parts. Fix it with the plastic straps.

STARLINE BUS INTERFACE CONNECTION
Connect white-black wire (StarLine bus) with the corresponding StarLine bus digital wire of security system main unit.

POWER SUPPLY CONNECTION
Red and black wires are used for the power supply connection.

The black “ground” wire must be connected first to the factory original screw or nut on the body. The wire should be crimped into the matching size electric clamp before fixing it under screw or nut. Recommend to cover the place of connection with anti-rust grease.

Do not use tapping screws and other non-original fasteners for the ground wire connection.

Connect the red positive wire to original +12V power supply circuit wires with cross section not less than 2 sq.mm.

The red wire should be connected through the fuse from delivery set.

5V POWER SUPPLY CONNECTION
This connection method can be used to reduce power consumption and performing engine blocking functionality only. The relay is trying to connect with a main unit at every ignition On. If connection is not established then engine shall be blocked at a drive (motion) attempt, detected with embedded accelerometer

> For engine blocking at connection with the main unit loss the options “Engine blocking 1” and “Engine blocking 2” must be set for the channel. If engine blocking is configured with any FlexibleLogic program, then it shall not run in case of connection loss

12V POWER SUPPLY CONNECTION

This connection method is recommended to use the relay as a service extension unit

> Set the necessary functions to inputs and outputs in StarLine Master program

Connection diagram

> The max load current with the both relay contact groups connected in parallel shall be within 500 mA

