VEHICLE ALARM SYSTEM 'E50'

Installation Manual

1. TECHNICAL SPECIFICATIONS:

- ✓ operating temperature ……..…..... - 40° C to +85° C;
- ✓ rated supply voltage ……..... 9 - 15 V DC;
- ✓ average consumption without sensor connected…….....< 13 mA (U=12V);
- ✓ average consumption with US2 sensor connected.....….....< 20 mA (U=12V);
- ✓ siren current ……..... < 2 A;
- ✓ current in cut-off circuit ……..... < 25 A;
- ✓ average distance of remote control ……..... 5 - 10 m.

2. INSTALLATION OF THE COMPONENTS OF THE ALARM SYSTEM.

Vehicle alarm system 'E50' is designed for all types of vehicles (except cabriolets) with petrol or diesel engines, 12V negative earth batteries.

Vehicle alarm system must be installed inside the vehicle passenger compartment, in difficult access area as recommended by the wiring instructions supplied by the manufacturer.

Manufacturer of the alarm system is recommending the following:

a) selecting a qualified installer of vehicle alarm systems;
b) mounting system unit in place free from penetration of moisture and other corrosion - causing materials, as far away as possible from heating elements in the passenger compartment and sources of electromagnetic interference (vehicle computer, conditioner, block of relays);
c) avoid mounting system unit directly onto metal parts of vehicle to prevent accumulation of condensate in the system unit;
d) mounting system unit in a way wire connectors are going from the bottom side of the unit;
e) avoid placing wires adjacent to moving or hot parts of vehicle;
f) install additional cut - off by using Control Channel 2 (CC2) only in the starter control circuit;
g) avoid overloading circuits of the alarm system:

- ✓ cut - off circuit ⚠ ……..... < 25 A
- ✓ unlock impulse current [8] …….....< 15 A
- ✓ lock impulse current [11] .....…….....< 15 A
- ✓ cut - off circuit /CC2 ② ……..... < 0,13 A
- ✓ CC1 circuit ① ……..... < 0,13 A
- ✓ siren activation circuit [7] ……..….. < 2 A
- ✓ right direction indicator control circuit [4] …..... < 7 A
- ✓ left direction indicator control circuit [5] …..…..... < 7 A

3. SETTING FUNCTIONS OF THE ALARM SYSTEM.

Depending on the program version, 'E50' can incorporate up to 40 system settings. Due to these settings 'E50' can be adjusted to some particular vehicle or to country related traditions, or existing requirements for vehicle alarm systems. 'E50' functions are set using **PIN** (personal identification number), **FN** (function number) and **SN** (setting number) codes. Actions to be performed in the following sequence:

a) Open vehicle doors and leave it opened;
b) Enter **PIN** code (see User Manual 6.2.), close the doors;
c) Wait for approximately 12 seconds (intended for remote control pre-programing), till system LED stops flashing in triple bursts of light and starts flashing rapidly;
d) Within 8 minutes following the **PIN** code entry enter the **FN** number (by analogy with the **PIN** code) of the function you want to change. Short flash of direction indicators indicates correct **FN** entry. No flashing of direction indicators, means either incorrect **FN** or dedicated 8 minutes have elapsed;
e) If **FN** code has not been entered due to elapsed time, press remote control button M or 🔒, enter the **PIN** code once more and wait for 12 seconds;
f) If **FN** code has not been entered due to the error, turn the ignition off, wait until system LED starts flashing rapidly and repeat the **FN** code. After correct entry of the **FN** code the system extends control time for 8 minutes awaiting a code from remote control button 1 or 🔒. Within this control time check current **SN** settings or enter a new one. The system again extends control time to 8 minutes;
g) Check **SN** setting only with the ignition OFF. Press remote control button 1 or 🔒 counting short flashes of direction indicators;
h) If function setting is not met, turn the ignition ON. Press button 1 or 🔒 with 1 second intervals as many times as the desired number of **SN**. Wait for 3 seconds until short siren chirp and flash of direction indicators appear.

New setting has been entered into memory. Therefore, turn the ignition OFF and check **SN** setting as described in article "3g".

4. SUMMARY OF ALARM SYSTEM SETTING SEQUENCE.

CONDITION	ACTION	CONTROL TIME	REMOTE CONTROL	DIRECTION INDICATORS	SIREN	SYSTEM LED
Doors opened	**PIN ENTRY**	-	-	-	-	Double flashing
PIN entered	**REMOTE CONTROLS PROGRAMMING**	12 seconds, extended for 12 seconds after each remote control programming	M + I or M + I + G or 🔒 + 🔓 + 🚨	-	-	Triple flashing, 1 second flash after remote control pre-programming
12 seconds after PIN entry of a remote control programming	**FN ENTRY**	8 minutes	-	Indicates correct FN entry	-	Double flashing
FN entered, ignition OFF	**SN CHECK**	8 minutes	Short press of I or 🔓	Indicates SN value	-	Frequent flashing
FN entered, ignition ON	**SN CHANGE**	8 minutes	Short presses of I or 🔓	Indicates SN change in 3 seconds	Indicates SN change in 3 seconds	Double flashing
SN checked or set	**FOLLOWING FN ENTRY**	8 minutes	-	Indicate correct FN entry	-	Double flashing
Following FN entered, ignition ON	**SN CHANGE**	8 minutes	Short presses of I or 🔓	Indicates SN change in 3 seconds	Indicates SN change in 3 seconds	Double flashing
END of setting	**FN=11 ENTERY or using remote control**	8 minutes	Short press of M or 🔒	-	-	Double flashing /-

5. OPERATION TESTS OF THE SYSTEM.

While operating the system performs self-testing on regular basis. If malfunction is detected, the system generates audible 1.5 second signal. Such signal is generated only at the moment of turning the alarm ON or OFF. It differs by its duration from the audible signals confirming that the protection has been turned ON or OFF. Do not confuse this signal with external "warning" zone signal often triggered by incorrect tuning of the sensor. For ease of installer's work, 'E50' saves 3 last alerts in the memory. By using the memory, causes of the false alarm can be ascertained. To perform this enter **FN=71**, **72,** or **73**, press button I or 🔓 and count flashes of the direction indicators:

- 1 flash indicates triggering of a sensor;
- 2 flashes indicate door opening;
- 3 flashes indicate engine bonnet opening;
- 4 flashes indicate luggage compartment opening;
- 5 flashes indicate turning the ignition ON.

6. CERTIFICATE OF INSTALLATION.

I, undersigned qualified installer _____ certify that installation of
(Name, Surname)

the below described vehicle alarm system has been carried out by myself pursuant to installation manual supplied by the manufacturer of the system.

Vehicle description:

Manufacturer and model: _____

Serial number: _____ Registration number: _____

Description of vehicle alarm system:

Type: **'E50'.** Model: _____ Official approval number: **97RA-01 04506**

Installation date: _____

Installing company: _____

_____ SEAL

Installer: _____
(Position, signature)

After installation of the alarm system installer must fill in CERTIFICATE OF INSTALLATION! It is recommended to mark selected settings in the TABLE OF ALARM SYSTEM SETTINGS (underline **SN**).

7. SUMMARY OF ALARM SYSTEM SETTINGS.

7.1. MARKED FIELD MEANS:

EU - setting meets requirements of EU Directives. Selection of settings not meeting EU requirements is possible if vehicle is operated in non EU state.

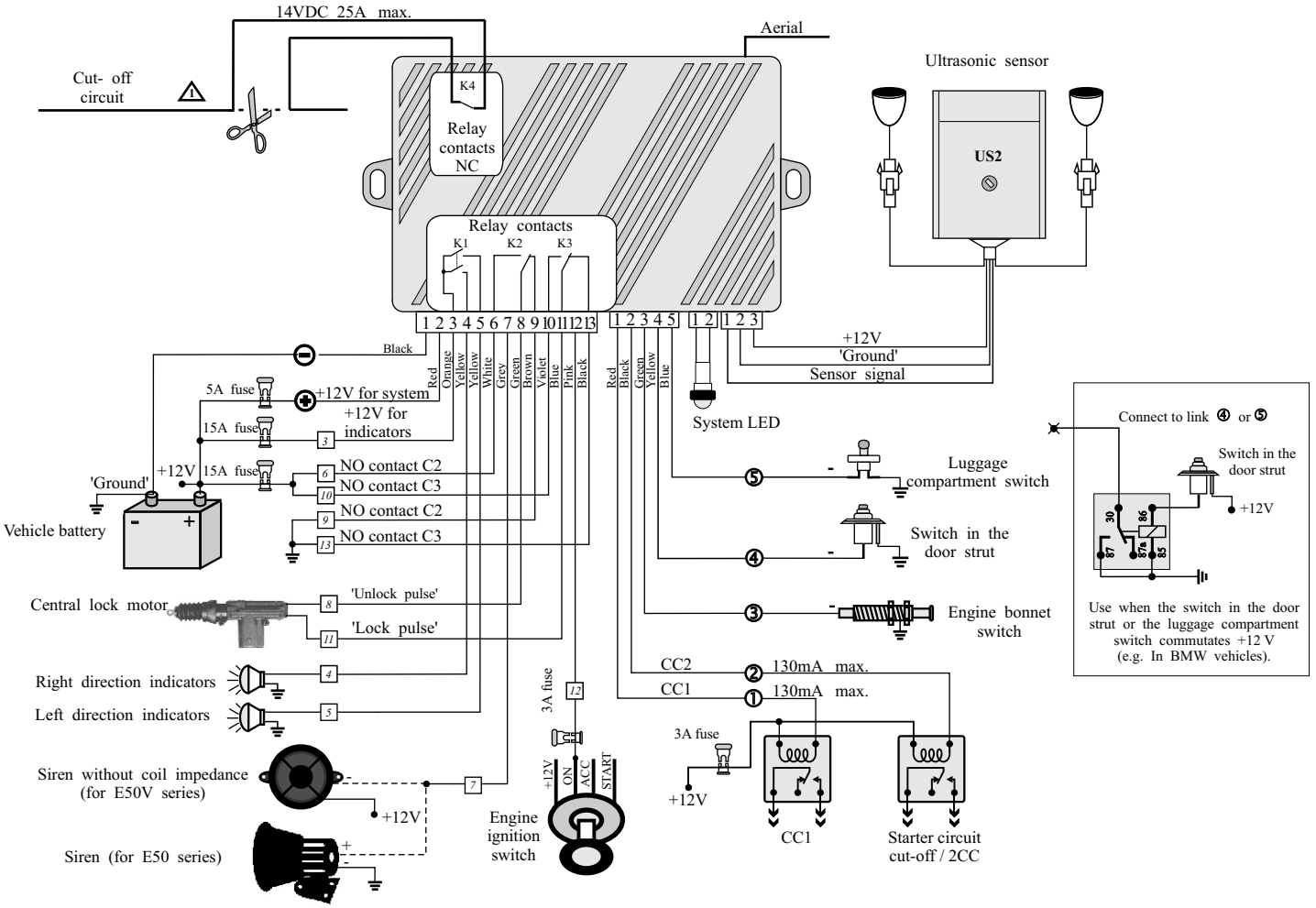
E50_G, E50_I, E50_C, E50M_C, E50V_I, E50VM_C- function is present in respective program version when function line and version column intersection is marked ; ⊘

⊘ **-** factory setting;

7.2. TABLE OF ALARM SYSTEM SETTINGS.

	FUNCTION	ES	E50_G	E50_I	E50_C	E50M_C	E50V_I	E50VM_C
FN=11	**Function: END OF FN SETTINGS.**	✓	✓	✓	✓	✓	✓	✓
FN=22	**Function: ADDITIONAL ALARM FUNCTION.**							
SN=1	Additional alarm function is turned OFF.		⊘	⊘	⊘	⊘	⊘	⊘
SN=2	Remote control-operated inner immobilizer. Immobilizer disables the engine after 40 seconds since the ignition or alarm disabling. Immobilizer can be switched OFF by pressing button ① or ⓓ. Immobilizer function can be turned ON or OFF with ignition ON by pressing together buttons ⓜ and ① or ⓓ and ⓓ holding them down till short siren chirp.	✓		✓	✓	✓	✓	✓
SN=3	Inner immobilizer operated by secret button. Immobilizer disables the engine after 40 seconds since the ignition or alarm disabling. Immobilizer can be turned OFF only by pressing a secret button. Immobilizer function can be turned ON or OFF by pressing a secret button and then pressing together button ⓜ and ① or ⓓ and ⓓ holding them down till short siren chirp.				✓	✓		✓
SN=4	'Anti-Carjack' triggered **upon ignition turn ON or door opening with ignition ON.** On triggering, a 40 second countdown begins and 'Anti-Carjack' is set in the final stage (FN=23). 'Anti-Carjack' or engine immobilization can be disabled only by pressing secret button. **'Anti-Carjack' function cannot be turned OFF using remote control**.				✓	✓		✓
SN=5	'Anti-Carjack' triggered **upon ignition turn ON.** On triggering 40, a second countdown begins and 'Anti-Carjack' is set in the final stage (FN=23). 'Anti-Carjack' or engine immobilization can be disabled only by pressing secret button. **'Anti-Carjack' function cannot be turned OFF using remote control**.				✓	✓		✓
SN=6	'Anti-Carjack' triggered **upon ignition turn ON or door opening with ignition ON.** On triggering, a 40 second countdown begins and 'Anti-Carjack' is set in the final stage (FN=23). 'Anti-Carjack' or engine immobilization can be disabled only by pressing secret button. **'Anti-Carjack' function can be turned OFF / ON** with ignition ON by pressing secret button and afterwards pressing together remote control buttons ⓜ and ① or ⓓ and ⓓ holding them down till short siren chirp.				✓	✓		✓
SN=7	'Anti - Carjack' triggered **upon ignition turn ON**. On triggering, a 40 second countdown begins and 'Anti-Carjack' is set in the final stage (FN=23). 'Anti-Carjack' or engine immobilization can be disabled only by pressing secret button. **'Anti-Carjack' function can be turned OFF / ON** with ignition ON by pressing secret button and afterwards pressing together remote control buttons ⓜ and ① or ⓓ and ⓓ holding them down till short siren chirp.				✓	✓		✓
FN=23	**Function: OPERATION OF 'ANTI - CARJACK'**							
SN=1	With 40 seconds elapsed since 'Anti-Carjack' triggering, the siren starts sounding and direction indicators flashing. After ignition turn - OFF, the engine is immobilized, the system rearms. If alarm is ON, cancelling of engine immobilization is possible only by disabling the alarm and pressing a secret button.				⊘	⊘		⊘
SN=2	With 40 seconds elapsed since 'Anti-Carjack' triggering, the siren starts sounding and direction indicators flashing. 10 seconds after the engine is immobilized, the system rearms. If alarm is ON, engine immobilization can be cancelled only by disabling the alarm and pressing a secret button.				✓	✓		✓
FN=33	**Function: UNRESPONSIVE TIME AFTER ARMING.**							
SN=1	Unresponsive time is 5 seconds. Engine bonnet, luggage compartment switches and sensors monitoring starts after 5 seconds of alarm enabling.	✓	⊘	⊘	⊘	⊘	⊘	⊘
SN=2	Unresponsive time is 45 seconds. Engine bonnet, luggage compartment switches and sensors monitoring starts after 45 seconds of alarm enabling.	✓	✓	✓	✓	✓	✓	✓
FN=41	**Function: ARMING WITHOUT A REMOTE CONTROL.**							
SN=1	Arming without a remote control function is turned OFF.				⊘	⊘		⊘
SN=2	Arming without a remote control will be turned ON if, secret button is pressed twice with the ignition OFF, door opened and then closed. Central lock is locked.				✓	✓		✓
FN=42	**Function: WARMING - UP THE ENGINE.**							
SN=1	Engine warming - up function is turned OFF.				⊘	⊘		⊘
SN=2	With ignition ON and secret button pressed twice later time, alarm is enabled and central locking is possible by pressing remote control button ⓜ or ⓓ. The system will not respond to shock or volume sensor, however in case of door opening, engine bonnet or luggage compartment, the siren starts sounding, direction indicators flashing. Depending on 'Anti-Carjack' function settings (FN=23) the engine is immobilized within 10 seconds and the system rearms or immediately after the ignition turn OFF the engine is immobilized and alarm enabled. Alarm is disabled by pressing button ① or ⓓ.				✓	✓		✓
FN=44	**Function: AUTO - REARM**							
SN=1	Auto - rearm with no central locking. The alarm will be activated automatically if vehicle doors, engine bonnet and luggage compartment remain unopened within 45 seconds after disarming.	✓	⊘	⊘	⊘	⊘	⊘	⊘
SN=2	Auto-rearm with central locking. The alarm will be activated automatically if vehicle doors, engine bonnet and luggage compartment remain unopened within 45 seconds after disarming. Central lock is locked.	✓	✓	✓	✓	✓	✓	✓
SN=3	Auto - rearm is disabled. Auto rearm function is non-operational after the alarm disarming.	✓	✓	✓	✓	✓	✓	✓
FN=51	**Function: PURPOSE OF CC1.**							
SN=1	Engine bonnet or luggage compartment release impulse. Pressing remote control button ① or ⓓ for more than 2 seconds generates negative polarity impulse in CC1 equal to the time of button pressing.	✓	⊘	⊘	⊘	✓	⊘	✓
SN=2	40 second negative polarity impulse generated upon alarm and designed for closing of power-operated windows and sunroof.	✓	✓	✓	✓	✓	✓	✓
SN=3	If any door, engine bonnet or luggage compartment is opened with alarm enabled, inner zone of the sensor is triggered generating impulse for pager message.	✓			✓	✓		✓
SN=4	If any door, engine bonnet or luggage compartment is opened with alarm enabled, inner or outer zone of the sensor is triggered generating impulse for pager message.	✓			✓	✓		✓
SN=5	CC1 designed for controlling GSM module GSW.	✓				⊘		⊘
SN=6	Upon alarm turn ON CC1 generates negative polarity impulse which is terminated with alarm disabling.				✓	✓		✓
FN=52	**Function: PURPOSE OF CC2.**							
SN=1	Additional immobilization. CC2 is used to control a relay (with normally uncovered contacts) which cuts off starter operating circuit.	✓	⊘	⊘	⊘	⊘	⊘	⊘
SN=2	40 second negative polarity impulse generated upon alarm and designed for closing of power-operated windows or sunroof.	✓	✓	✓	✓	✓	✓	✓
SN=3	Engine bonnet or luggage compartment release impulse. Pressing remote control button ① or ⓓ for more than 2 seconds generates negative polarity impulse in CC2 equal to the time of button pressing.	✓	✓	✓	✓	✓	✓	✓
SN=4	Luggage compartment control impulse. Pressing remote control button ⓑ or ⓢ for more than 2 seconds generates negative polarity 1,5 second impulse in CC2. When closing the luggage compartment the system will return to arming.	✓	✓	✓	✓	✓	✓	✓
FN=55	**Function: CENTRAL LOCK CONTROL.**							
SN=1	Short impulse. Central lock is operated by 0.5 second impulse.	✓	⊘	⊘	⊘	⊘	⊘	⊘
SN=2	Long pulse. Central lock is operated by 4 second impulse.	✓	✓	✓	✓	✓	✓	✓
SN=3	Short impulse to lock, double impulse to unlock. Alarm arming generates 0.5 second pulse, disarming two 0.5 second impulses with 1 second intermission.	✓	✓	✓	✓	✓	✓	✓
SN=4	Double impulse. Central lock is operated by two 0.5 second impulses (with 1 second pause) generated by alarm arming and disarming.	✓	✓	✓	✓	✓	✓	✓
FN=65	**Function: TYPE OF SIREN AND SOUND LEVEL.**							
SN=1	Siren with no inner modulation (speaker with coil impedance at least 4 Ohm). Maximum sound level.	✓					✓	✓
SN=2	Siren with no inner modulation (speaker with coil impedance at least 4 Ohm). Sound level reduced 2 time.	✓					✓	✓
SN=3	Siren with no inner modulation (speaker with coil impedance at least 4 Ohm). Sound level reduced 4 time.	✓					✓	✓
SN=4	Siren with no inner modulation (speaker with coil impedance at least 4 Ohm). Sound level reduced 8 time.	✓					⊘	⊘
SN=5	Siren controlled by voltage, with inner modulation.	✓	⊘	⊘	⊘	⊘	✓	✓
FN=66	**Function: SIREN SIGNAL ON ARMING OR DISARMING.**							
SN=1	Silent. Arming and disarming with no siren signal.	✓	⊘	⊘	⊘	⊘	✓	✓
SN=2	Loud/silent. Short press of remote buttons arms/disarms the system with sound signals, while long press (1 second) without sound signals.		✓	✓	✓	✓	✓	✓
SN=3	Silent/loud. Short press of remote buttons arms/disarms the system without sound signals, while long press (1 second) with sound signals.		✓	✓	✓	✓	⊘	⊘
FN=71	**Function: MEMORY OF THE 3rd (recent) ALARM ZONE.**							
SN=1	Number of flashes of direction indicators indicates number of the triggered alarm zone.	✓	✓	✓	✓	✓	✓	✓
FN=72	**Function: MEMORY OF THE 2nd ALARM ZONE.**							
SN=1	Number of flashes of direction indicators indicates number of the triggered alarm zone.	✓	✓	✓	✓	✓	✓	✓
FN=73	**Function: MEMORY OF THE 1st ALARM ZONE.**							
SN=1	Number of flashes of direction indicators indicates number of the triggered alarm zone.	✓	✓	✓	✓	✓	✓	✓
FN=77	**Function: SENSOR TYPE.**							
SN=1	One - level.	✓	⊘	⊘	⊘	⊘	⊘	⊘
SN=2	One - level with no siren signal.	✓	✓	✓	✓	✓	✓	✓
SN=3	Two - level.		✓	✓	✓	✓	✓	✓
SN=4	Two - level with no warning zone siren signal.		✓	✓	✓	✓	✓	✓
SN=5	Two - level with no siren signal.		✓	✓	✓	✓	✓	✓
FN=88	**Function: CHANGING THE PIN CODE.**	✓	✓	✓	✓	✓	✓	✓
FN=99	**Function: FACTORY SETTINGS.**	✓						
SN=1	Restoring factory settings and the default PIN code.	✓	✓	✓	✓	✓	✓	✓

8. 'E50' WIRING DIAGRAM for program versions E50_G, E50_I, E50_C, E50V_I, E50V_C.



9. 'E50' WIRING DIAGRAM for program versions E50_C, E50M_C, E50VM_C, when using additional alarm function or GSW.