

Technical manual

# AUTOCAN

5

Innovative approach to today's vehicles

F

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## Unit Description

AutoCAN-F CAN bus interface unit (adapter) hereinafter referred to as "the unit" is designed for facilitating operations on installing accessory alarm systems in the vehicles equipped with this bus. The unit allows reading data required for the alarm system directly from the bus and controlling certain devices of the vehicle. The unit is connected to vehicle CAN bus and interfaces with it on both program and hardware levels in accordance with the requirements of bus developer – "Robert Bosch" GmbH (Germany).

The unit has algorithms independent from the accessory alarm that control the central locking system and comfort feature of the vehicle (see Unit programming section, Annotations to Table 5). They can be activated or deactivated depending on availability of analogical algorithms of the accessory alarm or the vehicle itself.

For information on connecting the unit to each given vehicle along with the list of vehicles for which the unit is designed please refer to Integrator documentation (hereinafter referred to as Integrator).

## Terms

**Programming button** is one of original vehicle buttons that is used for unit programming (for buttons specific for each given vehicle please see Integrator). Programming button remains unchanged during unit's operation. It can be changed only when installing the unit in the vehicle (see Changing the programming button section).

**Security** is the condition of the unit that is entered by locking vehicle doors with any means provided by vehicle manufacturer (driver's door lock, door handle sensor button, trunk button, remote control, "rearming" etc.) that includes activation of original security system. Exiting the security condition is carried out by unlocking the doors by any of methods indicated above or by turning the ignition off.

**Rearming** is entering the Security condition via vehicle's original automatic central locking system's activation (see vehicle documentation for details).

**Alarm** is the security alarm system mode when it signals in some way that the vehicle is subject for a felonious attempt (sounding the siren, hazard lights blinking).

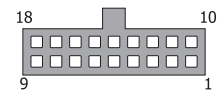
**Comfort feature** is an original feature that allows not only locking vehicle doors but closing the windows of the vehicle using the remote control and (or) key (hatch closing is also available).

**Double locking** locks doors' locks in a way that prevents doors opening from both outside and inside of the vehicle.

## Unit Inputs / Outputs

The unit has 8 universal outputs: 4 positive and 4 negative (see **Unit port table** for details). Each output can be assigned with one of 19 functions (see CAN bus adapter functions table for details). Outputs are completely independent and every function can be assigned to several outputs (both positive and negative) at the same time, but in the meantime, every output can be assigned with only one function. Outputs configuration is carried out by programming (see **Unit Programming section**).

vehicle's devices with the unit and for programming the unit.



Pin numeration in the port from the wiring viewpoint

Two positive and four negative inputs are used for controlling

**Table 1. Unit Port**

No.	Color	Type	Assignment	Current, mA
1	Black	Power supply	Ground	–
2	Brown	CAN	CAN-L vehicle data bus	–
3	Yellow/blue	(-) output	Programmable negative output	500
4	Yellow	(-) output	Programmable negative output	100
5	Yellow/green	(-) output	Programmable negative output	100
6	Yellow/white	(-) output	Programmable negative output	100
7	Orange/blue	(+) input	Brake lights condition control	1,5
8	Gray/white	(-) input	Trunk opening	1,5
9	Green/black	(-) input	Comfort feature halting / Alternate Programming button	1,5
10	Red	Power supply	+12V unit supply	100(2)
11	Brown/red	CAN	CAN-H vehicle data bus	–
12	Pink/black	(+) output	Programmable positive output	1300
13	White/red	(+) output	Programmable positive output	100
14	White/blue	(+) output	Programmable positive output	100
15	Orange/black	(+) output	Programmable positive output	100
16	Green/white	(+) input	Turn lights activation	1,5
17	Blue	(-) input	Doors locks unlocking / sequential unlocking	1,5
18	Green	(-) input	Doors locks locking / status control	1,5

- 1) – Useful current of output No. 1 depends on demand connected to negative outputs.
- 2) – These outputs are used for alternate central locking system and hazard lights control in vehicles where CAN bus control is not available.
- 3) – It is unnecessary to connect input No. 7 in the majority of vehicles for the required information is stored in CAN bus. Below is the detailed description of operations with these inputs.
- 4) – Typical values of useful current in operation and standby modes are indicated. It may vary depending on positive inputs' load.

Outputs No. 3, 12 are protected from short circuit, inductive eruptions, overheating and demand exceeding maximum allowed indicators. Outputs No. 4, 5, 6, 13, 14, and 15 are designed as per open collector scheme and are equipped with self-restoring fuses. Outputs operation with demand exceeding the indicated one is not guaranteed.

## Unit port pins description

Pin No. 1 – Ground is connected to vehicle's body in one of the areas determined by the vehicle manufacturer for connecting the ground of original electrical equipment.

Pins No. 2, 11 – CAN-L, CAN-H are connected to the vehicle's CAN bus (see Integrator).

Pins No. 3-6 – Programmable negative outputs.

Pin No. 7 – (+) input. Brakelights condition control. In the majority of cases connecting this pin is unnecessary. It is used only when programming the unit and only in case if the **vehicle's CAN bus does not contain brake pedal position data** (availability of this information in CAN bus can be checked by temporarily programming Brake function in one of unit's port). In this case input No. 7 is to be connected to the output of brake pedal's terminal switch. In case if CAN bus contains signal on brake pedal position, the input loses its function and regains it only when reverting to factory default settings is carried out (see **Reversing to factory default settings section**).

Pin No. 8 – (-) input. Trunk opening. Sending an impulse to this input of the unit allows opening the trunk lid.

Pin No. 9 – (-) input. Comfort feature halting / Alternate Programming button.

Comfort feature halting. Sending an impulse to this input allows halting the operation of comfort feature launched by the unit without deactivating the vehicle security mode hence ventilating the vehicle. Sending an impulse prior to setting the vehicle in security mode carried out with output No. 18 cancels the launch of comfort feature for this setting.

Alternate Programming button. It is used only in case if the original programming button is not available (see **Unit programming section**). Then this input is to be connected to the ground via normally open button.

The input can be used for one of the functions or for both functions at the same time: when the ignition is off it is used for halting the comfort feature, and when the ignition is on it is used for programming.

Pin No. 10. Unit power supply is connected to one of vehicle's wires with +12V constant voltage through 3A fuse.


Pins No. 12-15. Programmable positive outputs.

Pin No. 16 – (+) input. Turn lights activation. Sending an impulse to this input allows blinking with the turn lights. In certain vehicles due to their constructive particularities, irregular blinking may occur while the impulses are sent regularly.


Pin No. 17 – (-) input. Doors locks unlocking / sequential unlocking.

Pin No. 18 – (-) input. Doors locks locking / status control.

Inputs No. 17 and 18 are designed for controlling the doors' locks, original security system and comfort feature. Two operation modes are available (they can be set during programming).

- Impulse control.** Impulse signals formed by accessory alarm system are used for controlling door locks. When sending an impulse to input No. 18 the unit locks the doors, launches the comfort feature  and arms the original security system. When sending an impulse to input No. 17 the unit halts the comfort feature if it is active, disarms the original alarm system and unlocks all the doors. If the sequential opening feature is activated (p. 15 of **Unit hardware functions configuration (Menu 1)**), only the driver's door is opened. The remaining doors can be opened by sending the second impulse to input No. 17.
- Status control.** Status signal formed by the accessory alarm system is used for operation (engine locking output or any other output active only in security mode). When the constant level signal is sent from input No. 18, the unit halts the comfort feature if it is active, disarms the original alarm system and unlocks all the doors. If the sequential opening feature is on, only the driver's door is opened. The remaining doors can be opened by sending the second impulse to input No. 17.

When programming the unit it is possible to choose whether the unit controls the original vehicle alarm system when its doors are locked (opened) with unit input No. 17 (see **Table 2**).

 comfort feature may not be launched by vehicle electronics for energy saving purposes.

## Unit programming

Unit programming is carried out with the Programming button. In case of the unit does not respond to pressings of Programming button please use the alternate Programming button (see **Unit port pins description section**). If the unit responds to signals of the original Programming button and it has been pressed at least once after installation, the alternate Programming button loses its functions.

**First programming stage. Unit interfacing with the vehicle.**

Vehicles supported by the unit are divided into functional groups: each group is divided into subgroups, all groups and subgroups are assigned with item ordinals (see **Integrator**).

Upon unit installation it is necessary to interface it with the vehicle by carrying out a set of actions (see **Integrator**). Interfacing is unit's detecting the vehicle group and subgroup. Upon launching the vehicle identification algorithm the unit emits a constant audible signal.

If the unit identifies only the vehicle group it will stop emitting the constant audible signal and will periodically emit series of audible signals

where the number of signals corresponds with the group number.

If the unit identifies both vehicle group and subgroup it will inform on vehicle interfacing completion by emitting a sound trill and triple series of audible signals where the number of long signals corresponds with vehicle group number and the number of short signals corresponds with the subgroup number.

If upon all the actions the unit has not identified the vehicle's subgroup and is constantly emitting series of signals informing only on group number, it is necessary to carry out the forced subgroup number entry (see **Unit hardware functions programming (Menu 1) table**, p. 1).

**Second programming stage. Unit configuration programming.**

At the second stage unit hardware functions and user settings are changed. Two independent menus are used during programming (see **Unit hardware functions programming (Menu 1)** and **Unit user settings programming (Menu 2) tables**).

**Table 2. Unit hardware functions configuration (Menu 1)**

Option No.	Option assignment	Setting range	Original settings	Note	
1	Vehicle model	–	–	See Unit interfacing with the vehicle section	
2	Standard outputs configurations	1 – 4	3	1 – diagram No. 1, 2 – diagram No. 2, 3 – diagram No. 3 (see Standard outputs configurations table), 4 – user configuration	
3	(-) output No. 3	1 – 19	7	See CAN bus adapter functions table, Original settings – see Standard outputs configurations table	
4	(-) output No. 4	1 – 19	1		
5	(-) output No. 5	1 – 19	7		
6	(-) output No. 6	1 – 19	7		
7	(+) output No. 12	1 – 19	11		
8	(+) output No. 13	1 – 19	5		
9	(+) output No. 14	1 – 19	4		
10	(+) output No. 15	1 – 19	15		
11	Changes blocking	1 – 4	2		<b>1 – Public, 2 – OFF, 3 – User, 4 – Admin</b>
12	Increased comfort feature operation time	1 – 2	2		1 – comfort feature increased operation time is set; 2 – Standard comfort feature operation time is set.
13	Not used in this unit	–	–		
14	Status control	1 – 2	2	1- Status control; 2- impulse control (see Unit port pins description section, inputs No. 17 and 18)	
15	Sequential doors unlocking	1 – 2	2	1 – sequential doors unlocking is on 2 – sequential doors unlocking is off	
16	Original alarm system control	1 – 2	1	1 – original alarm system control is on 2 – original alarm system control is off	

### Annotations to Table

**Option No. 1.** Vehicle model. Allows setting vehicle subgroup (see Integrator) in case if the unit has not identified it when interfacing with the vehicle.

**Option No. 2.** Standard outputs configurations. It is designed for selecting one of standard outputs configurations. Standard configurations (schemes) are created by the manufacturer in order to hasten the programming process. The unit has three standard schemes described in Outputs standard configurations table. When selecting scheme number 1 to 3, unit's outputs automatically accept settings as per description in the corresponding column of the table (Scheme No. 1, Scheme No. 2, and Scheme No. 3). Setting 4 is set automatically if at least one of the outputs has been reprogrammed and outputs configuration differs from standard one.

**Options No. 3 – 10** are designed for creating a personal user configuration of unit's outputs by assigning one of 19 functions from Can bus adapter functions table to the certain output.

**Option No. 11.** Changes blocking allows prohibiting unit's hardware functions' reprogramming. This option has 4 settings:

- 1. Public:** reprogramming is prohibited for all menu options except for option 11.
- 2. OFF:** prohibition is removed, all options are re programmable.
- 3. User:** prohibition is set for all the options except for options 1 and 12. Password entry is required in order to remove prohibition.
- 4. Admin:** prohibition is set for all menu options. Password entry is required in order to remove prohibition.

Settings 1 (Public) and 2 (OFF) can be set with Programming button. Settings 3 (User) and 4 (Admin) and the password can be set only when programming the unit with PC and with use of original TECPROG pro-

gramming unit. User or Admin prohibition can be removed only with use of TECPROG upon entering the password. User mode can be switched to Public for prohibiting the reprogramming of all the options except for option 11. In this case Public mode can only be switched back to User mode.

Restoring to factory default settings leads to resetting of only those options, reprogramming of which is not prohibited and password-protected.

In any setting of option No. 11, menu access is available along with options navigation and option condition checking.

**Option No. 12.** Increased comfort feature operation time allows setting an increased operation time of the comfort feature (applicable for convertibles).

**Option No. 13.** Is not used.

**Option No. 14.** Status control allows setting either impulse or status control of unit's outputs No. 17 and 18 (see Unit port pins description section).

**Option No. 15.** Sequential doors opening allows activating or deactivating the sequential doors opening via unit's output No. 17 (see Unit port pins description section).

**Option No. 16.** Original alarm system control. If the original alarm system control is activated, the unit carries out the vehicle locking (unlocking) with the commands that arm (disarm) the original alarm system (via original remote control, keyhole etc.).

If the original alarm system control is off, the unit carries out the vehicle locking (unlocking) with the commands that do not arm (disarm) the original alarm system (e.g., central locking system activation/deactivation with vehicle interior button).

**Table 3. Standard outputs configurations**

Scheme number	Scheme No. 1	Scheme No. 2	Scheme №3 (Factory setting)
(-) Output No. 3	Driver's door	Hood	Driver's door
(-) Output No. 4	Hood	All doors	Security
(-) Output No. 5	Rest of doors	Trunk	All doors
(-) Output No. 6	Trunk	Handbrake	Hood and trunk
(+) Output No. 12	Ignition	Ignition	Ignition
(+) Output No. 13	Perimeter lights	Transmission (P position)	Siren panic
(+) Output No. 14	ACC	Engine rpm	Original alarm system panic
(+) Output No. 15	Brake	Brake	Brake
Scheme purpose	Connection of typical security and anti-hijack systems, multimedia solutions.	Connection of typical security systems and remote starting systems.	Connection of satellite-based stolen vehicle recovery system.

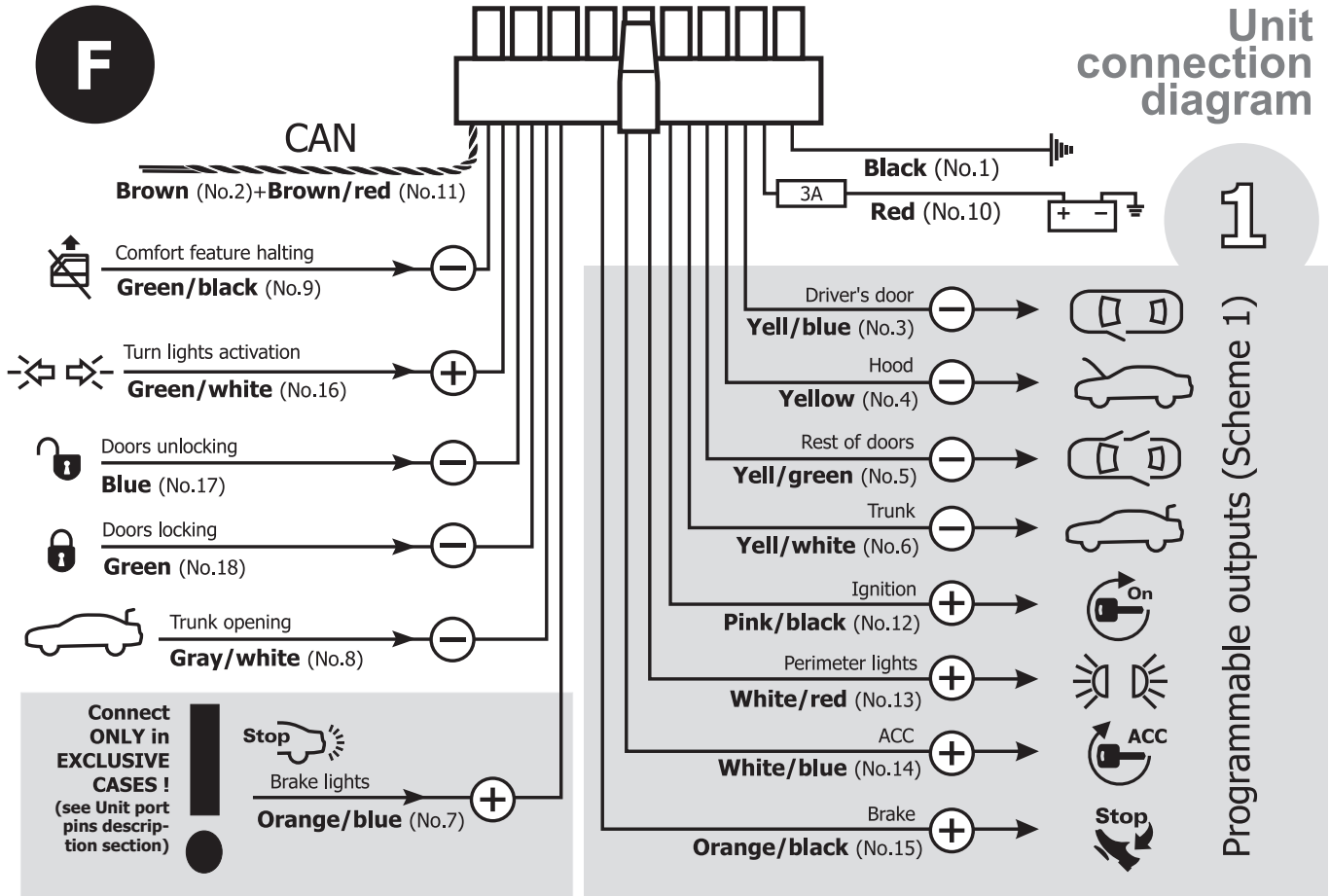
**Table 4. CAN bus adapter functions**

Function		Function description
No.	Name	
1	Security	Constant level signal is formed while the unit is in Security condition.
2	Arming impulse	0.8 second-long impulse is formed when the unit is armed.
3	Disarming impulse	0.8 second-long impulse is formed when the unit is disarmed.
4	Original alarm system panic	Constant level signal is formed for duration of original alarm system's (if one is installed in the vehicle) alarm condition.
5	Siren panic	30 seconds-long constant level signal is formed if one of the zones is triggered in security mode: the doors, hood, trunk are opened. The function can be used in vehicles that are not equipped with original alarm system. The signal stops when the vehicle is disarmed.
6	Claxon panic	30 seconds-long constant level signal is formed if one of the zones is triggered in security mode: the doors, hood, trunk are opened. The function can be used in vehicles that are not equipped with original alarm system. The signal stops when the vehicle is disarmed. It is used for sending an alarm signal to the vehicle's original claxon.
7	Doors, hood and trunk	Constant level signal is formed if any of pre-programmed doors, hood or trunk is opened.
8	Original button	Constant level signal is formed if pre-programmed vehicle button is pressed.
9	Transmission condition	Constant level signal is formed if the transmission handle is switched to the pre-programmed position (P, R, N, D <sup>1)</sup> ). For robotic transmissions R, N, D <sup>1)</sup> positions are available for programming. For manual transmission only R position is available.
10	Sensors ignoring	Constant level signal is formed in security mode if the trunk is opened with the original remote control. Also the signal is formed for the duration of comfort feature operation time. This function is designed for organizing sensors' deactivation for preventing false alarms.
11	Ignition	Constant level signal is formed when the ignition is turned on (including cases when the engine starts).
12	ACC	Constant level signal is formed when vehicle's ACC's are on (first position of ignition key, may match with ignition on position in some vehicles). It is deactivated only when the key is removed from the ignition lock. Can be used for correct power management of accessory multimedia system.
13	Engine on	Constant level signal is formed when the vehicle's engine is on.
14	Vehicle moving	Constant level signal is formed if the vehicle's speed exceeds a certain threshold (it varies among vehicles within the range from 5 to 10 kmph).
15	Brake	Constant level signal is formed when the brake pedal is pressed.
16	Perimeter lights	Constant level signal is formed when the perimeter lights are on.
17	Engine rpm	Constant level signal is formed with impulses frequency proportional to vehicle engine crankshaft rotation frequency. 1 imp / sec corresponds with 20 rpm crankshaft rotation frequency. The signal is designed for evaluational, not exact, rotation rate indication.
18	Movement speed	Constant level signal is formed with impulses frequency proportional to vehicle movement speed. 1 imp / sec corresponds with 1 kmph speed. The signal is designed for evaluational, not exact, speed rate indication.
19	Handbrake	Constant level signal is formed when the vehicle is put on handbrake.

<sup>1)</sup> all handle positions that allow the vehicle to move forward (D, S, M, L etc.)

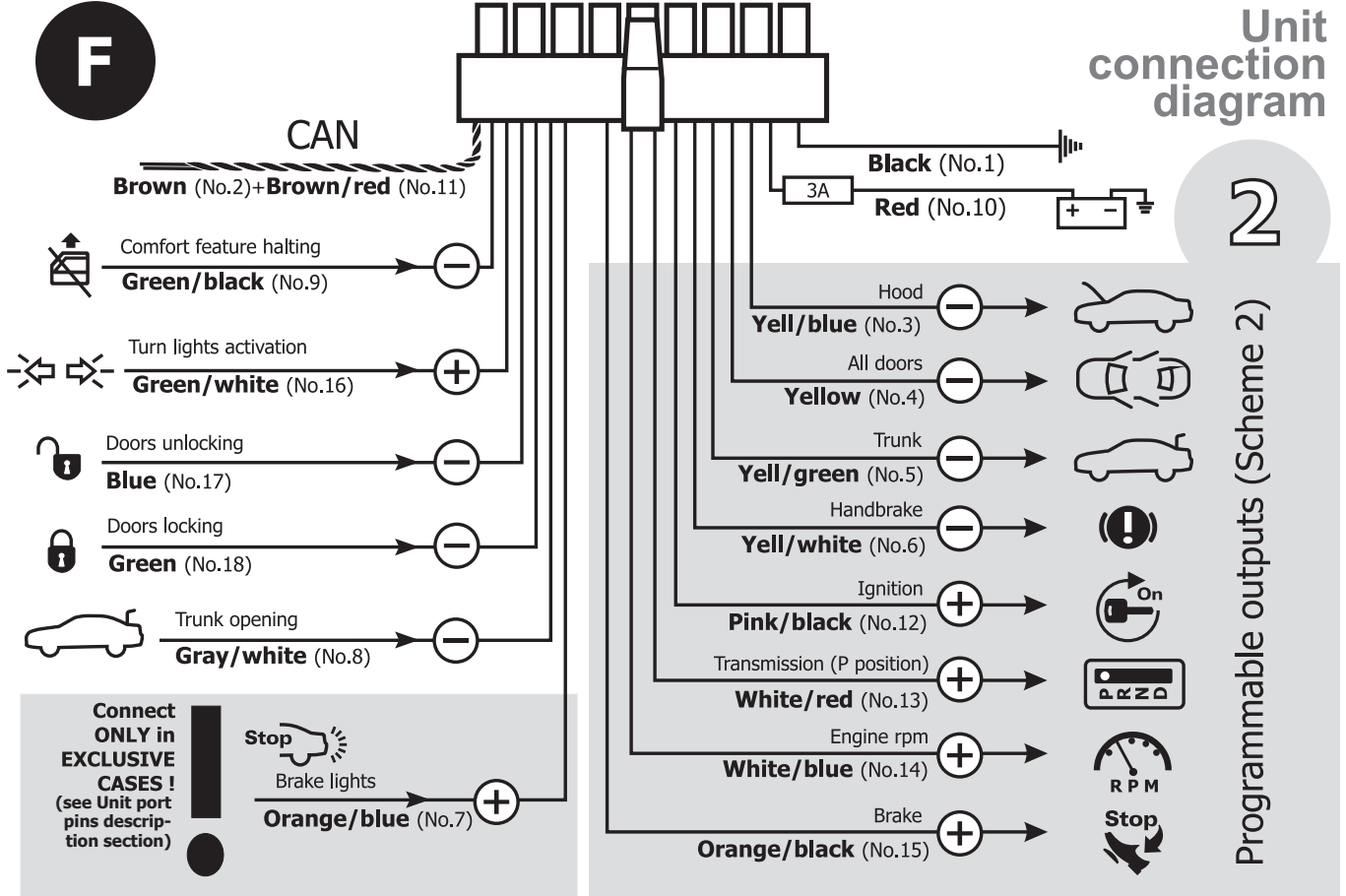
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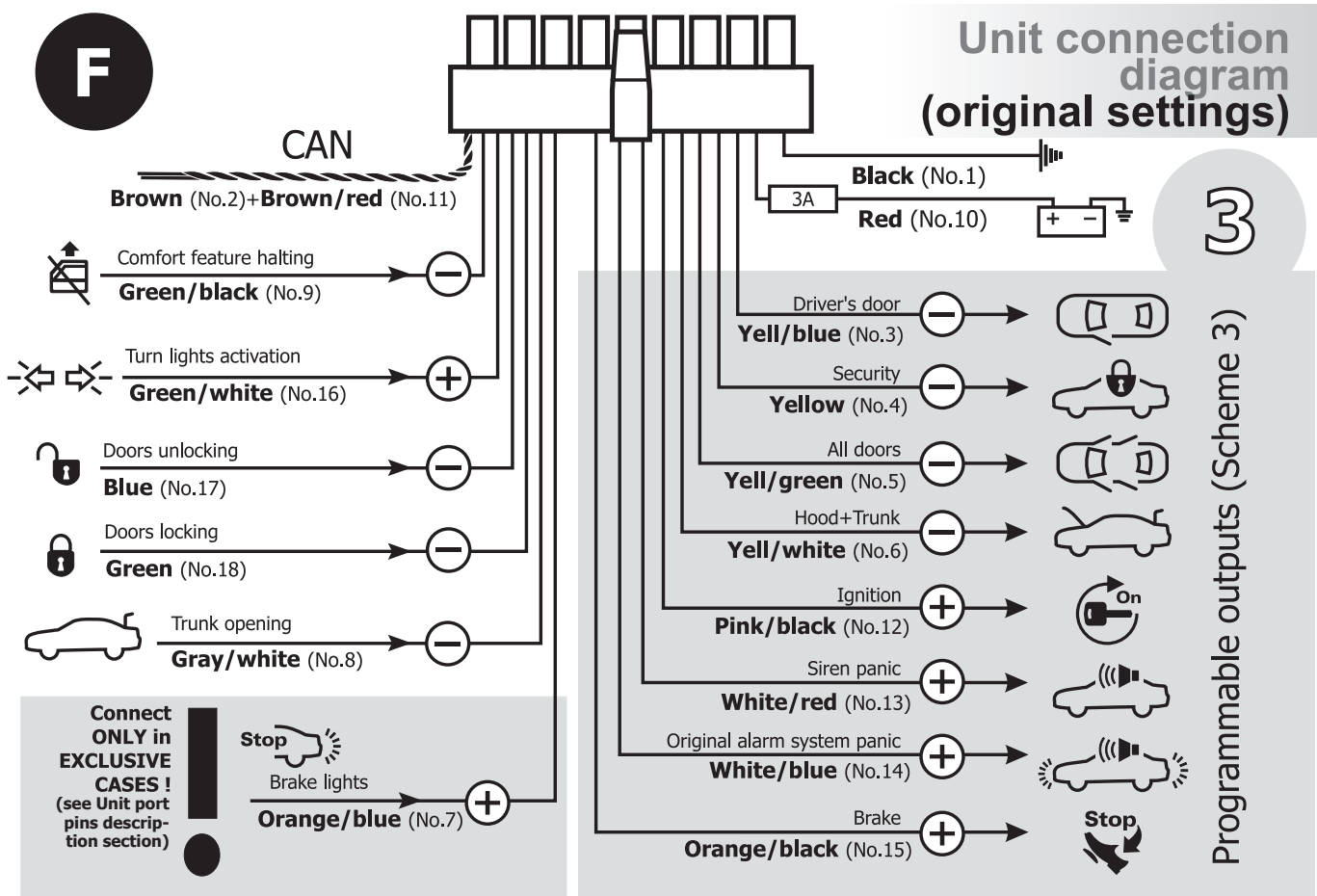
Unit connection diagram



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Unit connection diagram





**Table 5. Unit user settings configuration (Menu 2)**

Option No.	Description	Original settings	Number of audible signals	
			Function on	Function off
<b>1-8</b>	Not used in this unit	-	-	-
<b>9</b>	Central locking activation when driving	Off	1	2
<b>10</b>	Central locking deactivation when the ignition key is removed	Off	1	2
<b>11</b>	Automatical windows closing	On	1	2

**Annotations to Table**

**Option No. 9.** Central locking activation when driving allows turning the automatic central locking activation when driving starts on or off.

**Option No. 10.** Central locking deactivation when the ignition key is removed allows turning the automatic central locking deactivation when the ignition key is removed activation on or off. If CAN bus does not contain data on ignition key presence in ignition lock, the central locking will deactivate when the ignition turns off.

**Option No. 11.** Automatic windows closing allows turning the auto-

matic activation of comfort feature when arming on or off. If the function is activated, the unit will send the vehicle a command to close the windows and the roof insert in 2 seconds after the vehicle was armed. In order to arm the vehicle and cancel automatic comfort feature activation it is necessary to press the "lock" button of the remote control for a long period of time. When the windows start moving please release the "lock" button and the movement will stop.

**Programming sequence**

- 1 Turn the ignition on
- 2 Enter the required programming menu by entering the following code within 10 seconds since ignition's activation:
  - 2.1 In order to access Menu 1. Unit hardware functions configuration (see Table 2) please press and release the Programming button ten times. The unit will inform on menu entering with three audible signals;
  - 2.2 In order to access Menu 2. Unit user settings configuration (see Table 5) please press the programming button twelve times. The unit will inform on menu entering with three audible signals.
- 3 Select menu option by pressing and releasing the Programming button for the number of times corresponding with the required option number (see Table 2 and Table 5). The unit will inform on option number with series of audible signals.
- 4 Go to option setting by pressing and holding the brake pedal. The unit will inform on option's setting with series of audible signals. The duration of signals will change. When the brake pedal is pressed down, programming mode exit countdown does not start (see p. 7).
- 5 Change the option setting by pressing and holding the Programming button for the number of times require for navigating the option to the required setting's number. For example, in order to replace function No. 4. Panic 1 with function No. 16. Perimeter lights, it is necessary to press and release the Programming button 12 times. The unit will inform on the new option setting with series of audible signals. Please consider the fact that when navigating the options, the last setting number is followed by the first one. Release the brake pedal. The unit will indicate the navigation from option condition back to the selected option number. Now you can move to programming the next option or leave the programming mode.
  - 5.1 Function No. 7. Doors, hood and trunk programming algorithm (applicable only for options No. 3 – 10 of Menu 1). Any combination of doors, hood and trunk, the opening of which will cause the unit to form a signal at the programmable output can be set. In this algorithm's description doors, hood and trunk are referred to as doors. With the brake pedal pressed down navigate to option


setting number 7. The unit will inform on option setting twice with series of 7 audible signals, upon which it will start emitting dashed audible signal. When the dashed audible signal is heard, release the brake pedal. The unit will continue emitting the dashed audible signals. Open only the doors that are to be indicated by this output, while the remaining doors are to remain closed (doors can be open in advance). Press the brake pedal again. The unit will inform on option setting with series of 7 audible signals and the doors will be assigned to this output. If the brake pedal is not pressed and current option programming is stopped, the unit will save the option's original setting. Release the brake pedal. The unit will start indicating the option number.

- 5.2 Function No. 8. Original button programming algorithm (applicable only for options No. 3 – 10 of Menu 1). With the brake pedal pressed down navigate to option setting number 8. The unit will inform on option setting twice with series of 8 audible signals, upon which it will start emitting dashed audible signal. Without releasing the brake pedal please press the required button (for vehicle model - specific list of buttons please see Integrator). If the unit has responded to the button, it will stop emitting the dashed audible signal and will once again indicate the option setting number with series of 8 audible signals. Release the brake pedal. The unit will start indicating the option number with series of audible signals. If the brake pedal is released prior to setting the button, the unit will leave the option, saving the option's original setting and will start indicating the option number.
- 5.3 Function No. 9. Transmission condition programming algorithm (applicable only for options No. 3 – 10 of Menu 1). With the brake pedal pressed down navigate to option setting number 9. The unit will inform on option setting

twice with series of 9 audible signals, upon which it will start emitting dashed audible signal. Without releasing the brake pedal please switch the transmission into the required position: P, N, D<sup>\*</sup> or R (the transmission handle may be set in the required position in advance), for robotized transmission the positions are: R, N, D<sup>\*</sup>; for mechanical transmission only R position is available. Release and press the brake pedal again. The unit will stop emitting the dashed signal and will once again indicate the option setting number with series of 9 audible signals. Release the brake pedal. The unit will indicate the option number. If the brake pedal is not pressed and current option programming is stopped, the unit will save the option's original setting.

- 6 In order to move to the next option's programming press and release the Programming button for the number of times required for navigating the menu from the current option's number to the required option's number. For example, in order to navigate from option No. 2. (Standard outputs configurations) to option No. 8 ((+) Output No. 13) in Menu 1, it is necessary to press and release the Programming button 6 times. Please consider the fact that when navigating the options, the last setting number is followed by the first one.
- 7 Exiting the programming mode. The unit will exit the programming mode and will keep all the configuration settings in permanent memory when the ignition is turned off or upon 60 seconds are passed since last menu action if the brake pedal is not pressed.

The procedure of resetting to factory default settings is described in [Reverting to factory default settings](#) section.

 all handle positions that allow the vehicle to move forward (D, S, M, L etc.).

### Changing the Programming button

- 1 Revert to factory default settings (see Technical manual).
- 2 Interface the unit with the vehicle.
- 3 In order to assign any of the buttons perceived by AutoCAN unit as the Programming button, press the selected button and hold it for longer than 5 seconds until you hear the audible signal.

**Attention!** The Programming button can be assigned within 15 minutes since unit interfacing with the vehicle. When the Programming button is assigned, it can be reassigned only by reverting to factory default settings.

### Programming example

**Statement:** it is necessary to change the original unit settings and to activate the sequential doors unlocking function.

**Execution.** Programming sequence:

- 1 Turn the ignition on
- 2 Enter Menu 1 by pressing and releasing the Programming button ten times. If all has been carried out correctly, the unit will inform of this fact with three audible signals.
- 3 Activate the sequential doors unlocking function by doing the following:
  - 3.1 Select programming option No. 15. Sequential doors unlocking by pressing and releasing the Programming button 15 times. The unit will inform on option number with series of 15 audible signals (see Unit hardware functions configuration (Menu 1) table).

- 3.2 Enter the programming option by pressing and holding the brake pedal. The unit will inform on option setting with series of two audible signals, for the current (original) setting of the unit is OFF (see Unit hardware functions configuration (Menu 1) table).
- 3.3 Activate the sequential unlocking function by pressing and releasing the Programming button once. The unit will inform on option setting with periodically repeated single audible signal. The function is ON.
- 3.4 Exit the programming option by releasing the brake pedal. The unit will inform on current option's number (No. 15) with series of 15 audible signals.
- 4 Exit the programming mode by turning the ignition off.

### Reverting to factory default settings

The unit has a procedure of resetting the programmable settings, where all vehicle model settings are removed from Immobilizer's permanent memory and all other programming options are returned to factory original values.

If certain or all menu options are password protected (see Table 2, p. No. 11), only the options that are not prohibited will be reset. The remaining ones will keep their current values.

The operation should be carried out on a desk with use of any 12V power source.

**In order to reset to factory default:**

- 1 Disconnect the unit from the power supply and CAN bus
- 2 Open the unit's casing
- 3 Close (e.g. with a pair of forceps) the contact pads marked with RST inscription of the unit's circuit plate.
- 4 Without removing the strap, connect the unit to the power source (CAN bus must be disconnected). The unit will emit dashed audible signal.
- 5 Disconnect the power supply, remove the strap.

### Outputs user configuration memo

With use of Table 6. Outputs user configuration you can easily compose a vehicle-specific unit installation map. In order to do so it is necessary to mark the selected standard configuration (schemes 1-3) and correspondence of CAN bus adapter functions with certain outputs in case if the standard configuration was changed. Besides,

unit's standard delivery kit includes user memory card stucked with analogical table. It is recommended to fill this card and attach it to the unit's body or vehicle part accessible only during maintenance.



**Table 6. Outputs user configuration**

Standard schemes	CAN bus adapter functions																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Scheme №1																			
Scheme №2																			
Scheme №3																			
Programmable unit outputs	«Protection»	Arming impulse	Disarming impulse	Original alarm system panic	Siren panic	Claxon panic	Doors, Cowl, luggage carrier	Factory button	Condition of a box of a gear shift	Ignoring of gages	Ignition	ACC	Engine is got	The car moves	Brake	Marker lights	Rotary speed of a bent shaft	Speed of movement	Parking brake
Output №3 (-)																			
Output №4 (-)																			
Output №5 (-)																			
Output №6 (-)																			
Output №12 (+)																			
Output №13 (+)																			
Output №14 (+)																			
Output №15 (+)																			

**Warranty**

TEC electronics Ltd. guarantees correspondence of hardware with all declared technical characteristics and its operability throughout the warranty period. Should a warranty case occur, the company is to carry out one of the following actions at its own discretion: to carry out a free repair or to replace the product within terms provided by Law.

The warranty is valid for the term indicated by the technical center that has installed this hardware but not less than one year since commencement of operation.

TEC electronics Ltd. has the right to refuse in warranty due to the following reasons:

- ◇ Hardware damage caused by infringement of storage, installation and operation rules indicated in the hardware documentation.
- ◇ Hardware installation in uncertified facilities.

- ◇ Incorrect completion of Warranty certificate and Installation certificate forms.
- ◇ Damage of original manufacturer's seals (if they are provided by the manufacturer) and traces of hardware violation.

The warranty does not cover the LED and any accessory products supplied with this hardware type.

TEC electronics Ltd. shall not be responsible for costs suffered due to dismantling or replacement of malfunctioning hardware, for vehicle theft or for theft out of the vehicle, for vehicle damage caused by lock-picking and for any other occasional and unoccasional damages of the vehicle and its hardware, both original and accessory.

For warranty matters please contact the company that sold and installed the hardware in your vehicle or any official TEC electronics Ltd.'s dealer

**Installation Certificate**

I, undersigned (full name) \_\_\_\_\_,

Professional installer, hereby certify that the installation of vehicle alarm system unit described below, has been carried out as per installation manuals provided by unit's manufacturer

**Vehicle description**

Mark	
Type	
Serial number (VIN)	
Registration number	

**Alarm system unit (immobilizer) description**

Brand: **AutoCAN-F**

Composed in one copy

Data « \_\_\_\_ » \_\_\_\_\_ 20\_\_ y.

Installed complete address and seal

City \_\_\_\_\_

Street \_\_\_\_\_ Building \_\_\_\_ Case \_\_\_\_

P h o n e

Mobile phone \_\_\_\_\_

Signature \_\_\_\_\_

First name, middle initial, last name \_\_\_\_\_

Stamp place

Post \_\_\_\_\_

## Warranty Certificate

Buyer's full name \_\_\_\_\_

Required vehicle data is indicated in Installation Certificate.

This vehicle is equipped with hardware as per the list included in the Installation Certificate

Additional installation information:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of hardware sale and installation « \_\_\_\_ » \_\_\_\_\_ 20\_\_ y.

Name of installer company \_\_\_\_\_ City \_\_\_\_\_

***I hereby confirm my being informed on information contained in this present certificate and confirm its correctness:***

Buyer \_\_\_\_\_  
Signature and family name

Seller \_\_\_\_\_  
Signature and family name

L.S.

### Standard delivery kit

Item name	Qty.
Central unit	1 pc
Wire harness with port	1 pc
CD	1 pc
Memory sticker	1 pc
Packaging	1 pc

### Technical data and operation conditions

Characteristic	Value
Power supply voltage, V	9...15
Max. useful current in operational mode, mA	1,5
Max. useful current, A	2
Operation temperature, °C	-40 ... +85
Storage temperature, °C	-40 ... +85
Relative external air humidity, %	95



**Manufactured by TEC electronics Ltd.**

Product is manufactured in accordance with TC 4372-004-78025716-09



**AB75**

The product corresponds with requirements of the following regulatory documents:  
GOST R 41.97-99  
GOST R 50789-95



Technical support: 8-800-333-8338

**[www.TEC-electronics.ru/en](http://www.TEC-electronics.ru/en)**

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