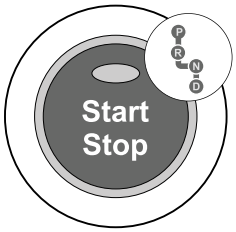
Pandora

Installation guide of **Pandora** security-service and remote start system for
Toyota Yaris Hybrid IV 2020 - ...
Push-to-Start button
Hybrid transmission

Model code: **2149**



WARNING! This installation manual has the status of recommendation.
This system MUST BE installed by a certified technician.

Connect the wires only when the base unit is disconnected.
It's prohibited to place the wires near sharp elements and moving parts of a car. Wiring through the holes should be passed using special rubber bushings.
The car's electrical scheme and wire colors may differs from the information shown in this guide, so suggested connection points MUST BE checked before installation.

Document structure:

- Commands and statuses / components location
- System settings
- Wiring diagram
- Learning procedure

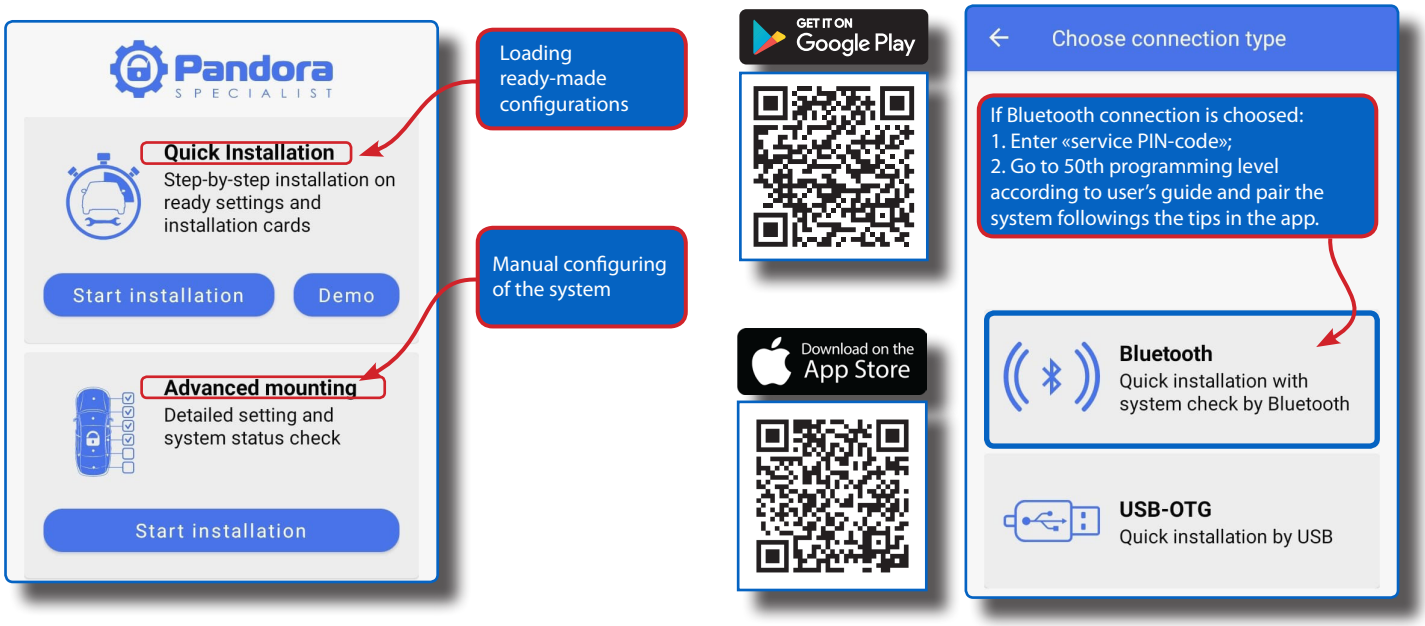
It's necessary to install special software before starting the installation of the security system to the car. Base unit settings can be configured by:

1. **«Alarm Studio» program:**

- Download the latest version of Alarm Studio: https://pandorainfo.com/alarmstudio-firmware/(program is archived, **ZIP** file is password protected);
- Unpack the archive > run the program > connect the base unit to PC;
- Switch the base unit to program mode by entering «**service PIN-code**» using Valet button (**1-1-1-1** by default);
- **Update the firmware of the base unit, then update Bluetooth firmware** using «Pandora Specialist» app, choose the vehicle model and adjust the settings of security system in accordance with the «System settings» table.

2. **Using «Pandora Specialist» application:**

- Download the app from **Play Market/App Store**, create an account, log in;
- Connect the base unit to mobile device via **Bluetooth** or using **USB-OTG** cable, following the tips in the application;
- **Update the firmware of the base unit and Bluetooth modem**;
- Download the configuration for selected vehicle, if it available, from «**Quick installation**» section or change the settings of security system using «**Advanced mounting**» menu.



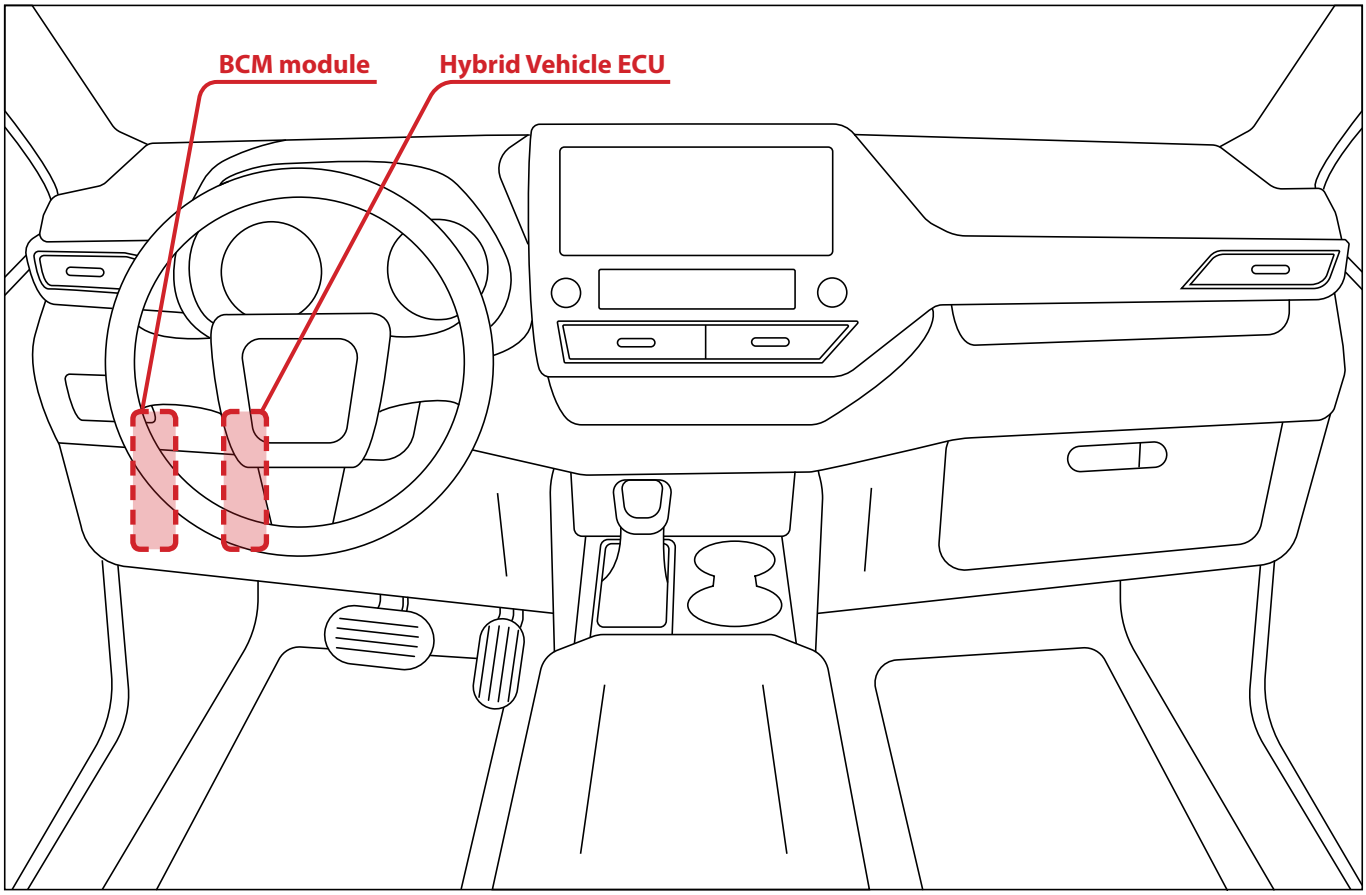
Bus	Statuses																									Commands									
Model code 2149	Driver door	Passenger door	Rear left door	Rear right door	Hood	Trunk	Ignition	Brake pedal	Parking lights	Parking brake	Neutral status	Tachometer	Slave mode	Slave by trunk	Slave by OE remote start	OE alarm status	Vehicle speed	Fuel level 1	Engine temperature	Outside temperature	Interior temperature	Central lock status	Mileage	Valet button	Validator buttons	Central lock control	Windows closing at arming	Parking lights control 2	Arm OE alarm	Disarm OE alarm 3	Trunk release	Additional function via CAN	Pre-heater control	Blocking via CAN	Keyless entry blocking
CAN 1	•	•	•	•	-	•	•	•	•	•	•	•	•	•	-	-	-	L	-	-	-	-	-	-	-	•	•	H	-	-	-	-	-	-	•

Bus	RS features					Advanced parameters *					Advanced parameters for electric, hybrid and plug-in hybrid vehicles							
	Algorithmic immobiliser bypass	Takeover 4	Remote start from car's key	ACC\Autolights OFF via CAN	Remote start via CAN	Distance to empty	Washer fluid level	Window glass position	Tires pressure (TPMS)	OBD II diagnostic trouble codes	Battery charger connector status	Fast charging	Slow charging	Remaining distance on HV battery	«Ready» status	Battery state of health (SOH)	Battery state of charge (SOC)	HV battery temperature
CAN 1	-	-	•	-	-	-	-	-	-	-	-	-	-	-	•	-	-	-
IMO/IMI	•																	

* Security systems that support advanced parameters:
- **Smart Pro V3, Smart V3**

1 - Fuel level is displayed in liters;
2 - Hazard lights;
3 - **For the vehicles equipped wth OE alarm.** It's possible to disarm the factory alarm by using analog «Unlock» wire of central lock control, see «wiring diagram» section. In this case, it's necessary to change the setting «**Security control with mechanism key**» of vehicle security system using dealer (or similar) scan tool;
4 - Choose «Stop engine when disarming» parameter in the settings of the alarm system.

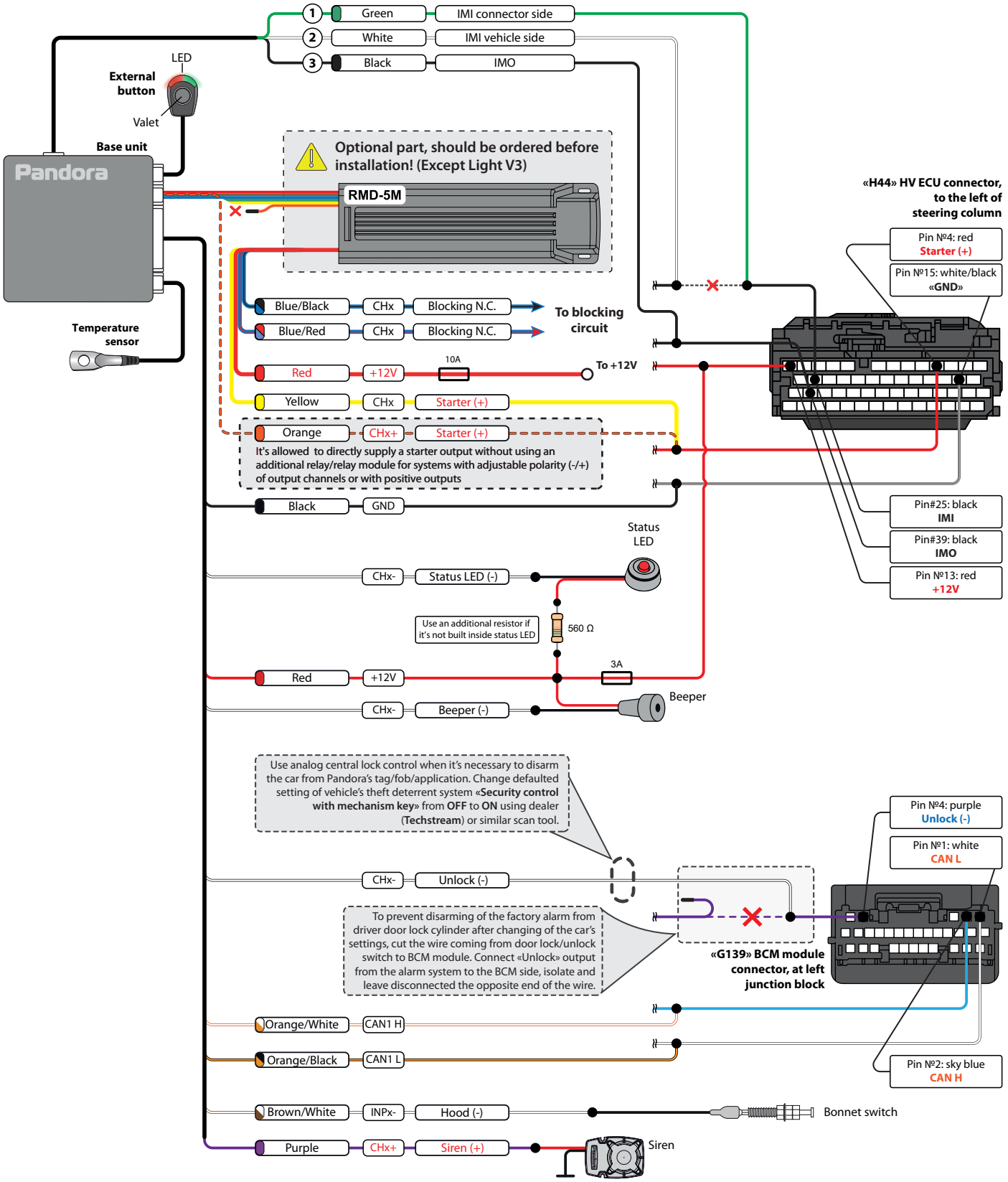
COMPONENTS LOCATION



All connection points are located at Hybrid Vehicle ECU and BCM module, to the left of steering column (for LHD cars).

	Name	Item	Setting	Note
I. MAIN	Setting of the warning level of the shock sensor	1.1.1	30	Test the sensitivity after installation. Adjust if necessary
	Setting of the alarm level of the shock sensor	1.1.2	25	
	Setting of the alarm level of the motion sensor	1.1.3	25	
	Setting of the alarm level of the tilt sensor	1.1.4	25	
	Algorithm of processing data from accelerometer	1.1.12	Algorithm F	
	Radio tag RSSI level	1.8(9).5	120% (max)	
	Radio tag hysteresis	1.8(9).6	5%	
II. AUTOMATIC START	Transmission type	2.1.2	Automatic	
	Stop engine when disarming	2.1.14	Enable	
	Car with START/STOP button	2.2.1	Disable	
	Enable bypass when engine is running	2.3.1	Enable	
	Keyless bypass option	2.3.3	Toyota imo_imi v3	
III. NPUTS / OUTPUTS	Inputs settings	3.1	Assign the inputs according to the wiring diagram. All other inputs should be DISABLED.	
	Outputs settings	3.2	Assign the outputs according to wiring diagram and selected channels. All other outputs should be DISABLED.	
V. CAN	Valet button	5.2.9	Disable	
	Central lock control	5.3.1	Enable	
	Turn lights control	5.3.3	Enable	
	Control over vehicle security system	5.3.5	Disable	
	Slave mode when arming factory alarm	5.4.1	Enable	
	Slave mode when disarming factory alarm	5.4.2	Enable	
	Slave mode when the trunk is opening	5.4.3	Enable	
VII. GPS	GPS anchor	7.1.3	Disable	

BACK

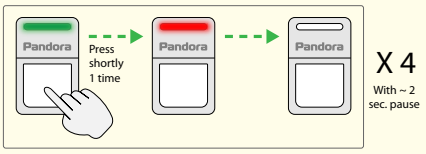

1 Green IMI connector side
2 White IMI vehicle side
3 Black IMO
LED
External button
Valet
Base unit
Pandora
Temperature sensor
Optional part, should be ordered before installation! (Except Light V3)
RMD-5M
«H44» HV ECU connector, to the left of steering column
Pin №4: red Starter (+)
Pin №15: white/black «GND»
Blue/Black CHx Blocking N.C.
Blue/Red CHx Blocking N.C.
To blocking circuit
Red +12V 10A To +12V
Yellow CHx Starter (+)
Orange CHx+ Starter (+)
It's allowed to directly supply a starter output without using an additional relay/relay module for systems with adjustable polarity (-/+) of output channels or with positive outputs
Black GND
Pin#25: black IMI
Pin#39: black IMO
Pin №13: red +12V
Status LED
CHx- Status LED (-)
Use an additional resistor if it's not built inside status LED
560 Ω
Red +12V 3A
CHx- Beeper (-)
Beeper
Use analog central lock control when it's necessary to disarm the car from Pandora's tag/fob/application. Change defaulted setting of vehicle's theft deterrent system «Security control with mechanism key» from OFF to ON using dealer (Techstream) or similar scan tool.
Pin №4: purple Unlock (-)
Pin №1: white CAN L
CHx- Unlock (-)
To prevent disarming of the factory alarm from driver door lock cylinder after changing of the car's settings, cut the wire coming from door lock/unlock switch to BCM module. Connect «Unlock» output from the alarm system to the BCM side, isolate and leave disconnected the opposite end of the wire.
«G139» BCM module connector, at left junction block
Orange/White CAN1 H
Orange/Black CAN1 L
Pin №2: sky blue CAN H
Brown/White INPx- Hood (-)
Bonnet switch
Purple CHx+ Siren (+)
Siren

1. Switching to the program mode*.

1.1

Conditions:
- System is **disarmed**;
- System is **not in the service mode**;
- Ignition is **OFF**.

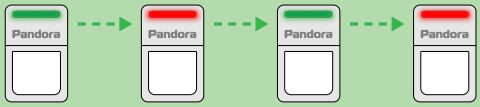
Enter «**Service PIN-code**» (**1-1-1-1** by default) short one-time (for code **1-1-1-1**) pressings of the «**Valet**» button with ~ **2 sec.** pauses.



1.2

Successful entering of «**Service PIN-code**» will be confirmed by a series of red and green flashes of LED indicator.

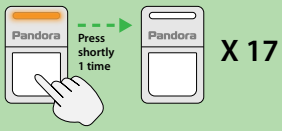
If PIN-code was entered incorrectly, LED will light red for a while. Repeat entering ot the PIN-code after 5 sec.



2. Learning of immobiliser bypass.

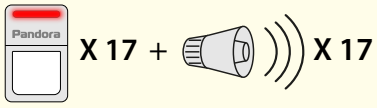
2.1

Enter **17th** programming level:
- Press «**Valet**» button **17** times in a row with intervals of no more than **1 sec**.



2.2

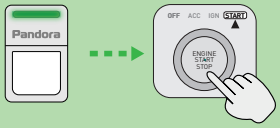
Successful entering to **17th level** will be confirmed by 17 red flashes of LED indicator and 17 short sound signals of siren/beeper.



2.3

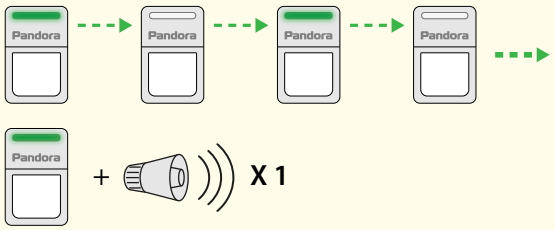
LED will light solid green. **Start** the engine (turn **READY ON**).

If the procedure fails (LED blinks red, siren sounds several times), check the settings and/or connection of the security system and repeat the learning attempt.



2.4

Wait, LED will blink **green** then turn solid **green**. Siren will sound once.

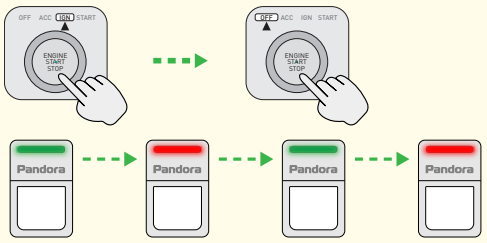


2.5

Press «**Valet**» button and turn the ignition **OFF**.

2.6

Turn the ignition **ON** and **OFF** again. System will be rebooted after 5 sec. and will be ready for **CLONE** procedure.



2.7

Perform the **CLONE** procedure using **Alarm Studio** program or **Pandora Specialist** application. Learning is finished.

***All described steps can be perfomed manually or in automated mode using «Pandora Specialist» application**