

# KEETEC®

**WARNING: Carefully read following instructions and technical specification in this manual before installation. The system must be installed and used only according to this manual. The system is designed for vehicles with 12V power supply. It has to be connected to 12V output and to the ground. Neither producer or seller of the system is responsible for damages caused by incorrect installation, using or operating of this product. Unprofessional operation or modification of the system can damage the system alone, or the electric system of the vehicle and leads to warranty loss. For proper working of the system we recommend the installation to be made by authorized service.**

## SYSTEM DESCRIPTION

The KEETEC MISTRAL MAX<sup>2</sup> is a car alarm designed for vehicles with 12 V supply voltage and is used to monitor the doors, trunk, hood, ignition switch and security loop. In case of their disruption, system is reporting alarm by optical and audible (siren) signalling. The system includes shock sensor with adjustable sensitivity, that in case of impact of vehicle reacts with alarm. When car alarm is activated, the system automatically blocks the starter circuit. The car alarm includes two AUX output, central locking outputs and trunk released output, too.

## I. DESCRIPTION OF REMOTE CONTROLLER

### Remote controller function

Button	Symbol	Function	Condition
1		Arm and Lock	Disarmed
		Car finder	Armed
		Stop alarm temporarily	Siren sounding
		Door Lock	While driving
3		Disarm and Unlock	Armed
		Door Unlock	While driving
		Stop alarm temporarily	Siren sounding
		Remote trunk release for 3 seconds	Anytime
2		Stop alarm temporarily	Siren sounding
		PANIC - press button for 3 seconds	Anytime
1+3 (5)		Activation of AUX1 output	Anytime
3+2 (4)		Activation of AUX1 output	Anytime
1 then 2		Arming with bypassed sensors	Disarming

## INDICATION BY STATUS LED

Slowly flashing	System arming
Quickly flashing	Alarm is triggered, Auto rearming countdown, Last door arming countdown
Permanently ON	Valet mode
Turn OFF	System disarming



## II. LEARNING CODE OF TRANSMITTER

It is possible to program up to 4 transmitters into the system. Follow the procedure below to program a new transmitter to the system. Please note that during programming mode all present remotes will be deleted from memory. Follow next procedure:

- When the system is disarmed, turn the ignition ON.
- Within 8 seconds, press the valet switch 5 times.
- Siren will chirp 2 times, you have entered the programming mode.
- Within 8 seconds, press any button on first transmitter.
- Siren will chirp once, lights flash once to confirm that first transmitter has been programmed to the system.
- The siren will chirp the number equal to number of learned transmitter.
- After programming of last transmitter Turn OFF the ignition.

All remote controllers you wish to use, must be programmed at the same time. If there was no remote programmed, old remotes will stay in system memory.

In case that remote controller is lost and you want to avoid its' abusing by someone who will find it, erase all programmed remotes from alarm memory. To do it, follow this procedure:

- When the system is disarmed, turn the ignition ON.
- Within 8 seconds, press the valet switch 5 times.
- Within 8 seconds turn the ignition OFF.
- All transmitters will be erased from the memory and system will enter valet mode.

For programming new transmitter, must exit valet mode at first.

## III. EMERGENCY DISARMING

If the transmitter becomes lost or non-functional, the system can still be disarmed by following procedure:

- System is armed or alarm is triggered (siren sounds).
- Enter the car and turn the ignition ON.
- Within 8 seconds, press the valet switch 5 times (default code).

- After 5 seconds, siren will chirp 4 times to confirm that system is disarmed.
- Turn the ignition OFF.

To exit from the emergency mode, press any button of transmitter.

## IV. CHANGING THE CODE FOR EMERGENCY DISARMING

Default code for emergency disarming is 5. We recommend you to change this code after the installation of car alarm. Follow the steps below to change default code:

- When the system is disarmed, turn the ignition ON.
- Within 8 seconds, press the valet switch 9 times.
- Siren will chirp 4 times.
- Press valet switch according to your new code [1-9]. Each pressing the button is confirmed by LED flash.
- After 8 seconds siren will chirp several times. Number of chirps is corresponding to the number of new code.
- Turn the ignition OFF.

## V. VALET MODE

The only feature operating in valet mode is the keyless entry function. Valet mode is useful when leaving your car in service. To enter valet mode follow this procedure:

- When the system is disarmed, turn the ignition ON.
- Within 8 seconds, press the valet switch 3 times.
- Siren will chirp once and the LED will be constantly on.
- Turn the ignition OFF.

To exit valet mode, repeat the same procedure.

## During the valet mode car is not protected and immobilized by alarm !

## VI. PROGRAMMING SYSTEM FUNCTION

To enter the programming mode, follow this procedure:

- When the system is disarmed, turn the ignition ON.
- Within 8 seconds, press the valet switch 7 times.
- After 8 seconds system will enter the programming mode and siren will chirp 3 times.
- Turn off the ignition, LED is constantly on.
- Within 8 seconds, press valet switch to select the desired option (from 1 to 22). Siren will chirp once and LED flash once to confirm each pressing the switch.
- Within 8 seconds from last pressing turn the ignition ON. Siren chirps once.
- Now press valet switch to change the feature setting. Siren will chirp and LED will flash 1,2,3 or 4 times to indicate current setting.
- Setting will be saved after turning the ignition OFF or after 8 seconds without pressing the button.
- Repeat the above steps from "d)" to program another feature.
- To exit programming mode turn the ignition OFF-ON-OFF, or leave ignition turned OFF for 8 seconds without pressing the button.

Also, it is possible programming the system function via PC and application. For this case you will be need the MISTRAL PROG programming cable. Please, contact your distributor about informations.

## PROGRAMMING TABLE

Feature	Description	option 1. (default)	option 2.	option 3.	option 4.
1	Door Unlock Impulse	0,5 seconds	3,5 seconds	15 seconds	double 0,5s
2	Door Lock Impulse	0,5 seconds	3,5 seconds	15 seconds	double 0,5s
3	Dome Light Delay	3 seconds	20 seconds	45 seconds	60 seconds
4	Alarm Limitation Number	Disable	10 times	5 times	3 times
5	Sound of Siren	Continuously	Type 1	Type 2	Type 3
6	Silent confirm by siren	Disabled	Enabled	---	---
7	Last Door Arming Delay	10 seconds	20 seconds	30 seconds	40 seconds
8	Door Lock With Last Door Arming	Disable	Only arming	Arming and door lock	---
9	Parking Light Mode	Normal	Continuous	Pulse	---
10	AUX1 feature	AUX output	Windows close	---	---
11	AUX2 feature	Mirror folding IG ON/OFF	Mirror folding IG OFF	Window close	---
12	Trunk Release pulse	0,5 seconds	4 seconds	40 seconds	latch
13	AUX1 pulse duration	0,5 seconds	4 seconds	40 seconds	latch
14	AUX2 pulse duration	0,5 seconds	4 seconds	40 seconds	latch / 60sec.
15	Arming / Disarming Chirp	ON	Only If Last Door Arming	OFF	---
16	Trunk Release With Disarm	WITH disarming	WITHOUT disarming	---	---
17	Auto Rearming	Enable	Disable	---	---
18	Door Open Alert	Disable	Enable	---	---
19	Ignition Lock	Disable	Enable	---	---
20	Control of lights for modes continuous / pulse	Fixed periods	by Input of light control	---	---
21	Confirm by light	Lock and Unlock	ONLY Unlock	ONLY Lock	Without light
22	Factory reset	Set default settings	---	---	---

## VII. FUNCTION DESCRIPTION

### 1 Door Unlock impulse

Duration of unlocking impulse.

### 2 Door Lock Impulse

Duration of locking impulse.

### 3 Dome Light Delay

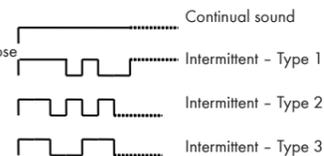
Time after arming, when sensors are inactive. During this time LED is constantly ON.

### 4 Alarm limitation number

The system enables to limit maximum alarms triggered consequently by one sensor. When number of alarms will reach this limit, specific input will be by-passed. But if the alarm is triggered by other input, sensor is activated again.

### 5 Sound of siren

To differentiate your car from others, you can choose different type of siren sound.



### 6 Silent Confirm by Siren

When feature is enabled, the siren sound intensity is lower (lock/unlock confirm). When alarm is triggered, sound intensity will be back to normal level.

### 7 Last Door Arming Delay

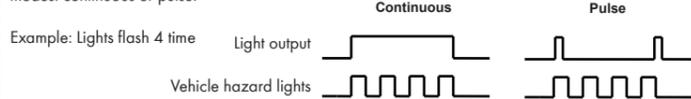
Time since turning ignition off and closing all doors to arming the system. When door is opened during this time, countdown is reset.

### 8 Door Lock With Last Door Arming

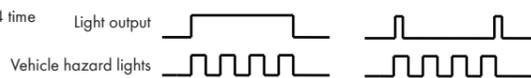
This option specifies if door should be locked when system is armed by Last Door Arming.

### 9 Parking Light Mode

If connection to car's lights is too difficult or impossible, you can connect to direction lights via hazard light switch (see figure 2). Regarding to system of control hazard lights, you can choose one of two available modes: continuous or pulse.



Example: Lights flash 4 time



### 10 AUX1 feature

When feature is set as AUX output, the AUX1 output will be activated only after button and is simultaneously pressed (or button AUX). Duration of impulse is settable by feature 13. When AUX1 - output for windows close is set, output is active for duration determined in the feature 13, always when alarm activated. When output is active, shock and additional sensor is by-passed, but maximally up to 40 seconds. When feature 13 is set as Latch, impulse will be cancelled when system is disarmed.

### 11 AUX2 feature

When feature is set as Mirror folding, the AUX2 output will be activated always when ignition is switched ON and switched OFF or only when switched ON. Duration of impulse is settable by feature 14. For option Windows close output will always after lock of vehicle by pressing button activated AUX2 output for duration determined in feature 14. When feature 14 is set as Latch, impulse will be cancelled when system is disarmed. When output is active, shock and additional sensor is by-passed, but maximally up to 40 seconds.

### 12 Trunk Release impulse

Duration of positive impulse for trunk output. When the option is set to latch the output connect to +12V when you press the button . Disable the output is possible by repeated pressing button .

### 13 AUX1 pulse duration

Duration of negative impulse for AUX1 output. When the feature is set to Latch the AUX1 output will activated after simultaneously pressing buttons and (or button AUX). Disable the output is possible by repeated simultaneously pressing with and buttons (or button AUX), (if the feature is set as AUX output).

### 14 AUX2 pulse duration

Duration of negative impulse for AUX2 output. When the feature 11 is set to Mirror folding and option 4 is chosen, impulse duration is only 60 seconds. When the feature 11 is set as Windows close, option 4 obtain as Latch function.

### 15 Arming / Disarming chirp

This option enables or disables audio signal (siren chirp) on arming / disarming.

### 16 Trunk Release With Disarm

With disarming:

When remote trunk release will be used, system will be disarmed too.

Without disarming:

When remote trunk release will be used, system will remain armed but trunk input will be bypassed. The trunk will be protected 8 seconds after its closing.

### 17 Auto Rearming

This option enables or disables automatic rearming when doors are not opened within 30 seconds after disarming.

### 18 Door Open Alert

This option enables or disables flashing of signal lights when door are opened while ignition is turned ON. Signal lights flash 10 times only.

### 19 Ignition Lock

If ignition is turned ON and doors are closed, after 8 seconds doors will be locked, when option is enabled (but when doors are open function is cancelled). After turning the ignition off, doors are unlocked immediately.

## 20 Control of lights for continuous and pulse mode

Verification number lights flash in continuous or pulse mode can be selected by input control lights. In this case the alarm is able to start, stop and monitor the correct lights flash number. In the case of setting a fixed period, the correct number of flashes is only estimated - primary indication of alarm status.

## 21 Confirm by lights

Flashing by lights when alarm to lock or unlock doors is settable with this option (suitable for Peugeot cars).

## 22 Factory Reset

All the optional features will be reset to the factory default value.

## VIII. SYSTEM INSTALLATION

Remove the plastic covers the dashboard of the vehicle. Find the wires that control central locking, located on the control unit. For some types of vehicles to be powered directly by the central locking of the door of the car. The testing functions in the vehicle wiring, use only digital multimeter, and even if you know what function the wire serves. After determining the wires, disconnect the battery and connect the wiring harness designed for central locking wires for proper functioning, according to the attached diagrams. All connections soldered and insulated. After installing central locking plug from the car battery and insert the fuse into the fuse housing from the central locking. Protest the proper functioning of the central locking and electric vehicles performance (ignition, directional lights, etc.). Install the plastic covers of the dashboard.

## The location of the control unit

Place the control unit from inside the protective plastic dashboard. Attach the antenna control unit so that it does not touch the metal parts of the vehicle.

## IX. SUMMARY OF INPUTS AND OUTPUTS

### CONNECTOR CN1 (24 PIN) - connector of inputs and outputs

**Red** - supply +12V

**Black** - ground

**Blue (+)** - door input - System is triggered when Door + input is connected to +12V.

**Black/White (-)** - door input - System is triggered when Door- input is connected to ground.

**Black - loop (-)** - security loop - Alarm will be triggered when loop is cut. Suitable for caravan, car trailer, etc.

**Pink (+)** - output to siren - Positive output (+12V) to the siren.

**Orange/White (-)** - trunk input - System is triggered when Trunk- input is connected to ground.

**Red/Black (+)** - Ignition input - This input is connected to ignition wire.

**Black/White (+)** - input of lights control - This input is connected to the wires hazard lights or direction indicators (Fig.2). Input response to a positive voltage +12 V. Allows the actual illumination of lights in case the selected mode (continuous or pulse) and choice option 2 of feature 20.

**Gray (-)** - output to the AUX1 - When output is activated, ground will appear on wire. Impulse length can be 0,5s, 4s, 40s or latch (option 13). Max. Current capacity -250mA.

**Gray/White (-)** - output to the AUX2 - When output is activated, ground will appear on wire. Impulse length can be 0,5s, 4s, 40s or latch/60s. (option 14). Max. Current capacity -250mA.

**Yellow/Green (-)** - start/kill output - Wire is grounded when system is armed or triggered. Max. Current capacity -250 mA. (Fig.1).

**Green/Yellow (-)** - output to the PAGER - When alarm is triggered, PAGER output is switched to ground. Max. Current capacity -250mA.

**Green (+)** - output to the Trunk - When output is activated, +12V will appear on wire. Impulse length can be 0,5s, 4s, 40s or latch (option 12).

**Brown (NO)** - output to signal lights - This output is relay type (Fig.3), so it can be used as negative as well as positive.

**Brown/Black (COM)** - commonly wire for output to signal lights.

Universal six relay output is possible to use for variable connection directly to actuators or to CDL's control units. Length of lock / unlock impulses can be set (feature 1 and 2). (See Fig.4./5.)

**Yellow (NO)** - relay contact for locking

**Orange (NC)** - relay contact for locking

**White (COM)** - relay contact for locking

**Yellow/Black (NO)** - relay contact for unlocking

**Orange/Black (NC)** - relay contact for unlocking

**White/Black (COM)** - relay contact for unlocking

Purple and White thin wire - Legacy wire for serial programming - not use.

### CONNECTOR CN2 (3 PIN) - status LED and valet switch

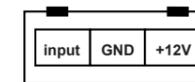
Place the valet switch with LED on a good visible place.

### CONNECTOR CN3 (3 PIN) - shock sensor connection

Power supply for shock sensor is permanent. Negative triggering.

### CONNECTOR CN4 (3 PIN) - additional sensor connection

Power supply for additional sensor is present only when system is armed. Sensor like tilt, ultrasonic or micro-wave can be connected. Negative triggering.



Pinout of connectors CN3/CN4 front view

EXAMPLE OF WIRING DIAGRAM

Example of wiring diagram for door locking system

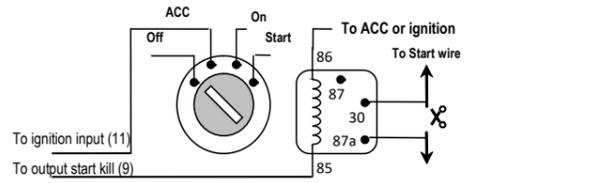


Fig.1 Wiring diagram for start kill relay

Note: Relay is delivered with alarm.

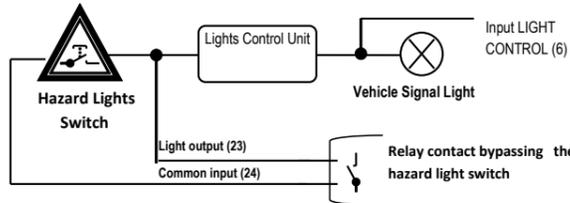


Fig. 2 Parking Lights output connected to the Hazard light switch

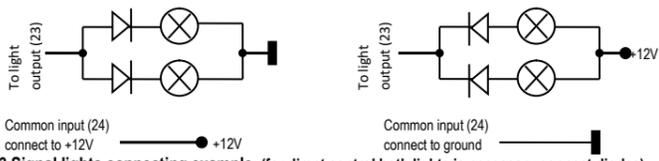


Fig.3 Signal lights connecting example (for direct control both lights is necessary connect diodes)

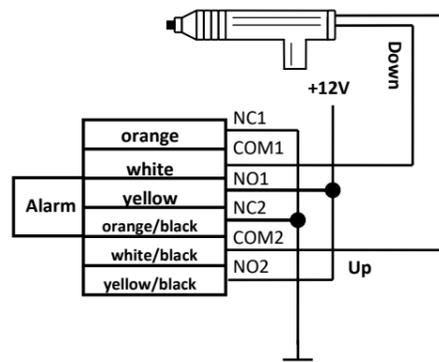


Fig.4 Original built-in central power lock & only a switch existed inside of front door. A motor and the control level were required.

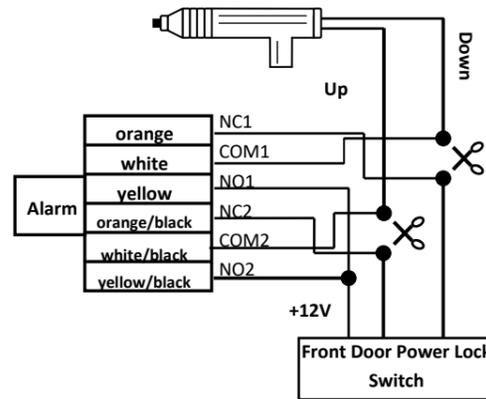
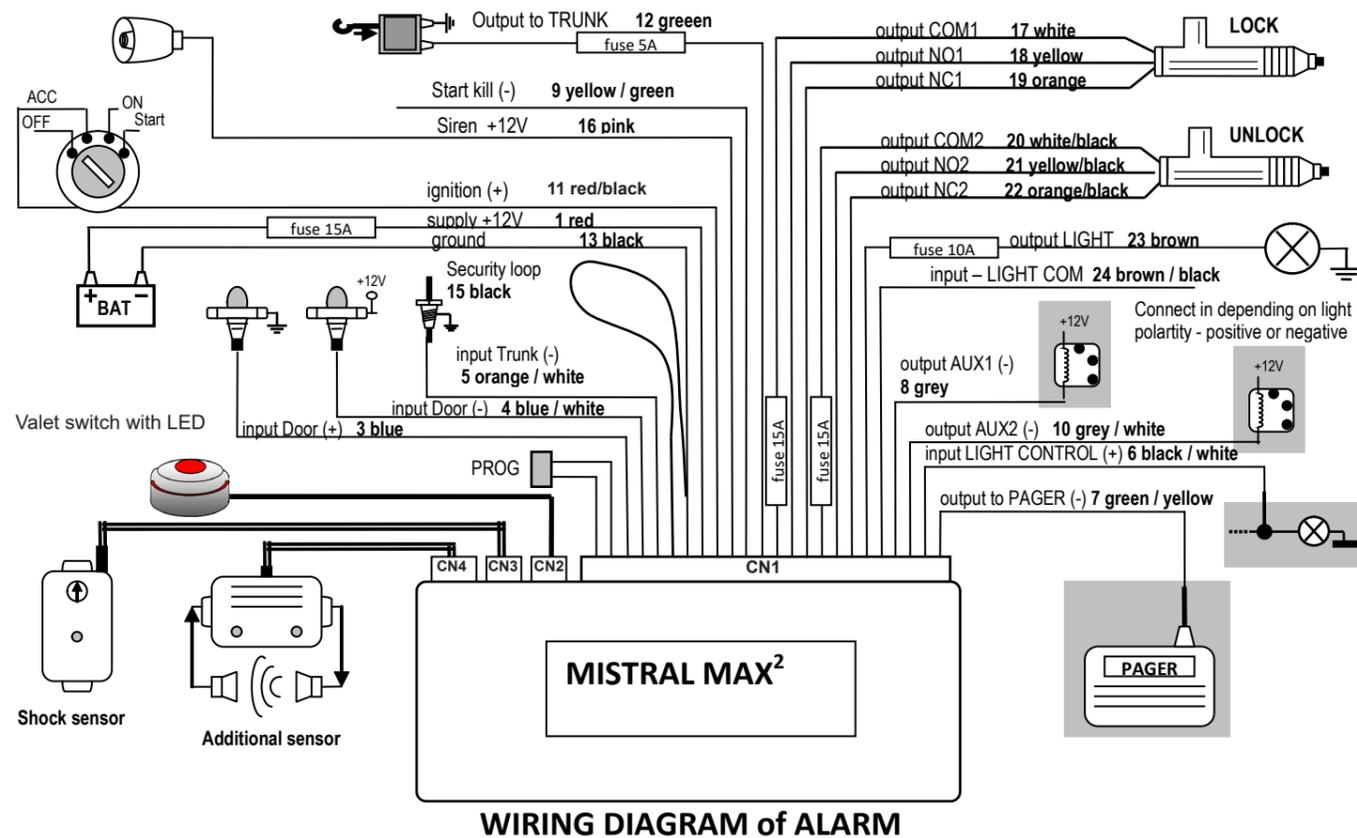


Fig.5 Original built-in central power lock & electric power lock switch were installed For example: CHRYSLER

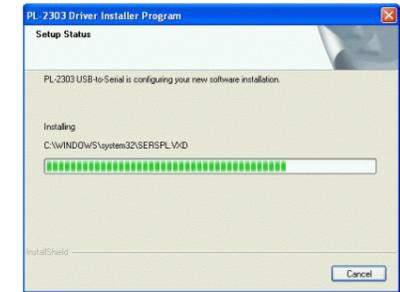


X. PROGRAMMING CAR ALARM VIA PC

The car alarm KEETEC MISTRAL MAX<sup>2</sup> is possible to program via PC, too. To connect car alarm with PC and set parameters via PC, you need MISTRAL PROG programming cable and MISTRAL MAX<sup>2</sup> Alarm setup application, which must be installed before alarm connection. After installation of MISTRAL PROG cable and MAXprog application software is everything ready for programming.

Driver installation for programming cable

- After unzipping archive file Cable\_PL-2303\_Drivers.zip, you must run the file PL2303\_Prolific\_WDMDriverInstaller\_v1.6.1.exe, from unzipped folder.
- The program starts and displays the information page. It is possible to click **Next**.
- Files needed for a programming cable begin to install.
- After files successfully installed, installation complete page shows.



MISTRAL MAX<sup>2</sup> programming process

- Plug in connector of programming cable to the alarm.
- Alarm must be powered through the red (+) and black (ground).
- Connect the USB connector into a free USB port.
- Run MAXprog.exe. Program version can be updated, by adding alarm options. Watch distributor web site.
- Alarm login to the program will be automatically (green text of alarm firmware version will display in the row).
- For reading configuration from the car alarm you need click on to **Read** button firstly.



Application function description

- Save as..** - click on if you want actually configuration data from the display to write into file on the PC.
- Open** - click on if you want load configuration data from file into application. Loaded values are immediately showed on the display.
- Print** - actually configuration values from display is printed on the printer.
- Language** - it is possible to select application language.
- Exit** - application ended.
- Read** - click on if you want to receive configuration from car alarm into the PC. Received values are immediately showed on the display.
- Write** - click on if you want to send actually configuration from the display to car alarm.
- Default** - click on if you want to set car alarm to factory settings.
- Number of service code** - it is possible to set code for emergency disarming. For writing this emergency code into the car alarm, you need click on to **Write** button..

