

For professional use only

Auto Starter & Alarm system

Operation & Installation Manual

MODEL

KR - 500(Only starter)
KR - 600(Starter & Alarm)
KR - 700(Full Option)
KR - 2000(FM)
KR - 2200(Super AM)







Köpel

Contents

Functions	2
Button functions	
Model functions	
Main functions	3
Door lock(Arming)	Shock sensing
Door unlock(Disarming)	When the door is opened by force
Trunk open	Car finder
Panic(Emergency siren)	
Remote start	5
Automatic vehicle	
Reservation of Stick shift vehicle (Auto process)	
Reservation of stick shift vehicle (Manual process)	
Getting on the vehicle during remote starter	
Option programs	7
Valet Mode	Automatic door lock function
Turbo timer function	
Program setting	8
Code learning	9
Additional new transmitter	
Disarming at transmitter loss	
Installation	10
Wiring diagram	14

Button functions

Operation Button	1 second (Press button short)	3 seconds (Press button long)	Reference page
1 	Door lock/unlock	Panic(Emergency siren)	3-4 Page
2 	Engine starter ON	Engine starter OFF	5-6 Page
3 	Silent Door lock/unlock	Trunk open	3 Page
4 	- Car Finder(At arm mode) - Starter reservation of stick, Turbo timer ON (At engine ON)	- Shock sensor temporary stop: 3sec(At arm mode) - Valet mode: 9sec (At engine ON) - Automatic door lock setting mode: 9sec (At disarm mode)	4, 7 Page

Model functions

Function Model	Remote start	Door lock/ unlock	Siren	Shock sensor	Indicator LED
KR - 500	○ AM	○	×	×	×
KR - 600	○ AM	○	○	×	×
KR - 700	○ AM	○	○	○	○
KR - 2000 KR - 2200	○ FM S-AM	○	○	○	○

Main functions

● Door lock(Arming)



Close the door



Press the button



"1 chirp"



Light 1time




Door lock and then Arming after 5sec
/ Shock sensor begin to work after 20sec

⚠ You will hear 3 chirps if you press the button 1 in case of opening doors.

If you Press the button 1 times, doors is locked and arming mode is operated. And then one more press the button, door is unlocked and arming is canceled.

Silent sound door lock/unlock

You can doorlock and unlock silently without the siren chirp sound if you press the  button.

● Door unlock(Disarming)



Press the button



"2 chirps"




Light 2 times



Door unlock and Disarmig

⚠ The door will be automatically locking and set to the arming condition if you don't open the door within 30sec after the disarmig.
(LED blink fast for 30 seconds.)

Silent sound door lock/unlock

You can doorlock and unlock silently without the siren chirp sound if you press the  button.

Invasion state memory:

If you cancel the alarm to the transmitter after siren sound to sense of door or sensor, siren and light is operated 4times(Beep-beep-beep-beep) and inform impact of the vehicle and invasion.

● Trunk open



Press the button
for 3sec



Trunk open
and disarmig

⚠ Trunk open if you press the button for 3sec consecutively.(Optional)

The door will be automatically locking and set to the arming condition if you don't open the door within 30sec after the trunk open and disarmig.

● Panic(Emergency siren)



Press the button for 3sec



The siren output for 30sec

! Siren and light is operated for 30sec if you press the button for 3sec in case of emergency.

● Shock sensing(Use in KR- 700, KR- 2000, KR- 2200)



Shock sensing



The siren output for 5sec(You will hear warning sound of the "Beep beep beep beep beep" if shock a vehicle weakly in case using double shock sensor)



Press the button to stop sounding the siren

! The siren can be for 15sec in case of shocking.
(Alteration possibility in the program setting: A- 5)
Shock sensing is not operated in the remote engine start.

! Temporary stop of the shock sensor: In the arm mode, if you press the * button for 3sec, shock sensor operation is stopped with 2chirps. When you change to disarm mode, shock sensor will be normally operated.

● When the door is opened by force



When open the door in the arming mode



The siren output for 30sec



Press the button to stop sounding the siren

! The siren output repeat 4 times each 30sec, if opening the door.

● Car finder *



Press the button for 1sec

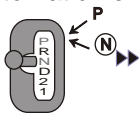


Light 2times

! If you press the button 1time, siren chirp and light is operated when you try to find the location of the vehicle in the wide parking.

Remote start

Automatic vehicle




Gear should be located at the "P" or "N"



Press the button



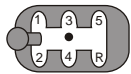
The starter is operated after 5sec

- Light blink for 15 minutes, if starter is operated and then the starter automatically turn off after the 15minutes. (You can change running time to 25 minutes in program setting A-4.)
- When the starter turn off: In case of press the  button for 3sec, the starter turn off with 2 chirps in the vehicle.
- Starter condition: Door must be closed if you want to do remote engine starter. Starter automatically is tried 4 times repeatedly, if starter isn't operated at once.

Reservation of stick shift vehicle(Auto process)

Stick shift vehicle must keep on neutral position after driving. Remote engine start after reservation process is the same as the case of automatic vehicle.

* Starter reservation process



Keep stick shift on neutral position after driving



Take out the ignition key.



Light 1 time (The engine will stay running)



Open and close the door (The engine will stay running)

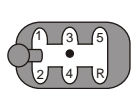


Door lock and engine turn off Press the button



- The starter reservation is a process to ensure that the stick shift vehicle keeps its shift on neutral position. You can not use remote starter without guarantee of neutral.
- In case of canceling the reservation
 - In case of turning off the ignition key when doors are opened after driving.
 - In case you open the door after the reservation is complete. (The reservation is canceled for the safety because we can not guarantee the gear is the neutrality.)

Reservation of Stick shift vehicle(Manual process)*



Keep stick shift on neutral position after driving



Press the button



Take out the ignition key



Open and close the door (The engine will stay running)



Light 1 time (Engine turn off)



Door lock and Arming



Press the button

- Factory set = Auto process reservation
NO.B- 5 is must setting to "Manual" in program setting mode if you want manual process reservation.

Getting on the vehicle during remote starter



A remote starter is operating



Press the button



Door unlock and Disarming



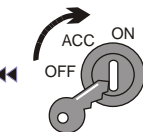
Getting on the vehicle

Notice

1. You must notice not to turn the ignition key to an "ST" location in getting on the vehicle during remote start. (Start motor isn't operate if you install the start kill.)
2. Beware that engine start turn off within 1min if you not turn the ignition key to an "ON" but turn to an "ACC"
3. If you put the brake for 1min, engine will become OFF. (In case brake wire installation)



Driving

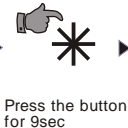


Turn on the ignition key within 1 minute to an "ON" location

Caution: Remote starter must OFF by press the button for 3sec for the safety driving and then try start to ignition key.

Option programs

Valet Mode *



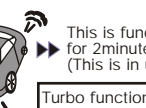
Indicator LED ON and chirp and light 1 time

Siren chirp and light 2 times is operated if you press the button for 9sec again. LED becomes to OFF and all function is normally operated.

⚠ Use this function when you leave your car to other person that don't know how to use this equipment.

⚠ In the case of valet mode, you can operate door lock/unlock and trunk open.

Turbo timer function



This is function for maintain of the engine ON for 2minutes after the door is locked. (This is in use to aid function of the turbo vehicles)

Turbo function OFF: Set the B-4 function to the OFF in the program setting

Automatic door lock function (Always operation in case of closing the door.)



Function ON: 1Chirp
Function OFF: 2Chirps

2 chirps is outputed and function is canceled if it repeats again.

⚠ This function is automatically operated in 30 sec after close the door. Please remember that you do not exit from the vehicle with leaving the transmitter and the ignition key.



⚠ In case of selection of this function, 3 chirps whenever you close the door.

⚠ You can make which door isn't to be locked and alarm is to be operated if you do A-1 to the ON in program setting mode. (Passive arm mode)

"3 chirps"



In 15sec

"2 chirps"



In 30sec

"1 chirp"



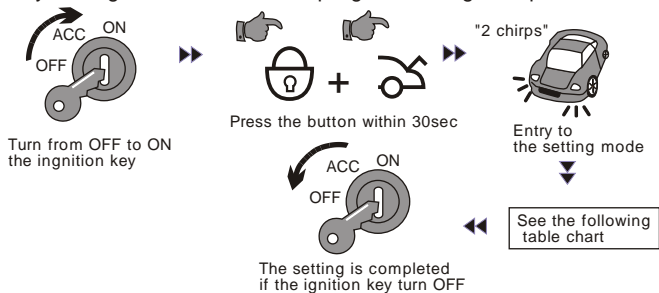
Close the door

Processing of operation

Door lock and Arming

Program setting

Only setting technician use the program setting except unavoidable case.



* Button function in setting mode

Ⓞ: ON function (Output chirp + light flashing 1 time in setting the function)

Ⓛ: OFF function (Output chirp + light flashing 2 times in cancellation the function)

*: Move to next No.(1, 2, 3, 4, 5, 6)

↔: Move to B setting table

* Program setting table

Factory set:

A table

No.	Chirp+Light	Function	ON/OFF	
1	1time	Passive arming(It will operate 30sec later after getting off)	ON	OFF
2	2times	Passive door lock(Working when A- 1 is "ON")	ON	OFF
3	3times	Auto lock(Smart lock): By pressing the brake pedal	ON	OFF
4	4times	Remote starter time(25/ 15 minutes)	25min	15min
5	5times	Siren output time at the shock sense	5sec	15sec

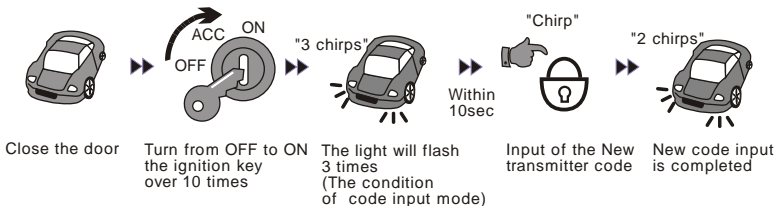
B table

No.	Chirp+Light	Function	ON/OFF	
1	1time	Change from trunk output to ACC output at the remote start	ON	OFF
2	2times	Door lock when remote starter "OFF"	ON	OFF
3	3times	Operation wating time of starter motor	5sec	10sec
4	4times	Turbo timer operation	ON	OFF
5	5times	Reservation of stick shift vehicle	Auto	Manual

⚠ The way to reset all function: Turn from OFF to ON main power DC 12V (In case of pull fuse out and set fuse in or combine with 6p housing of main) and turn from ON to OFF the ignition key 10 times within 30 sec and then coding mode the new transmitter.

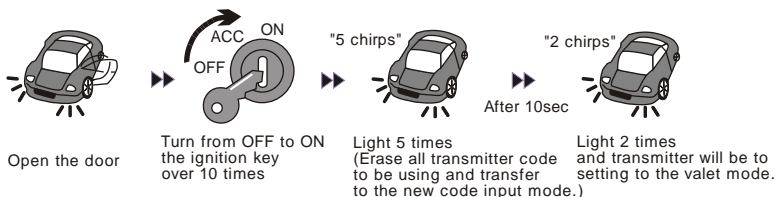
Code learning

● Additional new transmitter (The operation in the situation which the door is closed)



- The transmitter input is possible to maximum 4pcs.

● Disarming at transmitter loss (The operation in the situation which the door is opened)



- This function is used when you lose transmitter or break down. You can use this function though siren is continually operated.
- You should use it after cancel of the valet mode(See 7Page).

OPTION PROGRAMS

- Passive arming(Program setting A - 1, A - 2)
If you close the door with take ignition key off, arming is automatically operated after 30sec. At this time if you don't want close the door, you must set up "A - 2" to OFF.(FACTORY SET = OFF)
- Auto lock(Smart lock)(Program setting A - 3)
This function that door is automatically locked when press the brake pedal after engine is turned on.(FACTORY SET = OFF)

- Please read this entire installation guide before the installation.
- Do not disconnect the battery if the vehicle has the anti - theft - coded radio.
- Test all circuits with a high - quality digital multi - meter before making connections.
- Vehicle Anti - Theft Systems(Immobilizers)

Vehicle anti - theft systems(immobilizers) require a bypass module.

The bypass module allows for easy interfacing, while still maintaining the OEM security system's integrity.

1. Main wire connection guide

See explanation about the each terminal wire of the main control box.

No.1 6P Heavy Gauge Relay Satellite Wiring Diagram

1)RED (+)12V Input for Relays

Remove the 30Amp fuses prior to connecting these wires and do not replace them until the satellite has been plugged into the control module. These wires are the source of current for all the circuits the relay satellite will energize. They must be connected to a high current source. Since the factory supplies (+)12V to the key switch that is used to operate the motor, it is recommended that these wires be connected there.

2)BLACK (-)Chassis Ground Connection

Connect this wire to a clean, paint - free sheet metal location(driver kick panel)using a factory bolt that DOES NOT have any vehicle component grounds attached to it.

A screw should only be used when in conjunction with a two - sided lock washer.

Under dash brackets and door sheet metal are not acceptable ground points.

It is recommended that all security components be grounded at the same location.

3)YELLOW (+)Ignition Output

Connect this wire to the ignition wire in the vehicle.

4)BLUE (+)Output to Second Ignition Circuit

Connect this wire to second ignition wire in the vehicle.

5)WHITE (+)Starter Output

Connect this wire to the starter wire in the vehicle.

No.2 2P Door Lock/Unlock Harness(Low Power output)

1)GREEN (-)Lock Output

This wire output (-)250mA when you operate "DOOR LOCK" by the transmitter and this must be connected to (-)signal line of the door lock circuit that installed in vehicles.

2)BLUE (-)Unlock Output

This wire output (-)250mA when you operate "DOOR UNLOCK" by the transmitter and this must be connected to (-)signal line of the door open circuit that installed in vehicles.

IMPORTANT! The door lock outputs are low current and should not be attached directly to any high current device ;They are only to be used to activate relays.

Installation

No.3 2P Status Output Harness

1)YELLOW (+)Ignition-1 Output

When ignition key is "ON" or at the remote start, this wire will always output (+)12V. If you use the option relay and bypass module, this wire is used to +12V power resources.

2)BLUE (-)Status Output

This wire supplies (-)200mA output as soon as the module begins the remote start process and is normally used to activate an immobilizer bypass module.

No.4 6P Output/Input Harness

1)YELLOW (+)Light Flash Output

This wire should be connected to the (+)parking light wire.

If vehicles that (-) is needed must be used relay.

This is available for driving (-)light control wires in Toyota, Lexus, BMW, some Mitsubishi, some Mazda, and other models.

2)YELLOW (+)Light Flash Output

Same as upper contents.

3)ORANGE(Trunk Output and ACC Output at the start)

When the trunk is operated by the transmitter this wire will output (+)12V for 1sec and this must be connected to be outputed line from the trunk open switch (+)circuit of the vehicles to trunk. If switch circuit(-) is operated, you need only do change to (-)trunk output jumper pin J2.

This wire can be used to needed output at the remote start as well as trunk output.

If you set up B - 1 to ON (PROGRAM MODE), (+) will always output at the remote start.

4)BROWN (+)Siren Output

Connect this to the (+)wire of the siren. Connect the black wire of the siren to (-)chassis ground, preferably at the same point you connected the control module's black ground wire.

5)WHITE (+)Alternator Input

This wire check start status of the vehicles.

Connect to the Lamp terminal of the alternator.

This wire must be inputted (+) when engine of the vehicle is starting.

And this wire don't connect in case noise mode.

6)BLUE (-)Door Trigger Input

Most vehicles use negative door trigger circuits. Connect the BLUE wire to a wire showing ground when any door is opened. When connecting to newer model vehicles there is generally a need to use individual door triggers.

No. 5 Door lock/Unlock Harness(High Power Output)

1)GREEN (Door lock +/- output)

This wire will output door lock/unlock motor when you lock the door by the transmitter.

2)BLUE (Door unlock +/- output)

This wire will output door lock/unlock motor when you unlock the door by the transmitter.

No. 6 3P Shock sensor ASS'Y(KR-700, KR-2000, KR-2200)

Inputs shorter than 0.6 seconds will trigger the warning(2times), while inputs longer than 0.6seconds will trigger full alarm(5seconds); If you change to the 15seconds, you need only to set up A - 5 to "15SEC".

No. 7 6P Input/Output Harness

1)WHITE (-)Starter kill Output

This wire supplies a (-)250mA ground as long as the system is armed. This output ceases as soon as the system is disarmed.

But (-) will continually output while remote start is operated.

The WHITE wire is pre - wired to control the starter kill relay.

IMPORTANT! Never interrupt any wire other than the starter wire.

2)GRAY (-)Preliminary Sensor Input

This wire should be connected to (-)output of the sensor when you use separate sensor. This terminal measure time of the input signal.

Input shorter than 0.6 seconds will trigger the warning(2times), while inputs longer than 0.6 seconds will trigger full alarm.(Same as shock sensor function)

3)BLUE (-)Instant Trigger Input(Trunk Input)

This input will respond to a negative input with an instant trigger. It can also be used with directed single - stage sensors. The BLUE instant trigger wire can also be used to shunt sensors during operation of the remote start.

4)ORANGE (+)Brake Switch Input

This wire must be connected to the vehicle's brake light wire. This is wire that shows (+)12V when the brake pedal is pressed. The remote start will be disabled or shut down any time the brake pedal is pressed.

5)VIOLET (+)Door Trigger Input

This type of dome circuit is used in many Ford products. Connect the VIOLET wire to a wire that shows (+)12V when any door is opened.

6)GREEN (-)Hood Pinswitch Input

This wire must be connected to hood pinswitch. This input will disable or shut down the remote start when the hood is opened. It will also trigger the security system if the hood is opened while the system is armed.

Installation

No.8 Status LED ASS'Y(KR-700, KR-2000, KR-2200)
Put LED ASS'Y on.

No 9. Mounting the Receiver/Antenna

The best location for the receiver/antenna is left upper of the front windshield.

The antenna should be mounted horizontally.

Metallic window tint can also affect range, so this should be a consideration when determining the mounting location.

After determining the best mounting location, follow these steps:

1. Clean the mounting area with a quality glass cleaner or alcohol to remove any dirt or residue.
2. Plug the receiver/antenna cable into the receiver/antenna.
3. Mount the receiver/antenna using the supplied double - sided tape.
4. Route the receiver/antenna cable to the control module and plug it into the 3pin receiver antenna connector.

2. Main box setting function

1)Set up a Start sensing

Start sensing is fixed up alternator signal input (FACTORY SET = ENABLE) and if you want use the engine noise sensing method, you have only to change jumper pin (J1=NOISE and DIP1=ON) from GE to NOISE. You can know whether vehicles is starting by engine noise sensing.

2)Status LED of the Engine running

LED for starter sensing in main circuit must be "ON" only when vehicles is starting.

If LED light when you set up ignition key to "ON"(In case testing to engine noise sensing method) you must install to alternator sensing method.

3)Adjustment volume for the Alternator sensing Input

This is used when you want lengthen operation time of the start motor in case you install alternator sensing method.(Turn to the right if you want lengthen operation time.)

- Starter motor crank time is operated about 4sec if alternator signal doesn't input.

4)DIP Switch setting

DIP SWITCH NO.1: OFF = Alternator sensing(Default), ON = Engine noise sensing

DIP SWITCH NO.2: OFF = 0.7sec, ON = 1.4sec

- This is used to starter motor crank time when you install engine noise sensing.

- Start program is automatically operated total 4times with crank time increase each 0.3sec if start isn't operate at once.(In case engine noise sensing)

5)BROWN Jumper Wire

In case use automatic gear vehicles, this wire must be cut.

You must not cut this wire in case manual gear vehicles.

(Factory set = Manual gear type)



Wiring Diagram

NO.2 **2 P** → Green: Door lock ⊖ 250mA output
2 P → Blue: Door unlock ⊖ 250mA output

NO.1

Yellow (IG 1)	Red (+12V)	AUX. (+12V)
Blue (IG 2)	Black (-)	White (Start)

Preliminary output
 (Connect it in using for option relay or bypass module)
 (Output at Remote start)

NO.3 **2 P** → IG 1 ⊕ output
2 P → ⊖ 250mA output

NO.4 **6 P** → Yellow: Hazard light ⊕ Output(R)
 → Yellow: Hazard light ⊕ Output(L)
 → Orange: Trunk ⊕ output (It's possible change to ⊖ output in PCB)
 → Brown: Siren ⊕ output (It's possible to change to ACC output at the remote start : Program set -> "B - 1")
 → White: Alternator input (To (L) terminal of the alternator ⊕ input when engine is operating)
 → Blue: ⊖ input the door (⊖ input when the door is opened)

NO.5 **2 P** → Green: Door lock (+/-)
2 P → Blue: Door unlock (+/-) Use when door lock actuator installs

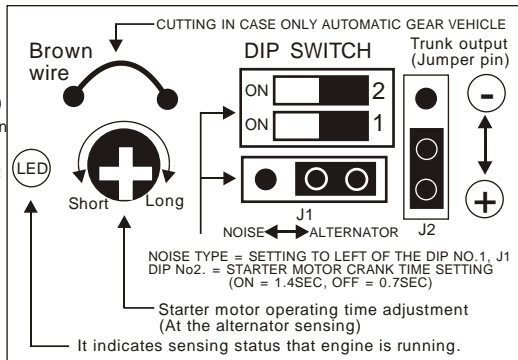
NO.6 **3 P** Shock sensor

NO.7 **6 P** → White: Starter kill (- 250mA) ⊖ output
 → Gray: Sensor addition ⊖ input (Time check)
 → Blue: Trunk pin location ⊖ input
 → Orange: Brake ⊕ input
 → Violet: Door ⊕ input
 → Green: Hood ⊖ input

NO.8 **2 P** Indicator LED

NO.9 **3 P** Receiver

Selection function



Shock sensor and Indicator LED are applied to KR - 2200, KR - 2000 and KR - 700.

Remote start system



Köpel