

# CAR-ALARM DEVICE

WITH REMOTE KEYLESS ENTRY

USER'S GUIDE

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## Federal Communications Commission Requirements

Warning : 'CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE WITH THE FCC'S RULES(THE FCC 'GRANTEE') COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.'

Note : This equipment has been tested and found to comply with the limits for a Class B digital devices, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technical for help.

THIS DEVICE COMPLIES WITH PARTS 15 OF THE FCC RULES.  
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS :  
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE,  
AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE  
RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE  
UNDESIREED OPERATION.

# USER'S MANUAL FOR CAR ALARM SYSTEM

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## BASIC FUNCTIONS.

### 1. SECURITY POINTS.

SYSTEM IS DESIGNED TO PROTECT THE FOLLOWING POINTS

- a) ALL DOORS.
- b) RADIO.
- c) HOOD.
- d) TRUNK.
- e) IGNITION.

### 2. ARMED MODE (ACTIVATION)

IN THIS MODE THE SYSTEM IS PROTECTING ALL SECURITY POINTS.

TO GET THE SYSTEM INTO THIS MODE WE CAN USE THE KEY IN ORDER TO CLOSE ANY OF FRONT DOOR LOCKS OR REMOTE CONTROL (ACTIVATE ZU SIGNAL), IF ALL THE SECURITY POINTS ARE CLOSED (REST STATE).

ARMED MODE OF SYSTEM IS INDICATED BY A BLINKING LED, PLACED ON TOP OF DRIVER'S DOOR, CLOSE TO LOCK STICK. OSCILLATION FREQUENCY OF LED IS 1HZ, WITH 5% OF DUTY CYCLE

### 3. PRE-ACTIVATION MODE.

TO GET INTO THIS MODE WE NEED TO CLOSE WITH A KEY ANY OF FRONT DOOR LOCKS OR THE REMOTE CONTROL AND SOME OF THE SECURITY POINTS IS STILL OPEN.

WHILE THE ALARM IS INTO THIS MODE, DOES NOT PROTECT ANY OF SECURITY POINTS; THE SYSTEM WILL PASS FROM THIS MODE TO ARMED MODE WHEN ALL SECURITY POINTS BE CLOSED OR ELAPSE 60 SECONDS; IN THIS LAST CASE THE SYSTEM WILL PROTECT JUST THE POINTS THAT HAD BEEN CLOSED OR EACH POINT THAT YOU CONTINUE CLOSING. THIS PRE-ACTIVATION MODE WILL BE INDICATED BY SAME BLINKING LED AT 0.5HZ. WITH 50% OF DUTY CYCLE.

### 4. DISARMED MODE.

THE ALARM SYSTEM WILL BE DISARMED IF BEING INTO ARMED MODE YOU OPEN ANY OF FRONT DOOR LOCKS. ONCE DISARMED SYSTEM THE LED WILL TURN OFF AND ALL SECURITY POINTS WILL BE UNPROTECTED. WHEN THE ALARM IS ACTIVATED (DUE TO A VIOLATION OF ANY SECURITY POINT) THIS CAN BE DISARMED USING THE KEY WITH ANY DOOR OR TRUNK OR WITH REMOTE CONTROL.

### 5. PARTIAL DISARMED MODE.

IF THE SYSTEM IS IN ARMED MODE IS POSSIBLE TO DISARM PARTIALLY AND RE-ARMED FROM THE TRUNK'S LOCK.

THE RETURN INTO ARMED MODE IS CONDITIONED TO USE THE KEY FOR CLOSE ONCE AGAIN THE TRUNK LOCK AND THE REST OF SECURITY POINTS HAVE NOT BEEN VIOLATED.

THEN AFTER 2 SECONDS (KSS & KKS SIGNALS ARE IDLE FOR MORE THAN TWO SECONDS) THE ALARM WILL RETURN TO NORMAL ARMED MODE.

WHILE THE SYSTEM IS INTO PARTIAL DISARMED MODE THE REST OF SECURITY POINTS KEEP PROTECTED.

## CAR ALARM SYSTEM

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NOTE: IF YOU INTEND TO PUT INTO PARTIAL DESARMED MODE SINCE PRE-ACTIVATION MODE. THE KSS WILL BE TAKEN LIKE ANOTHER SECURITY POINT. SO, PARTIAL DESARMED ATTEMPT WILL NOT HAVE EFFECT.

### 6. ACTIVATED ALARM MODE.

THE VIOLATION OF ANY SECURITY POINT WILL PROVOKE THE TRIGGER OF THE SYSTEM, PRODUCING ACUSTIC SIGN (HORN) AND OPTIC SIGN (DIRECTIONAL LIGHTS). THE FREQUENCY OF THESE SIGNS IS 1HZ. WITH 50% OF DUTY CYCLE AND ITS DURATION IS 165 SECONDS KEEP OR NOT THE VIOLATION. IF AFTER THIS TIME THE VIOLATED POINT IS CLOSED AND ONCE AGAIN IS VIOLATED OR IF SOME OTHER POINT IS VIOLATED, THE ALARM WILL BE DURING ANOTHER 165 SECONDS, UNLESS BE DESARMED FROM ANY FRONT DOOR LOCKS OR TRUNK OR USING THE REMOTE CONTROL.

### 7. ANTI-THEFT AUTOMOBILE PROTECTION.

WITH THE SYSTEM INTO ARMED, PARTIAL DESARMED, PRE-ACTIVATION OR ACTIVATED (TRIGGERED) ALARM MODES, IS NOT POSSIBLE START THE AUTOMOBILE ENGINE BECAUSE OF K50 SIGNAL (WFS1) OF THE ENGINE IS CANCEL. THIS ALSO HAPPEN WHEN THE ALARM MODULE IS OUT OF ITS HARNESS.

### 8. SYSTEM MEMORY.

THE SYSTEM IS CAPABLE TO KEEP THE STATE IN WHICH WAS BEFORE BEING DISCONNECTED FROM ITS HARNESS, DURING AN UNDEFINED TIME.

### 9. INDICATOR SIGNALS FROM ALARM SYSTEM.

#### 9.1 LED PLACED ON TOP OF DRIVER'S DOOR.

- a) DESARMED SYSTEM = LED TURN OFF.
- b) ARMED SYSTEM = LED BLINK AT 0.5HZ WITH 50% OF DUTY CYCLE.
- c) PRE-ACTIVATED SYSTEM = LED BLINK AT 0.5HZ WITH 50% OF DUTY CYCLE.
- d) AFTER THE SYSTEM HAS BEEN VIOLATED INTO ARMED MODE, LED MUST TURN OFF AND ALARM MUST KEEP INTO ARMED MODE AFTER ITS 165 SECONDS CYCLE, THIS WILL INDICATE TO USER THAT HIS CAR-ALARM HAS BEEN TRIGGERED DURING HIS ABSENSE.

#### 9.2 DIRECTIONAL LIGHTS AND HORN.

- a) ARMED SIGN: ONE "BEEP" OF 20mSEC.
- b) DESARMED SIGN: TWO "BEEPS" OF 20mSEC. (JUST WHEN DESARMED WAS BY REMOTE CONTROL).
- c) ALARM SIGN (TRIGGERED): IN THIS STATE THE SYSTEM PRODUCE A BLINKED SIGN FROM HORN AND DIRECTIONAL LIGHTS AT 1HZ AND 50% OF DUTY CYCLE.

## CAR ALARM SYSTEM

### REMOTE CONTROL FUNCTIONS.

THIS SYSTEM CAN BE OPERATED BY R. F. REMOTE CONTROL (MAXIMUM 4 TRANSMITTERS) THAT HAS FOUR FUNCTION BUTTONS AT A MINIMUM DISTANCE OF 15 METTERS.

THE TRANSMISSION OF CODES IS BASED ON A ROLLING CODE SYSTEM FROM MICROCHIP TECHNOLOGY INC. (FOR MORE DETAILS SEE CODE HOPPING ENCODER DATA SHEETS).

#### DESCRIPTION OF TRANSMITTER BUTTONS:

- ARMED BUTTON: WHEN YOU PUSH THIS BUTTON THE SYSTEM GET INTO THE ARMED MODE AND WILL CLOSE THE AUTOMATIC LOCKS OF ALL DOORS.
- DISARMED BUTTON: THE PUSHING OF THIS BUTTON WILL CAUSE THE SYSTEM GET INTO DISARMED MODE AND WILL OPEN ALL THE AUTOMATIC LOCKS OF ALL DOORS.  
IF DURING 30 SECONDS NOBODY OPEN ANY SECURITY POINT THE SYSTEM AUTOMATICALLY WILL GET INTO ARMED MODE ONCE.
- PANIC BUTTON: WHEN YOU PUSH THIS BUTTON THE SYSTEM GET INTO MODE.  
IN THIS MODE THE SYSTEM WILL PRODUCE THE ALARM SIGNS (TRIGGERED) DURING ITS 165 SECONDS, IF DURING THIS PERIOD IS PUSH ONCE AGAIN THIS BUTTON THE ALARM SIGN WILL LEAVE TO PRODUCE AND THE SYSTEM WILL CHANGE INTO ARMED MODE.  
IF YOU PRESS DISARMED BUTTON: THE PUSHING OF THIS BUTTON THE SYSTEM WILL CHANGE INTO DISARMED MODE AND WILL LEAVE TO PRODUCE THE ALARM SIGN.
- TRUNK OPENING BUTTON: THE PUSHING OF THIS BUTTON WILL CAUSE THAT THE SYSTEM OPEN THE TRUNK AND GET THE PARTIAL DISARMED MODE.

THE SYSTEM HAS 200 WORDS WINDOW SINCE THE LAST ACTIVATION, IN ORDER TO AVOID THE TRANSMITTER GET OUT OF SYNCHRONY IF IT IS TRANSMITTED OUT OF RECEPTION RANGE.

WHEN THE SYSTEM RECEIVE 10 ATTEMPTS OF FALSE CODES, THIS GOES INTO PROTECTION STATE IN WHICH WILL IGNORE ALL R. F. SIGNAL DURING 3 MINUTES. (FALSE CODES ARE TAKEN WHEN THE FIX PART OF CODE IS COINCIDENT WITH SYSTEM AND ROLLING PART OF CODE IS DIFFERENT)

#### MATCHING MODES FOR TRANSMITTERS AND RECEIVERS.

THE SYSTEM HAS TWO MATCHING MODES BETWEEN TRANSMITTERS AND RECEIVERS, ONE IS IN CASE THAT THE TRANSMITTER GET OUT OF 200 CODES WINDOW WHICH WE CALL "RE-SYNCHRONY MODE" THE OTHER IS WHEN WE MATCH FOR FIRST TIME THE TRANSMITTER WITH A RECEIVER WHICH WE CALL "LEARNING MODE".

#### RE-SYNCHRONY MODE.

IF WE LOST THE SYNCHRONY DUE TO AN EXCESIVE NUMBER OF ACTIVATIONS OUT OF RECEPTION RANGE WE MUST FOLLOW THE NEXT PROCEDURE:

AFTER THE LAST TRANSMISSION IN WHICH WE NOTE THAT THE RECEIVER IS NOT ANSWERING AND BEFORE 1 MINUTE, WE MUST DISARM THE SYSTEM BY KEY AND BECAUSE OF THIS WAY TRANSMITTER AND RECEIVER WILL SINCHRONIZE AGAIN.

IF YOU DON'T DISARM THE SYSTEM BEFORE 1 MINUTE, YOU NEED TO PUSH ANY BUTTON OF THE REMOTE CONTROL AND REPEAT THE ABOVE PROCEDURE.

## CAR ALARM SYSTEM

### LEARNING MODE.

IF YOU NEED THAT THE SYSTEM MATCH FOR FIRST NEW TRANSMITTERS OR YOU NEED TO ADD MORE TRANSMITTERS TO THE SYSTEM (4 MAXIMUM) YOU MUST FOLLOW THE NEXT PROCEDURE:

1. TO GET IN HAND ALL THE TRANSMITTERS THAT WILL BE LEARNED.
2. WITH A KEY YOU MUST TO ACTIVATE IGNITION (KL-15) AND KEEP IT ALL THE PROCESS.
3. WITH OTHER KEY YOU NEED TO DISARM THE SYSTEM HOLDING IN THIS POSITION DURING 10 SECONDS, AT THE END OF THIS, THE SYSTEM ISSUE 3 "BEEPS", AFTER THIS YOU CAN RELEASE THE KEY.
4. TO SELECT THE FIRST TRANSMITTER AND CLOSE TO THE CAR YOU JUST NEED TO PUSH ANY BUTTON OF THE REMOTE CONTROL.  
AT THE END OF THIS STEP THE SYSTEM WILL ISSUE ONE "BEEP".
5. IF IT IS NECESSARY YOU NEED TO REPEAT STEP NO4 FOR THE NEXT TRANSMITTER.  
AT THE END OF THIS STEP THE SYSTEM WILL ISSUE TWO "BEEPS".

YOU CAN REPEAT THIS STEP UNTIL YOU ALREADY FINISH WITH ALL TRANSMITTERS.

6. ONCE DONE THE ABOVE PRECEDURE, YOU MUST CONFIRM THAT THE LEARNED TRANSMITTERS WILL REPLACE THE BEFORE USED TRANSMITTERS (IN CASE OF EXIST THESE).  
TO DO THIS YOU MUST HOLD DURING 10 SECONDS THE DISARMED SIGNAL USING THE KEY AND AT THE END OF THIS TIME THE SYSTEM WILL ISSUE 3 "BEEPS".  
SINCE THIS MOMENT JUST THE LEARNED TRANSMITTERS WILL BE ACCEPTED.

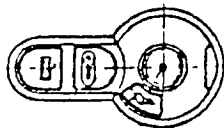
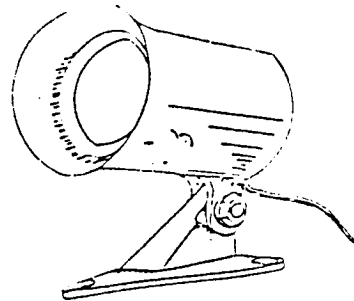
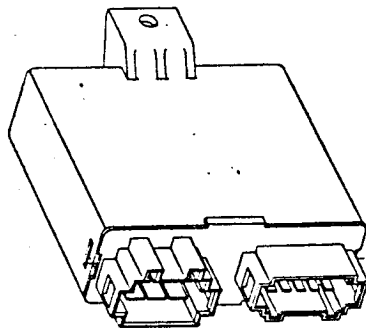
NOTE: IF YOU DON'T RECEIVE THE CONFIRMATION (3 "BEEPS"), VALIDATION OF NEW TRANSMITTERS WILL BE CANCEL AND THE BEFORE TRANSMITTERS (IN CASE OF EXIST THESE) WILL STILL CONTINUE VALID.

7. AT LAST YOU MUST DE-ACTIVATE THE IGNITION.

NOTE: IF INSIDE THE LEARNING PROCESS THE SYSTEM DOES NOT RECEIVE ANY R. F. SIGNAL OR DOES NOT RECEIVE THE CONFIRMATION STEP BEFORE 1 MINUTE, THE SYSTEM WILL ABORT THE LEARNING PROCESS AUTOMATICALLY.

### SYSTEM COMPONENTS LIST

Connector pin no.	Name	Part number	Q' ty	REFERENCES
1	Main Unit (Receiver)	AE-HU01W-AA 1/2	20	
2	Remocon (Transmitter)	AE-HU01W-AA 2/2	20	
3	Siren	AE-HU01W-S	18	
4	Bolt	M5X12	18	



## INSTALLATION MANUAL (FOR SYSTEM WIRING)

### FOR REMOTE, CONTROLLED ALARM SYSTEM

#### 1. WIRING-ENGINE COMPARTMENT

##### 1) STATER DISABLE

USE TEST LIGHT TO LOCATE VEHICLE STARTER SOLENOID POWER WIRE THAT RECEIVES +12V WHEN THE IGNITION KEY IS THE 'START' POSITION. CUT THE WIRE, CONNECT THE WIRE BGOING TO STARTER SOLENOID TO BLACK/WHITE WIRE.

##### 2) BATTERY POWER LINE

CONNECT RED WIRE TO FUSE GOING TO (+) BATTERY TERMINAL.

##### 3) SIREN

CONNECT RED/BLACK WIRE TO BLACK SIREN WIRE AND CONNECT THE OTHER RED SIREN WIRE TO FUSE GOING TO (+) BATTERY TERMINAL.

##### 4) HEAD LIGHT

CONNECT BLUE WIRE TO LEFT HEAD LIGHT POWER WIRE.  
CONNECT BROWN WIRE TO RIGHT HEAD LIGHT POWER WIRE.

##### 5) ACC LINE

CONNECT SKYBLUE WIRE TO IGNITION KEY ACC LINE.

##### 6) GROUND

CONNECT BLACK WIRE TO GROUND.

#### 2. WIRING-PASSENGER COMPARTMENT

##### 1) TRUNK RELEASE

CONNECT WHITE/BLUE WIRE TO TRUNK RELEASE SOLENOID POWER WIRE  
WHITE/BLUE WIRE HAS +12V SUPPLY WHEN ACTIVATED.

##### 2) DOOR LOCK (ARM MODE) / DOOR UNLOCK (DIS ARM MODE)

CONNECT WHITE/RED WIRE TO LOCK MOTER LOCK PPOWER LINE AND  
CONNECT YELLOW WIRE TO DOOR LOCK MOTER UNLOCK POWER LINE.

##### 3) DOOR SWITCHES

CONNECT VIOLET WIRE TO DOOR SWITCHES LINE.

##### 4) HOOD/RADIO SWITCHES



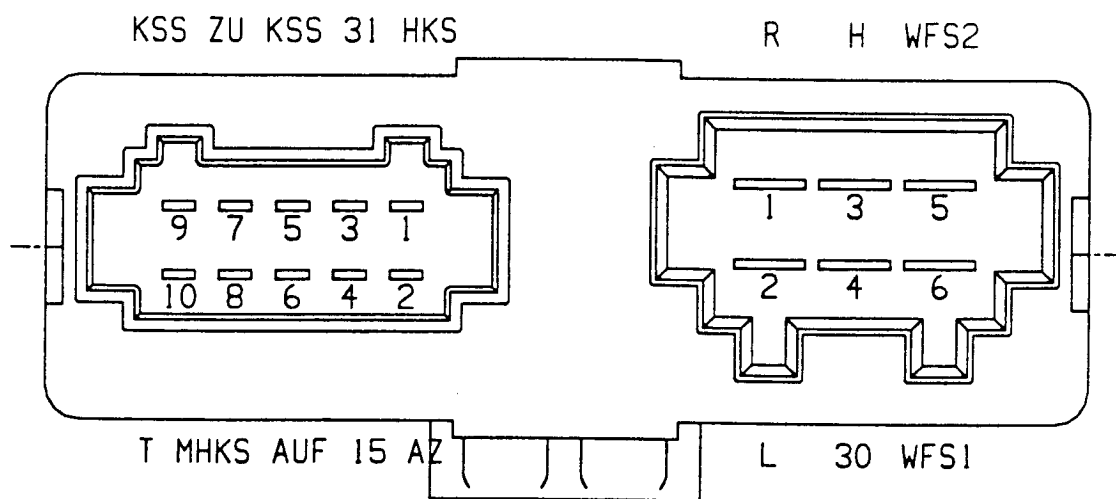
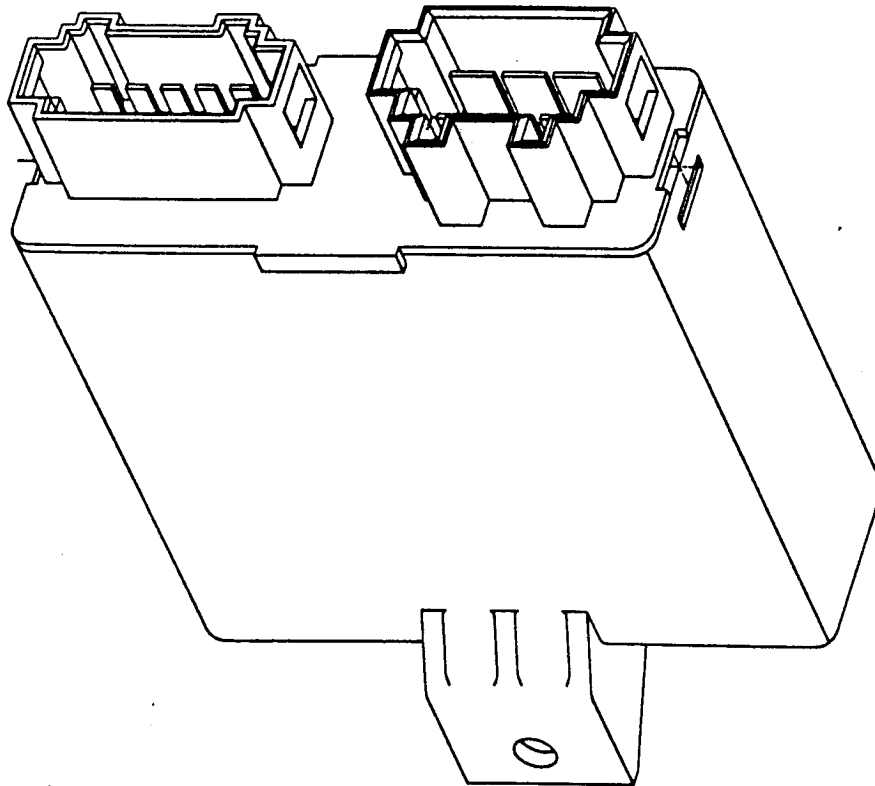
## CAR ALARM SYSTEM

CONNECT WHITE WIRE TO HOOD PIN SWITCH WIRE.

- 5) TRUNK SWITCH  
CONNECT PINK WIRE TO TRUNK LID WIRE THAT GOES GROUND WHEN TRUNK LID OPEN.
  - 6) CONNECT STATUS LED (+) TO RED WIRE.  
CONNECT STATUS LED (-) TO ORANGE WIRE.
3. ETC
- 1) SIREN  
MOUNT IN ENGINE COMPARTMENT AWAY FROM HIGH HEAT ENGINE COMPONENTS AND AWAY FROM AREAS WHERE WATER MAY SPLASH OR DRAIN ONTO UNIT.
  - 2) HOOD SWITCH  
MOUNT HOOD SWITCH IN AREA WHERE FLAT INNER PANNEL OF HOOD WILL PUSH SWITCH STRAIGHT DOWN WHEN CLOSED.
  - 3) STATUS LED  
INSTALL IN CLEARLY VISIVLE LOCATIOIN IN DASH, OR TO OWNER'S PREFERENCE.

## INSTALLATION MANUAL FOR MECHANICAL PART

- 1) THE MAIN SYSTEM MUST BE LOCATED BELOW THE DASH BOARD ON THE CAR.
- 2) IT MUST BE PLACED VERTICALLY.
- 3) CONNECT WITH CONNECTOR WIRE.
- 4) FIX THE MAIN SYSTEM VERTICALLY WITH M5 BOLT.



CONNECTOR PIN CONFIGURATION

# CAR ALARM SYSTEM

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## WIRE COLOR VS CONNECTOR PIN FOR MODULES

Connector pin no.	Writing position	wire color	AWG	REFERENCES
1	Remote Trunk Release (HKF)	Gray	20	
2	Control light (AZ)	Orange	20	
3	System GND (31)	Black	18	
4	Ignition (15)	Sky Blue	18	
5	Input Negative Trigger for Trunk (KKS)	Pink	18	
6	Disactivation Siganl (AUE)	Yellow	18	
7	Activation Signal (ZU)	White / Red	18	
8	Input Negative Trigger for Hood & Radio (MHKS)	White	16	
9	Partial Disactivation (KSS)	White	16	
10	Input Negative Trigger for Doors (T)	Violet	16	

Connector pin no.	Writing position	wire color	AWG	REFERENCES
1	Parking Lights Left (L)	blue	20	
2	Parking Lights Right (R)	Brown	20	
3	12V Power Supply (30)	Red	18	
4	Horn Signal (H)	Red/Black	20	
5	Starter Switch (WFS1)	Orange/Black	18	
6	Starter Kill Output (WFS2)	Black/White	18	