AM/8050 – AM/8051 / Compact SCOOTER security system

Features and operation

1. Arming

To arm the system, press the push-button of the radio transmitter once.
Arming will be confirmed by :
- a long flash of the turn indicators
- two audible signals (only if this function is activated, see para. 8)
- the lighting up of the warning light (LED)

The LED will remain constant for approximately 50 seconds (this period is the *initialisation time* required by the alarm to stabilize). Once this time has elapsed, the warning light will begin to flash indicating that the alarm is now fully set.
A safety circuit makes arming impossible whilst the vehicle ignition is active.

2. Disarming

To disarm the system, press the push-button of the radio transmitter once (twice if in alarm condition).
Disarming will be confirmed by:
- a short flash of the turn indicators
- an audible signal (only if this function is activated, see para. 8)
- the extinguishment of the LED

3. Protection functions

Engine immobilisation. Arming the system causes the immediate activation (without 50 sec.-delay) of the engine immobiliser. A vital point of the scooter's electrical system is disabled. Starting the engine becomes impossible.
Peripheral protection. The system has a negative instantaneous alarm trigger input for contact switches (to be installed – for example – under the seat or on the panniers). Any unauthorised attempt to force parts protected by them will generate an alarm cycle.
Movement detection. It is ensured by a revolutionary sensor (SPYBALL patent) which will detect any change in the scooter's position.
Ignition lock tamper protection. While the system is armed, any attempt to turn the ignition ON (e.g. by tampering with the ignition lock) will cause the alarm to sound.

4. Features of the transmitter

The coded transmitter (part number TR/08) that comes with the alarm unit has two push-buttons. Both perform the same functions. It is powered by a 6V-battery. Replace it as soon as you remark a decrease of the range. On the plastic case of the transmitter you will find a paper label with an alphanumeric code. Record it hereunder: in case of need it will allow you to order spare transmitters.

5. "Panic" function

If activated (see paragraph 8), this function allows to deliberately activate a visual and sound warning (i.e.: in order to discourage a suspect).
The "panic" alarm is possible only with armed system, once the initialisation time has elapsed.
Operate as follows:

- Press the push-button of the remote key > *You will obtain a short flash of the turn indicators and an audible signal*
- Within 2 secs. press the push-button of the remote key again > *You will obtain a visual and audible warning of 10 seconds.*

NOTE: if you do not press the push-button within 2 secs. You will obtain the disarming of the alarm system.

6. Automatic activation of the engine immobiliser

The function of engine immobilisation is basic to the security of the scooter.
Its arming can therefore be made automatic (see paragraph 8).
If you choose the automatic activation, the immobilisation circuit will "passive" set within 45 seconds of turning off ignition also in the event that you forget to arm the system via the remote key.
Arming will be confirmed by a quick flash of the LED.
To unset and be able to start the engine, turn the ignition ON, then press the push-button of the remote key,

WARNING: for security reasons, if turning the ignition ON is not followed by pressing the push-button of the transmitter (or, in the event that the latter has been lost, by the emergency disarming procedure – see para. "*Emergency Confidential Code*"), after about one minute the complete system will automatically re-arm and release an alarm cycle.

7. Automatic "re-arming"

This function assures the protection of the scooter even in the event that the security system is disarmed accidentally (e.g. by "fiddling" with the remote key near the parked vehicle). When it is active (see para. 8), if disarming the security system is not followed by turning the ignition ON within 45 secs., the alarm system will re-arm automatically.

8. Selectable functions (*Automatic activation of the engine immobiliser, Automatic re-arming, Panic function, Audible arming/disarming signals*)

All these functions are originally disabled.
To modify their setting, operate as follows:

1. Press the push-button of the remote key to arm the system > *The turn indicators and the LED will light up*
2. Within 3 seconds, before the extinguishment of the turn indicators, turn the ignition key ON > *The LED will extinguish a few seconds later*
3. **If you wish to activate the "panic" function and the audible arming/disarming signals,** press the push-button again immediately after the extinguishment of the LED > *An audible signal will confirm the activation of the two functions*
4. **If you do not wish to activate the "panic" function and the audible arming/disarming signals,** do not press the transmitter push-button
5. Leave the ignition on > *The LED will cycle through the 4 warning light states shown below, which represent the different combinations you can select:*

WARNING LIGHT STATUS	*AUTO IMMOBILISATION*	*AUTO RE-ARM*
OFF	Activated	Activated
FLASHING SLOWLY	Disabled	Activated
FLASHING QUICKLY	Activated	Disabled
CONSTANT ON	Disabled	Disabled

6. When you come to the combination you wish to select, turn the ignition OFF > *The system will disarm*

This procedure can be repeated every time you wish to modify the setting of the device.

9. Temporary disabling of the movement sensor

Movement detection may be temporarily disabled.
This facility may be useful when anti-theft protection is required but the scooter may be subject to movement (for example: in case of windy weather, on a ferry, etc.)

Procedure

Upon arming the system, hold down the push-button of the remote key about 2 seconds.
A long flash of the turn indicators and an audible signal (2 +1 if the "*Audible signals of arming/disarming"* are active) will confirm you have set the system without arming the movement detector.
The cancellation is valid for an arming period only; the function will be re-instated the next time the system is armed.

10. Alarm cycle

Any irregularity being detected:

- by the peripheral detection circuit (for example, the opening of a pannier protected by a contact switch);
- by the movement detector (for example: an attempt to tow the scooter away);
- by the ignition lock tamper protection circuit (for example : an attempt to force the lock)

will generate an alarm cycle of 30 secs.
The alarm condition will be signalled by the 115dB piezoelectric siren which is integrated in the device (sound warning) as well as by the flashing of the turn indicators (visual warning).
After that the device will automatically return to the set condition.

During the alarm condition pressing the remote control once will simply silence the siren and stop the indicators, leaving the system armed. In order to disarm the system it is necessary to press the push-button twice.

11. Alarm cycle monitoring facility

This facility is designed to minimise any environmental disturbance, in conformity with the current Legal prescriptions. It limits the number of repeated alarm cycles generated by the contact switches, by the movement detector and by the ignition lock tamper protection circuit to a maximum of 10 per arming period.

12. Automatic timed switch-off function ('*sleep'* function)

The current consumption rates of this alarm system are extremely low. Nevertheless another special facility has been implemented in order to protect the battery of your scooter.
The device switches off automatically after the scooter has been stationary for 24 hours with the alarm system in disarmed status or 7 days with the alarm system in armed status. The current consumption rate drops to nearly zero.
While in '*sleep*' condition, the alarm system does not respond to the radio transmitter, because the receiver is also OFF.
Turning the ignition ON will reinstate the normal functions of the device.

13. Alarm memory

If the alarm has been triggered in your absence, upon disarming you will be warned by different audible signals depending on the nature of the alarm cause:
1 'bleep' = forcing the seat, pannier (peripheral protection)
2 'bleeps' = sabotage of the ignition lock
3 'bleeps' = an attempt to lift or tow the scooter away (movement detector)

The message will remain stored until the end of the inhibition time (50") that will follow the subsequent arming.

14. Emergency disarming Confidential Code

In case of loss or failure of the radio transmitter, the security system can be disarmed via the following emergency procedure, using the *Confidential Code* which is printed on the card in the user information pack.

PROCEDURE:

If the complete system is armed

1) Turn the ignition ON.
   The alarm will begin to sound.
2) Wait.
   The alarm will stop. The LED will start to flash.
3) Count the number of flashes. As soon as the number of flashes equals the first digit of your secret code, turn the ignition OFF. (For example, if the first digit of your code is 3, then wait for the LED to flash 3 times before turning the ignition OFF).
   The LED will go out.
4) Within three seconds, turn the ignition ON again.
   Count the number of flashes. As soon as the number of flashes equals the second digit of your secret code, turn the ignition OFF (for example, if the second digit of your code is 2, then wait for the LED to flash 2 times before turning the ignition OFF).
   If the first two digits are recognised, the LED will give some quick flashes and you will be allowed to go on and enter the remaining digits using the same procedure.
   In case of error, an alarm cycle will follow.
   After that you will be able to repeat the procedure (starting from pos.3).

ONCE ALL THE DIGITS HAVE BEEN ENTERED PROPERLY, THE SYSTEM WILL DISARM .

If only the engine immobiliser is armed:

1) Turn the ignition ON;
   The LED will go on flashing quickly about one minute, to indicate that the immobiliser is active. Subsequently it will stop and then start flashing again, but very slowly
2) Follow the same procedure as described above, starting from pos. 3.

15. "HAZARD" function and "AUDIBLE TURN SIGNALS"

To start the HAZARD function, that is the simultaneous flashing of all the scooter's turn indicators, just press the push-button of the transmitter within 2 seconds of turning the ignition key off.
The indicators will stop flashing as soon as you turn ON the ignition or arm the system.

The AUDIBLE TURN SIGNALS will switch on automatically whenever you activate the turn indicators (with ignition ON).
This function is selectable upon installation of the security system: to activate it, insulate the WHITE and WHITE/RED wires; to disable it, bridge the WHITE and WHITE/RED wires via the jumper connector that comes with the alarm system.

WARNING: STEAM CLEANING THE SCOOTER MAY CAUSE DAMAGE TO THE ALARM SYSTEM. NEVER DIRECT THE JET AT THE UNIT AND PROTECT THE UNIT TO ENSURE MINIMAL WATER INGRESS.

WARNING: DO NOT FORGET TO STOP THE TURN INDICATORS PRIOR TO STARTING THE HAZARD FUNCTION. ON SOME MODELS OF SCOOTERS THIS COMBINATION MIGHT CAUSE BACK FEEDINGS AND CONSEQUENT MALFUNCTIONS.

INSTALLATION OF THE SYSTEM

TECHNICAL DATA

Power supply	12V +/-3V c.c.
Current consumption rate	4,8mA ON – 2,7mA OFF 0,4mA in “sleep” condition
Capacity of the engine immobiliser relay	10A
Working temperature	-20°C / +85°C
Sound power of the siren	115dB
Dimensions	100x75x35mm

SITING THE ALARM:

Choose a suitable location, well hidden and protected by the scooter’s body, far from sources of excessive heat and water infiltrations; the leads exiting the unit should point downwards or be bent in such way that water cannot seep into the alarm body via the loom.

WIRING INSTRUCTIONS

BEFORE WIRING, TAKE OFF ONE OF THE BATTERY TERMINALS.

AM/8050: Connect the system as described herebelow using the standard wiring loom that is delivered with the alarm system.
AM/8050 S: Make the connections following the fitting instructions that come with the specific loom.

RED wire	Positive power supply. Connect to a permanent positive polarity (+30) via 10A fuse.
BLACK wire	Negative power supply. Connect to a good earth.
BLUE wire	Negative instantaneous alarm trigger input for contact switches (to be installed, for example, under the seat or on the panniers);
YELLOW wires	Control output for turn indicators. Connect one to the right line of the turn indicators (positive polarity), one to the left line of the turn indicators (positive polarity).
ORANGE wire	Connect to an ignition controlled positive supply (+15). **Always connect. Make sure the supply is also live when the engine is cranking.** This connection makes arming impossible whilst the vehicle ignition is active.
GREEN – VIOLET – BROWN wires	Engine immobilisation circuit. See application diagrams.
BROWN/WHITE wires	Negative control output for warning light (LED).
WHITE and WHITE/RED wires with 2-way connector	**Insulate** these wires if you wish to activate the AUDIBLE TURN SIGNALS. **Bridge** them via the jumper connector that comes with the alarm system to disable this function. The bridge is compulsory if the YELLOW wires are not connected to the turn indicators.

ENGINE IMMOBILISATION - APPLICATION DIAGRAMS

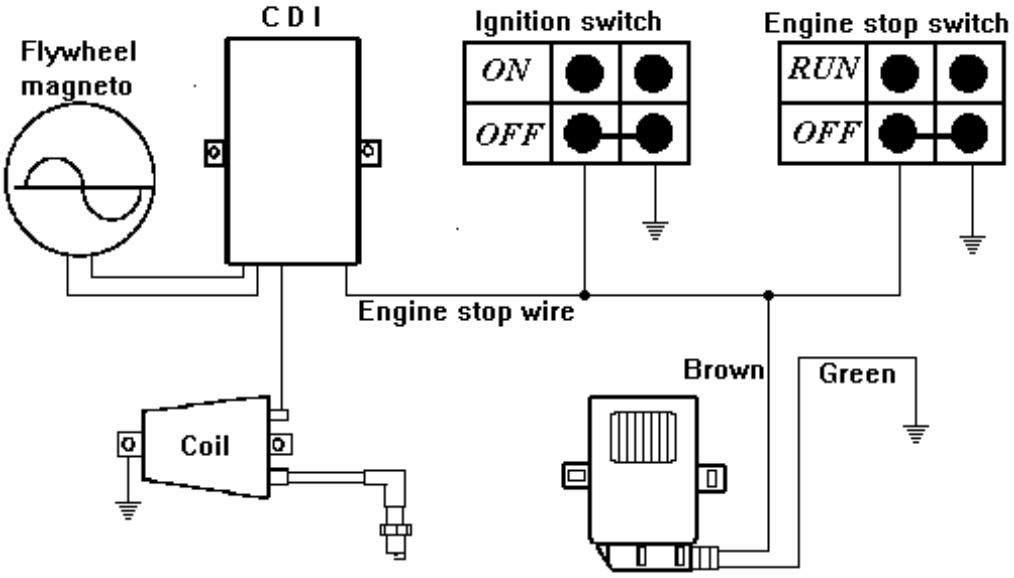


DIAGRAM A: FOR SCOOTERS EQUIPPED WITH CAPACITIVE IGNITION (POWERED BY FLYWHEEL MAGNETO)

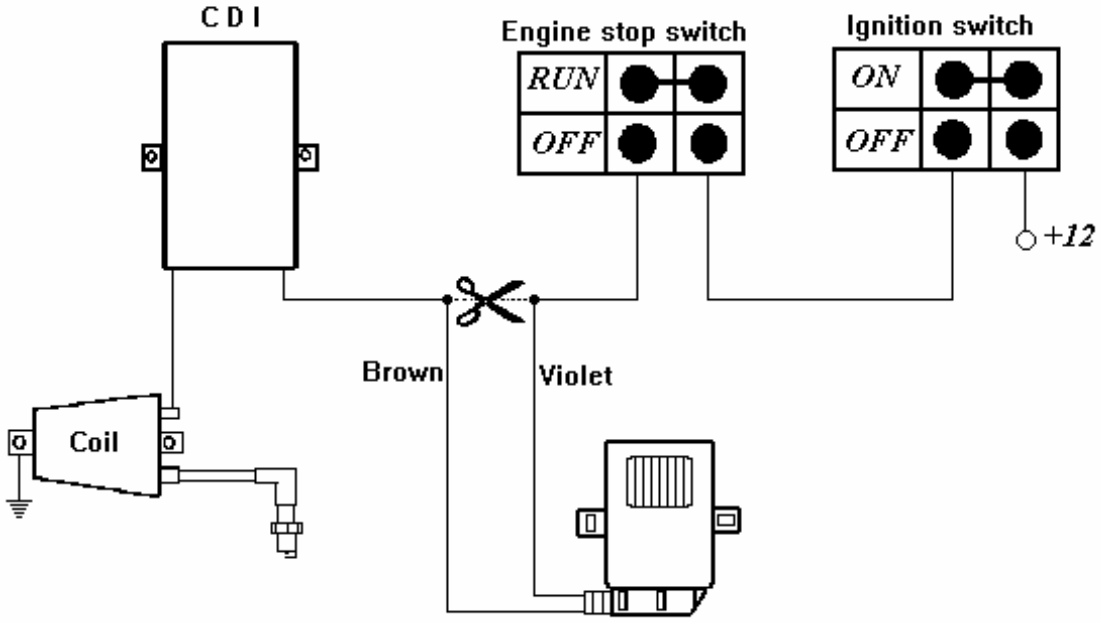
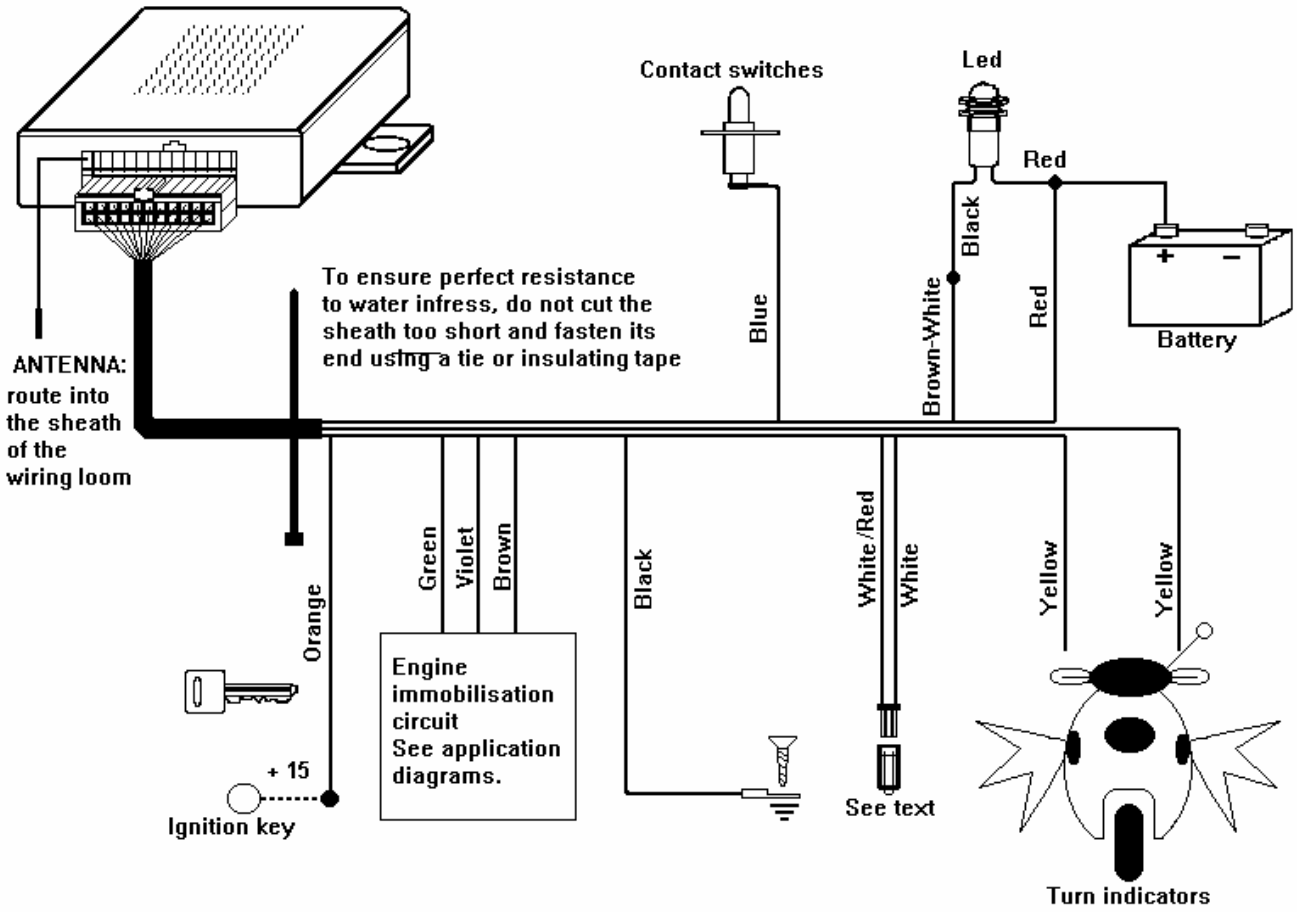


DIAGRAM B: FOR SCOOTERS EQUIPPED WITH INDUCTIVE IGNITION (POWERED BY BATTERY)



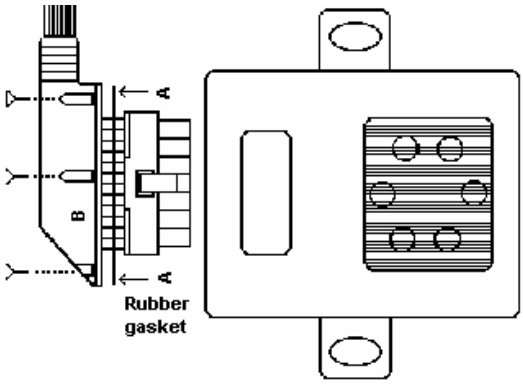
Adjusting the sensitivity of the movement detector

The trimmer located on the alarm case near the wiring loom connector allows the sensitivity of the ultra-sonic movement detector to be adjusted. Turn in clockwise direction to increase sensitivity, in counter-clockwise direction to decrease it.

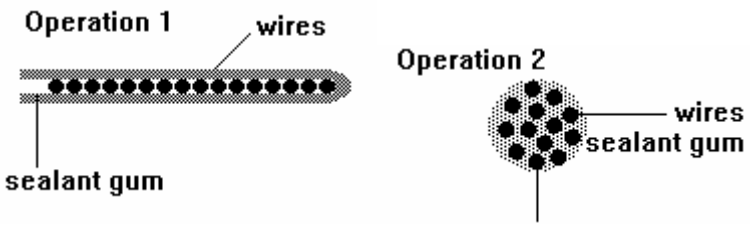
Final testing

Once all the wires have been connected:

- Plug the loom into the connector on the alarm unit;
- Re-connect the battery terminal;
- Check the correct working of the system.
  The "**check control**" facility will allow you to test the functions of peripheral protection, movement detection and ignition lock tamper protection easily and quickly (without causing the alarm to sound).
  Arm the system, wait 10 seconds, then – during the inhibition period - simulate an attempt to force a protected pannier, try to start the engine, shake the scooter repeatedly: these three operations will be followed by as many audible signals confirming that the relevant protection functions are working properly.
- Finally put the special rubber gasket (A) into the plug protection boot (B) and fasten the boot to the alarm case using the 6 screws that come with the unit.



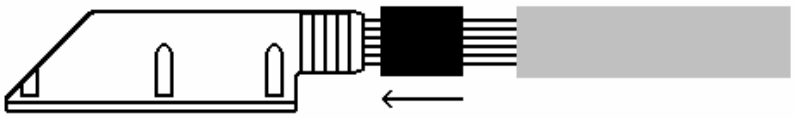
The sealant gum that comes with the fitting accessories shall be applied to the wires close to the entrance of the plug protection boot and manipulated so that it fills up the spaces between the wires, making water ingress impossible:



Fehler! Es ist nicht möglich, durch die Bearbeitung von Feldfunktionen Objekte zu erstellen.

After that:

- Slide the **thermoshrinking** sleeve onto the entrance of the boot.



- Heat the thermoshrinking sleeve up using a hot air gun (**not a lighter**)

- Slide the sheath of the wiring loom onto the entrance of the boot (the entrance should be covered completely)

- Fix the sheath securely using a tie wrap.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR DAMAGE TO THE SCOOTER'S ELECTRICAL SYSTEM AND CONSEQUENTIAL DAMAGE AS A RESULT OF INCORRECT INSTALLATION.

DELTA ELETTRONICA S.P.A.
SPYBALL TWO-WHEELER DIVISION
VIA ASTICO 41
I-21100 VARESE
www.spyball.it info@spyball.it