

Planning and Installation

The CAT6 Scooter Immobiliser consists of the following:

Main unit (ECU) with 2 x touch keys

Installation and User Guide

Fitting kit, comprising:

- Stainless steel handlebar bracket to mount touch pad.
- 2 x 5mm screws, washers and nuts for mounting.
- 2 x Hex-head self tappers, with captive loose washer, for mounting.
- 6 x cable ties.
- Heat-shrink for wires.
- Test Bulb.
- 1 x Acumen acrylic badge

Tools Required:

- Pliers/Cable strippers/Cable cutters & other general workshop tools.
- Soldering equipment.
- High quality insulating tape.
- Masking tape (for drilling touch pad mounting hole).
- Multimeter.
- Scooter manufacturers wiring diagram.

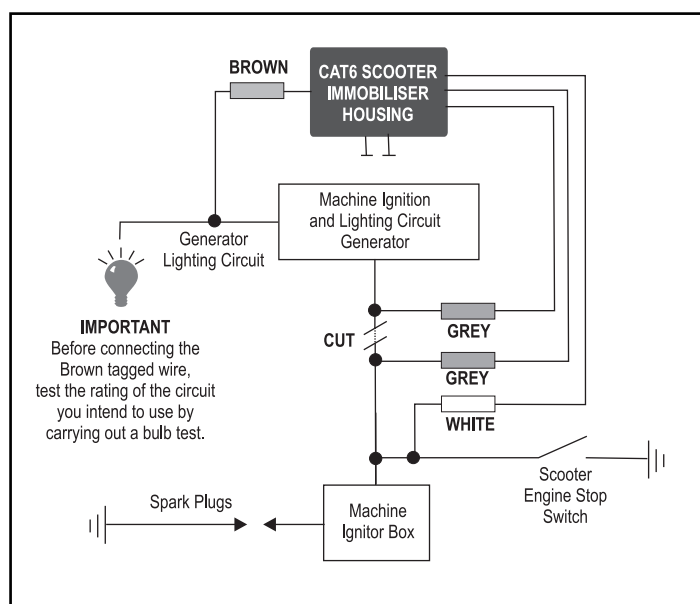
Wiring

All wiring **MUST** be soldered and insulated with the heatshrink provided. Insulation Displacement Connectors (IDC) (such as 'Scotch Loks') must **NOT** be used.

Ensure the wiring harness is routed in a safe manner – not touching hot or moving parts – and is taped as per the original scooter harness.

As all the system wiring is Black, we recommend you fit the untagged black wires first – these are for the earth/ground connections – to avoid confusion should you cut off a colour tag and then drop the wire! Alternatively, tie a knot in the untagged black wires .

- 1 Connect the two untagged black earth wires to TWO suitable earth/ground points on the scooter frame OR TWO separate earth/ground wires within the scooter harness. **DO NOT** connect one wire to the frame and one wire to the battery negative terminal or the scooter harness.
- 2 Connect the Green-tagged wire of the ECU and the Green-tagged wire of the Touch Pad together.
- 3 Connect the Orange-tagged wire of the ECU and the Orange-tagged wire of the touch pad together.
- 4 Connect the Violet-tagged wire of the ECU and the Violet-tagged wire of the touch pad together.



YOUR WARRANTY WILL BE INVALID IF YOU EXCEED STATED RATINGS

The CAT6 Scooter Immobiliser has safety implications if not connected in the correct manner. **ALL connections MUST be soldered.**

ECU

Before fitting, plan where you are going to install the ECU. The more protected it is the more effectively it will be able to do its job. Try to mount the unit under a lockable or bolted-on item/panel.

The ECU should be mounted using the two 5mm screws, nuts and washers provided or, if more convenient, the two self tapping hex-headed screws provided..

TOUCH PAD

The Touch Pad incorporates the system LED. It should be mounted in a readily accessible position so that the rider has easy access to it and the system LED is visible. Use either the mounting bracket provided (this will mount on one of the handlebar mounting bolts) or drill a 20mm diameter hole in a suitable panel.

Position the touch pad so that the water drain slot is at the lowest position.

- 5 Connect the Pink-tagged wire of the ECU and the Pink-tagged wire of the touch pad together.
- 6 The Brown-tagged wire is the ignition sense wire and besides controlling the CAT6 Scooter Immobiliser, it will also ensure the internal batteries are kept fully charged - See Below:

A IF your scooter has a battery, connect the Brown wire to any circuit which becomes live with the ignition on - say, brake light switch, or wire from Ignition switch to the fuse(s)

B IF your scooter does not have a battery, then we recommend the Brown wire is connected to the lights circuit. However, you should check this circuit to ensure it has enough voltage - and not too much. - as follows:

Connect one wire of the test light to the wire of the lighting circuit you wish to connect the Brown tagged wire to, and connect the other wire of the test light to a suitable ground/earth. Start your scooter. If the light does not illuminate there is insufficient voltage and you will need to reposition the wire. If the bulb fails, the voltage is too high, so you will need to reposition the wire.

Contact Acumen Electronics Ltd if you have a problem...

- 7 Connect the White-tagged wire to your scooters wire the manufacturer uses to switch the ignition off.
The White-tagged wire is the main immobiliser wire. It will immobilise your scooter by switching the circuit to ground. With most AC ignition scooters, when the rider turns the ignition 'off' (stops the engine), the ignition circuit switches to ground.
This circuit has a **MAXIMUM** rating of 800 Volts (AC or DC) at 1 Amp.
- 8 Cut a wire from the Ignition Generator to the Machine Ignitor box, and solder the two GREY-tagged wires to each wire as shown in the diagram.

IMPORTANT NOTE - WAKE UP THE SYSTEM

The CAT6 Scooter Immobiliser is shipped in 'sleep mode' and needs to 'see' the ignition to wake up. When installation is complete, it is possible that the touch pad LED will be switched off and the system will not react to the touch key. Simply try and kickstart your scooter (Or electric starter if appropriate) this will 'wake the system up' and the LED will flash Red - disarm by using the touch key.

The Acumen CAT6 Scooter Immobiliser is designed for scooters (or products such as jetskis, snowmobiles etc.) that do not have an ignition key and/or battery. It will immobilise both AC and DC ignition systems.

Installation and Operation



Operation

1. To disarm the CAT6 Scooter Immobiliser, simply place the touch key on the touch pad. The LED will change from flashing Red to flashing Green.
NOTE! If the Red LED is not flashing, see FAQ - Question 1.
2. The CAT6 Scooter Immobiliser will arm automatically, 30 seconds after the engine has stopped (see FAQ - Question 2)
3. The system LED, in the touch pad, will indicate the status of the CAT6 Scooter Immobiliser:
 - Flashing Red LED is a sign the system is armed, and has immobilised the ignition.
 - Constant Red LED is a sign an attempt has been made to start your scooter while the CAT6 Scooter Immobiliser is armed.
 - Flashing Green LED is a sign the system is disarmed, and will remain in this state for 30 seconds after the engine has been 'turned over'.
 - Constant Green LED indicates the engine is running – or the ignition is switched on in the case of a scooter with a battery.

Acumen Electronics Ltd., www.acumen-electronics.co.uk

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Frequently Asked Questions (FAQ)

1. **Q** - I have had my scooter in storage for several months and now the system LED is not flashing Red or Green, and it will not react to the touch key?
A - The CAT6 Scooter Immobiliser incorporates its own battery pack to keep the electronics and the System LED in operation. This battery pack is charged while your scooter is in use, and will keep the system alive for a considerable period of time. In the event your scooter is left unattended for a very long time, the system LED will be switched off and the system will not react to the touch key. Simply try and kickstart your scooter (Or electric starter if appropriate) and this will 'wake the system up' and the LED will flash Red. Disarm by using the touch key.
2. **Q** - If I stall my scooter, the engine sometimes becomes flooded and will not start easily. Certainly not within the 30 second arming time?
A - Providing you attempt to start your scooter within the 30 second arming time, the system 'clock' will begin counting 30 seconds from every start attempt. If your scooter is left for 30 seconds without an attempted start, the CAT6 Scooter Immobiliser will arm fully and immobilise your scooter. In this scenario, you must touch the touch key on the touch pad.
3. **Q** - I have lost one of my touch keys. Can I replace it?
A - No Problem. Contact Acumen Electronics (**details above**) and order part number 51016. 'Teaching' instructions are supplied with the new touch key.
4. **Q** - I have lost both of my touch keys. What do I do?
A - You will need to send the CAT6 Scooter Immobiliser ECU unit back to Acumen Electronics. **Remember to identify each wire as you remove it from your scooter** – if you don't we can't help you! Contact Acumen Electronics for a returns number. A small fee will be made for this service.
5. **Q** - I had a spill and damaged the Touch Pad. Can I get a replacement?
A - No Problem. Contact Acumen Electronics (details in rear) and order part number 51017. Helpful wiring tips are included with the new Touch pad.