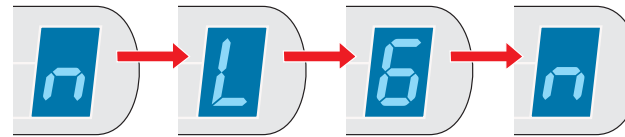
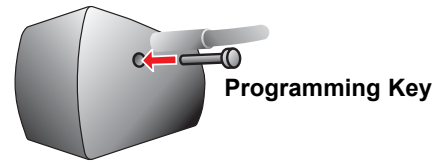


IMPORTANT - If the ignition is switched OFF at any time during the TEACHING process, you will have to start the process again.

3 - TEACHING THE DGV...Recommended off road procedure using the motorcycles main stand or a suitable paddock stand

Teach the DGV the number of gears your motorcycle has: (Front wheel speedo sensors, see below)

- With the ignition **ON** and the motorcycle in neutral check that the DGV is illuminated and showing a neutral signal - Start the engine (See section 4 to customise neutral indication).
- Insert and hold the programming key in the back of the unit until an L (Learn) appears (approx. 10 sec.). Remove the programming key.
- With the L indicated, insert the programming key and press once for every gear, the display will indicate the number as you press (six gears = six presses (Max eight)).
- Remove the programming key and wait until the neutral indicator appears (within 5 sec.). **REMEMBER TO LEAVE THE IGNITION ON**

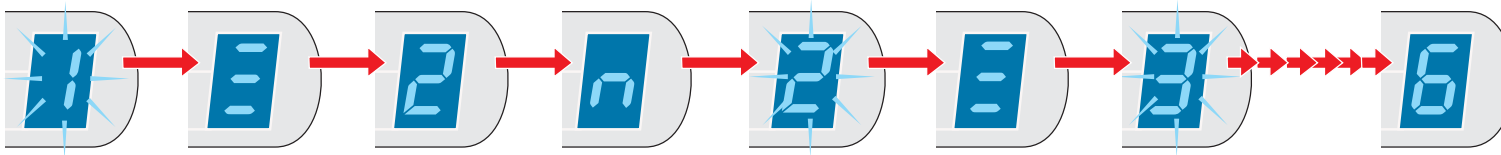


Now teach the DGV your motorcycles gear ratios:

- Select first gear, run the engine until the 1 flashes then changes to three bars and then to a number 2. Select neutral.

IMPORTANT: neutral **MUST** be indicated before teaching the DGV second gear. (This only applies when teaching first and second gears).

- Select second gear, run the engine until the 2 flashes then changes to three bars and then to a number 3, select third gear etc. Continue with the other gears until all the gear ratios are set, the DGV display will recycle and return to the gear you are presently in.
- You can now select neutral, and turn the ignition OFF.



4 - CUSTOMISE NEUTRAL



- With the ignition ON, select neutral
 - Momentarily press the programming key in the rear of the unit and cycle through the alternatives shown above.
- If an L appears, you have entered Learn mode, switch the ignition OFF and ON and try again.

FRONT WHEEL SPEEDO SENSORS:

If the speedo sensor comes from the front wheel of the motorcycle, you will need to ride the motorcycle on a suitable road or use a rolling road to confirm gear ratios. This can normally be accomplished within one mile, excessive RPM is not required (4000 max).

5 - TROUBLESHOOTING...Common problems

- If a neutral symbol is not shown when the motorcycle is in neutral, check that the GREEN wire has been installed on the correct side of the neutral bulb (see wiring diagram). Also check that the neutral bulb or fuse has not failed.
- If the lower segment of the display constantly recycles, the correct information is not being received by the DGV. This could be caused by a slipping clutch.
- If the unit does not operate correctly, check all wiring connections (eg; Yellow/Black is not the same as Black/Yellow) and all connections are properly soldered.



The Gear Indicator



The Integral voltmeter showing the charging voltage and additionally showing the battery voltage for 1 minute when the ignition is switched off.

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

HOW DOES THE DGV WORK?

Gear position is calculated from the relationship between the engine speed and the road speed. This information comes from the electrical pulses fed to the tacho and speedo. Once the DGV has this information and it has learned the relationship between the frequency of speedo pulses to tacho pulses in first gear it can then recognise the distinct change in this relationship for the remaining gears.

Why does it take a little time to refresh the display between gear changes?

Every bike is different. Some might send 24 pulses to the speedo for every revolution of the wheel some 3 and the same is true for information sent to the tacho. The DGV needs to 'read' a sample of this information before refreshing the display. The faster the pulses, the faster it works. That's why it will usually work quicker at higher speeds/ higher gear than, say, trickling through traffic in town.

1 - BEFORE YOU START...

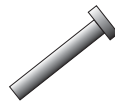
The DGV works by comparing the electrical signals to the speedometer and tachometer (or other engine speed related signal, such as ignition pick-up). It has the added benefit of a voltmeter showing the charging voltage and will show the actual battery voltage for 1 minute when the ignition is switched off.

The DGV has automatic dimming for night-time use and works on 99.9% of motorcycles with an electronic speedometer (most modern dial-type speedometers are electronic).

If your motorcycle has a cable drive speedometer you will need upgrade kit Acumen Part number 30101 or a DGV complete for a motorcycle cable drive speedo, Acumen part number 30102.

You will find the following equipment in the DGV box:

- Digital gear indicator
- Installation kit (programming key, velcro and cable ties)
- Installation and setup instructions
- Popular motorcycle fitting information



IMPORTANT:

Should you have any doubts or problems with the installation process, it is highly recommended that you consult your dealer BEFORE removing any panels or cutting any wires.

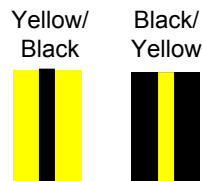
The following additional equipment is required for the installation process:

- Basic tools to remove motorcycle panels
- Soldering equipment
- Insulating tape
- A test meter may be required to identify required wires within the wiring harness

The enclosed Popular motorcycle fitting information will help you to identify the connections to make on a range of popular motorcycles. If your motorcycle is not listed contact your dealer or visit our web site for the latest information.

Alternatively you need to identify a wire which carries an electric pulse relative to engine speed and a wire relative to road speed. The motorcycle wiring diagram and a test meter will help you to identify the relevant wires.

Understanding wire colours! If the fitting information sheet asks for a connection into the Yellow/Black, ensure you do not connect to the Black/Yellow. The first colour is the bulk of the wiring colour, the second colour is usually a thin stripe.



2 - INSTALLATION OF WIRING...

Before starting the wiring process, locate the unit in its final fixed position on the motorcycle with velcro, remove any panels and identify and confirm all wiring connections.

PLAN YOUR INSTALLATION BEFORE YOU START...

ALL CONNECTIONS MUST BE SOLDERED

