



DATATOOL®

DiGi® – Gear Indicator



Installation instructions for DiGi® - Standard version.

(Part No. 03 000 000)

DiGi is designed for use with motorcycles fitted with electronic rev counter, electronic speedometer and a negative ground system. Bikes with cable speedometer should be fitted with DiGi Cable Speedo Version 03 000 003.

Installing this product involves interfacing with the wiring system of the motorcycle - this has obvious safety implications. Unless you are absolutely certain that the installation procedure is within your abilities we strongly advise you to refer the task to a recognised motorcycle specialist.

1) Mounting the Display

Choose your mounting location, making sure that it is clearly visible and doesn't interfere with the function of the motorcycle. The mounting surface must be clean and free from grease. Make sure that the display is angled to avoid reflective sunlight. Locate your DiGi with the contact pad supplied. Gently heat the adhesion area to make a stronger bond. Allow 24 hrs for the adhesive to mature fully. If you choose to attach the display to a tube, handlebars perhaps, attach the cable anchor to the display and secure with cable ties provided.

2) Connecting the Wiring

The DiGi is not difficult to install, but you must correctly identify the relevant cables on the motorcycle and connect them correctly to the cables of the DiGi. A list of cable colours for more popular models is included. You can also check for tips and latest models at www.datatool.co.uk. If neither of these sources give you the colour codes required, you need to access the correct wiring diagram for your bike.

All connections **must be soldered and insulated** or the system will not work correctly. You should also make sure that the orange cable remains accessible to programme your DiGi to your motorcycle.

The ground should be located within the wiring harness to ensure accurate interpretation of rpm signals.

Cable connections are as follows:

Motorcycle	DiGi Cable Colour
Ground – Choose a ground wire within the harness	Black
Ignition switched 12 volt positive supply	Red
Tachometer pulse (rpm)	Yellow
Speedometer pulse (mph/kph)	Green
Neutral Light	Brown
Learn/set-up	Orange

3) Programming the system

Before you start!

- The DiGi works by computing the pulses to the Speedo and the pulses to the Rev Counter. The difference between these indicates the difference between road speed and engine speed - and therefore the gear in use.
- The DiGi will need to learn this data from your motorcycle. To do this you must run the engine whilst each gear is selected. The speedo is usually driven from the rear wheel, in this case you can use the centre stand or a secure paddock stand to keep the rear wheel clear of the ground. This is obviously potentially dangerous! Make sure that your bike is safely secured before starting.
- If the speedo is driven from the front wheel or you are unsure that you can secure your bike safely, we recommend that you refer the installation to a recognised motorcycle specialist.
- Ensure the motorcycle engine is at normal running temperature before commencing programming.
- If during the procedure you make an error, simply hold the orange wire to ground until the "P" flashes in the display, then start over.
- You can re-programme your DiGi as often as you wish.
- Read the programming instructions before you start - it's straightforward - one step at a time!

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4) Step-by-step programming

The following steps must be completed in order and within a set time, if at any point the orange programming wire is left connected or disconnected for too long the programming sequence will need to be restarted by holding the orange programming wire to earth until the flashing "P" is displayed on the DiGi.

We recommend using a dabbling motion with the orange programming wire to help achieve programming in the set time.

Start by telling the DiGi how many gears the motorcycle has:

- Select neutral, check the kill switch is in the run position and turn the ignition on. The DiGi display will illuminate.
 - Touch and hold the orange programming wire to earth until the DiGi flashes "P" (this may take up to 60 seconds).
 - While the display is flashing "P" remove and remake the orange wire to earth, the display will change to a flashing "1".
 - Remove and remake the orange wire to earth, the display will change to "2".
 - Remove and remake the orange wire to earth, the display will change to "3".
- Repeat for the number of gears the bike has.

Isolate the orange programming wire.

5) Teaching the gears.

Check to see if speedometer/tachometer sensor is fitted to the front wheel, if so the motorcycle will need to be ridden on the road to complete the "Teaching the gears" section.

With the motorcycle securely on a paddock stand, engage neutral and start the engine.

- Select 1st gear, the DiGi display will show a flashing "1," release the clutch.
- Increase the engine speed to 2000 RPM and hold, the 1 on the display will flash increasingly quickly and will change to a bar.
- When the bar appears in the display 1st gear has been logged successfully and the display will change to a flashing "2".
- Change into neutral from 1st gear, pause in neutral until "0" is displayed on the DiGi.
- Select 2nd gear, the display will show a flashing "2," release the clutch.
- Check the engine speed is still at 2000 RPM, the "2" will flash increasingly quickly until a bar is displayed, 2nd gear has now been logged successfully, the DiGi display will show a flashing "3".
- Select 3rd gear, check the engine speed is still at 2000 RPM, the "3" will flash increasingly quickly until a bar is displayed, 3rd gear has now been logged successfully, the DiGi display will show a flashing "4".

Repeat the point of the above procedure for the remaining gears.

When the bar appears in top gear the display will scroll and the DiGi has been successfully programmed

6) Troubleshooting.

- If the display doesn't illuminate make sure that the DiGi has a power feed and ground when the ignition is on.
- If the "0" symbol doesn't appear check that the brown wire is connected between the neutral light and the switch. If it's connected between the ignition switch and the neutral light, it won't register correctly.
- If the programming procedure doesn't work first time, re-read the instructions carefully and try again.
- If you can't get the system to programme at all, there is an error in one or more of the connections - check them again and make sure that you have selected the correct locations on the motorcycle.

5) Operation.

You now know that DiGi works by relating engine speed to road speed. This means that it can only work effectively when it is receiving this data. This means that:

- Accurate gear indication can only be given when the clutch is in the released position. In any other situation the display will scroll round until meaningful data is received. A slipping clutch will also create wrong data.
- If the speed sensor is on the front wheel and the front wheel is off the ground it will give a false reading. It would also be unwise to look at the display in this situation!
- If you shift rapidly through several gears you may beat the system as data may not be read quickly enough.
- If you change tyre or sprocket size the data may no longer be accurate. Simply re-programme the unit.
- The predictive software function will expect you to engage first gear from neutral. This may cause brief misreading if you decide to set off in second gear.