



Caerbond Automotive Instruments

Proled and Motorcycle Programmable Speedometer's

Application Notes

- For fitment to negative earth petrol powered vehicles only.
- Operating voltage 10-16 volts DC.

Caution: Disconnect the negative battery cable prior to any installation.

Electrical Connections

The Speedometer is supplied with flying leads and should be connected as follows.

Note: you may be left with some unconnected 'spare' leads, this is quite normal/ acceptable.

Lead	Connect to:
Green	Ignition +12 Volts and connect to EMP46-1 & 2 Sender Red
Red/Black	Sine Signal from 2 wire sensor.
Red/Blue	Square Signal from 3 wire sensor.
Red/White	+12Volts for illumination.
Black	Ground.

Yellow	Pull up to 12V Resistive load
Brown	Reset Switch (programming)
Pink	_____

Programming

Once the electrical connections have been made, reconnect the battery cable.

Hold the Brown lead to earth whilst switching the ignition on. The words 'Release Button' should be displayed on the LED screen.

The Speedometer is now in

Release Button

Drive to set for speedo calibration.

Pulses per unit, alternative method of speedo calibration.

MPH Km/h, to set speed display in MPH or Km/h. The trip and odometer display automatically adjust for Miles or Kilometers.

Programming (continued)

Once in programming mode, each momentary touch of the brown lead to earth moves through the major menu headings. With a major heading displayed, pushing and holding the brown lead to earth for one to two seconds will take you into the programming section for that heading.

Speedometer Calibration

There are two methods of setting the speedometer calibration:

- Drive to set
- Manually input the PPU number

Drive to Set

In programming mode, press the programming button momentarily until the display reads 'Drive to set'. Touch the brown lead to earth until the display shows 'Drive' together with **DRIVE 006070**

show the old PPU, the 'zero' will have incremented to the new PPU figure. Touch the brown lead to earth momentarily and the display will read 'PPU SET xxxxxx' where xxxxxx is the number just generated. After approximately five seconds the display returns to the main menu 'Drive to set' and the new PPU figure is implemented.

Note: The new PPU figure must be greater than 400 and less than 125,000 or no new figure will be stored.

Manually Inputting the PPU Number

- Calculate the PPU Number

To begin, you need to know the number of times your wheels revolve per kilometer. Stand the vehicle on a flat surface and mark the tyre at the closest point to the ground, mark the ground at the same point. Move the vehicle forward by one complete wheel revolution and measure the distance travelled.

Wheel revs per km. = 1000 divide by distance in metres.

To Calculate the PPU Number (pulses per mile/km)

- For magnetic sensor, magnets or bolt heads moving past the sensor (eg. prop shaft mounting).

PPU number = (wheel revs per mile/km) x (diff ratio) x (number of magnets or bolts).

- For sender driven from transmission cable drive.

Push vehicle forward on flat ground for 6 complete wheel revolutions and count the number of cable turns.

Cable turns per km = (Wheel revolutions per KM + 6) x cable turns counted.

PPU number = Cable turns per km) x number of pulses per sender revolution.

(ii) Input PPU Number

In programming mode, touch the brown lead to earth momentarily until the main menu heading is 'Pulses per unit.'

Touch the brown lead to earth until the display changes to show 'PPU Now' together with a number (showing current setting and row of six zeros.

PPU NOW
8380
000000

The row of zeros is to be replaced with your newly calculated PPU number. Touching the brown lead to earth momentarily will increment the last zero (the least significant figure) by one. Repeat the action until this digit matches the least significant figure of your new PPU number. When the two digits match, touch the brown lead to earth, the next digit in line is highlighted. Keep the brown lead to earth (momentarily) until the second digit matches that of the new PPU number. Press and hold the brown lead to earth to bring the third digit into play. Repeat the actions until the full PPU number is shown.

Note: All six digits must be set ie. including any zeros. Pressing and holding the brown lead to earth when the last digit is set will result in the display reading 'PPU Set xxxxxx.' Where xxxxxx is your new PPU number. After

approximately five seconds the display will return to the main menu 'Pulses per unit' heading.' The new PPU number is now in force.

PPU NOW
8380
006352

MPH or km/h

To set the digital speed indication, navigate to the MPH KPH display, as described in the Programming section.

MPH KPH

holding the brown lead to earth will display the MPH setting. Each momentary touch of the brown lead to earth

will --

effectively toggle between MPH and

MPH KPH
MPH

MPH KPH
KPH

km/h. With your choice of either MPH or km/h on the display, press and hold the button to select. The trip and total odometer display naturally follows the selection.