



Caerbond Automotive
Instruments

"The original makers of SMITHS instruments"

Motorcycle Speedometer With LCD Odometer Display

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Terms and conditions apply.

For further information go to
www.smiths-instruments.co.uk

Products designed and manufactured under ISO
9001:2015 quality standard.

PLEASE READ PRIOR TO INSTALLATION

It is recommended that supply is protected via
installation of a (3 Amp) fuse.

Wire connections for Negative Earth applications	
Wire Colour	Connect to
Black	0v, chassis ground
Green	Switched +12volts from Battery Positive
White/Red	12v illumination positive
Red/Black	0v, chassis ground
White/Black	To speed sensor Output wire.
Red/Blue	Alternative speed signal input*
Pink (if fitted)	+5v output to speed sensor if required.
Brown/Slate	Via toggle switch to 0v / BATTERY NEGATIVE
Red	Pull up/ down if required for sender. Only works on White/Black wire
* Red/Blue is an alternate input for dedicated ECU signal	

Wire connections for Positive Earth applications	
Wire Colour	Connect to
Black	Switched Battery Neg
Green	Battery POS (attached to chassis ground).
White/Red	12v, chassis ground
Red/Black	0v via light switch
White/Black	To speed sensor output wire.
Red/Blue	Alternative speed signal input*
Pink (if fitted)	+5v output to speed sensor if required.
Brown/Slate	Via toggle switch to 0v / BATTERY NEGATIVE
Red	Pull up/down if required for sender. Only works on White/Black wire
* Red/Blue is an alternate input for dedicated ECU signal	

PIL084 V2

Calibration

There are two methods of calibration, Drive to Set and manual input.

Drive To Set

You will need to know a route of exactly one mile (or one Kilometre for a Km/h speedo).

Press and hold the toggle switch*** (or contact the Brown/Slate wire to earth) and switch on the ignition. The pointer will complete a full sweep and return to zero. Now release the toggle switch. The odometer display will show 'SETPPU'. Press the toggle switch again and the display will read 'DTSPPU'

DTSPPU

Press and hold the toggle switch for three seconds, the display will read '000000'

Now ride the bike for exactly one mile (or one Km for Km/h speedo).

After riding the designated distance, press the toggle switch for three seconds and the display will show 'DONE'. Now switch off the ignition. The calibration is now complete.

Calibration Manual Input

The value to be input is the calibration number, the number of pulses per mile (or Kilometre for Km/h speedos) generated by the speed sensor.

Stand the bike on flat ground and mark the tyre and ground



Push the bike forward by one full revolution of the wheel and make a similar mark on the ground. Measure the distance travelled, this number will be known as value 'A'.

Wheel revolutions **per mile** = 63360 divided by 'A'(inches), result = 'B'.

Wheel revolutions **per Kilometre** = 1000 divided by 'A'(metres), result = 'B'.

To find the number of pulses generated per wheel turn by the speed sensor, put the bike on a stand and turn the wheel six full revolutions. While turning the wheel, you must count the number of revolutions of the sensor drive. To assist with this count, it is helpful to fix a flag (match-sticks and masking tape or similar) to the drive. Divide the number of drive turns by 6 (the number of complete wheel turns) = value 'C'. If the sensor generates more than one pulse per revolution, then divide the number of wheel turns by 6 and multiply the result by the number of pulses per sensor turn = 'C'.

Calibration number = B x C

For magnetic sensors, the calibration number = B x (the number of magnets or bolt heads per wheel revolution).

To input the calibration number into the speedo, press and hold the toggle switch (or contact the Brown/Slate wire to negative) whilst switching on

the ignition. The pointer will sweep and return to zero. Release the toggle switch.

The display will read 'SETPPU'. Press the toggle switch for 3 seconds and a default number will appear with each digit flashing in turn for approximately 2 seconds.

The default settings are normally

- 008380 for MPH speedos
- 005208 for Km/h speedos

Settings for motorcycles are generally far lower. Typically a Norton Commando requires a setting of 00966 for mph speedos, 00600 for Km/h.

SETPPU 008380 000180
000800 DONE SETPPU

While the digit is flashing, each press of the toggle switch will increase the value of that digit by one.

Keep pressing the toggle switch until the desired digit is obtained. Repeat with each digit until the full number is entered. All the digits will now flash once, and then the display will read 'Done'. After three seconds the display will read 'SETPPU'. Turn off the ignition to complete the setup.

If your new Speedometer has a manufacturing date of 0120 or later located on its part number label there is a possibility it has a new function allowing a one off attempt at adding the existing mileage from your old speedometer to the new gauge.

This must be done **before** the odometer has clocked up **100 Miles or Kilometres**; this allows enough time to calibrate your speedometer first. Once this total is reached the Software locks out this new function.

Setting the Odometer to an existing mileage.

Calibration mode is selected by switching on the ignition whilst holding the reset button for 3 seconds. Release the button, the speedometer is now in calibration mode. Do short presses to cycle round until it is displaying SETODO



Now press & hold the button until the display is 6 zeros and release.



By momentarily pressing and releasing the reset button each number (extreme left side first) can be incremented to your desired value. Include leading zeros e.g.003859 When the value for each digit is correct release the button and wait 3 seconds.



The next number to change will flash, increment in the same way and continue until all the numbers are programmed to your new odometer reading.



At the end of the sequence all 6 digits will flash, during this time press and hold the button for 3 seconds and release and the display should say DONE. Power the gauge off and on and the saved mileage should be displayed.



If you make a mistake with the numbers just switch off at any time before the end of the sequence and no changes will be saved.

If you have saved an incorrect number and it is greater than 000100 you will NOT be able to change it yourself and it will need to be returned to Caerbont to be stripped and either corrected or set back to zero. There would be a charge for doing this.