Caerbont Automotive Instruments

"The original makers of SMITHS instruments"

Motorcycle Speedometer

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Terms and conditions apply.

For further information go to
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Products designed and manufactured under ISO 9001:2008 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 supply
White/Red	12v illumination positive
Red/Black	0v, chassis ground
White/Black	To white wire on speed sensor
Red/Blue bands	Alternative speed signal input*
Pink (if fitted)	+5v to red wire on speed sensor if required**
Brown/Slate	Via toggle switch to 0v/ground
Red	Pull up/Pull down if required for sender.
** Red/Blue bands is an alternate input for dedicated ECU signal*	
** * Pink is a dedicated 5volt supply for Smiths 2 wire senders, connect to sender red wire. Connect White/Black wire to sender white wire. Do not connect Pink wire to three wire senders.*	

Wire connections for **Positive earth** applications	
Wire Colour	**Connect to**
Black	Switched supply
Green	12v or chassis ground.
White/Red	12v or chassis ground
Red/Black	0v via light switch
White/Black	To white wire on speed sensor
Red/Blue bands	Alternative speed signal input*
Pink (if fitted)	+5v to red wire on speed sensor if required**
Brown/Slate	Via toggle switch to battery 0v
Red	Pull up/Pull down if required for sender.
** Red/Blue bands is an alternate input for dedicated ECU signal*	
** * Pink is a dedicated 5volt supply for Smiths 2 wire senders, connect to sender red wire. Connect White/Black wire to sender white wire. Do not connect Pink wire to three wire senders.*	

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'

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.

****Toggle switch using the chassis as earth will not be suitable for positive earth systems; a two wire switch with a return to the supply side of the battery is required.*

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

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.