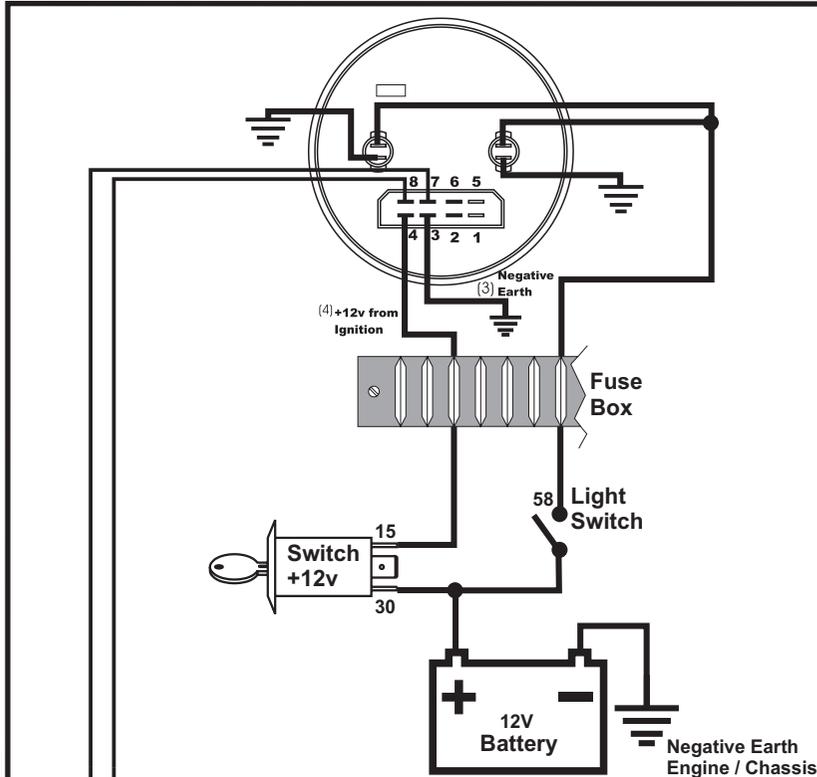


# 100mm Programmable Speedometer

Ref : 100spwirS11S\_3.cdr

Heavy Duty Magnetic Induction Sensor Wiring  
Part # 340 011



**PLEASE READ FIRST!**

## General Safety Instructions for ALL Instruments

Prior to the actual installation work, the negative pole of the battery must be disconnected first, since otherwise there is danger of creating short circuits. Short circuits can cause cable fires, battery explosions, and damages in other electronic storage systems. Basic knowledge of vehicle electrics and mechanics is necessary for installation to prevent harm to people, property and the environment. Make sure that the engine cannot be unintentionally started during installation. Do not wear lose fitting clothes!

For the installation location of the equipment unit, make sure that sufficient clearance is provided behind the installation aperture. Use a drill to pre-drill the installation opening and complete the opening using a compass saw or piercing saw (observe the safety instructions of the hand tool manufacturer.)

## NEGATIVE EARTH ONLY

**If in doubt telephone ETB Instruments Limited on (01702) 711127 for advice!**

## Electrical Wiring Safety Instructions for ALL Instruments

- Prior to the actual installation work, the negative pole of the battery must be disconnected first, since otherwise there is danger of creating short circuits. Short circuits can cause cable fires, battery explosions, and damages in other electronic storage systems.
- Connect the cables in accordance with the electrical connection diagram
- Take account of the cable cross section - a reduction in cable cross section results in a higher current density. This can cause the cable to heat up.
- When laying electric cables, use existing cable ducts and routes but without laying cables parallel to ignition or cables leading to high current consumers. Fix the cables with cable tape or adhesive tape.
- Do not route the cables over mobile components.
- Do not fasten cables to the steering column.
- Make sure that the cables are not exposed to tensile, compressive or shear forces.
- If the cables are routed through drilled holes, protect them with rubber sleeves or the like.
- Strip cables only with a cable stripper. Adjust the stripper so that no strands are damaged or severed.
- Crimp connections should only be made with a crimping tool.
- Insulate exposed strands so that no short circuiting can occur.

## ETB Limited Warranty

ETB Instruments Limited warrants all merchandise against defects in factory workmanship and materials for a period of 12 months from date of purchase. This warranty applies to the first retail purchaser and covers only those products exposed to normal use or service. Provisions of the warranty shall not apply to an ETB product used for a purpose for which it is not designed, or which has been altered in any way that would be detrimental to the performance or life of the product, or misapplication, misuse, negligence or accident. On any part or product found to be defective after examination by ETB Instruments Limited, ETB Instruments Limited will only repair or replace the merchandise through the original selling dealer or on a direct basis. ETB Instruments Limited assumes no responsibility for diagnosis, removal and/or installation labour, loss of vehicle use, loss of time, inconvenience or any other consequential expenses. In the event of merchandise being returned to ETB Instruments Limited, The responsibility for payment of delivery rests with the customer. The warranties herein are in lieu of any other expressed or implied warranties, including any implied warranty of merchantability or fitness, and any other obligation on the part of ETB Instruments Limited, or selling dealer. Your statutory rights as a consumer are not affected.

## Wiring Instructions

1. Always disconnect the battery prior to installation.
2. Connect Pin 3 on the speedometer to a good dedicated ground / earth location (i.e. where the negative (-) battery pole is connected to the chassis of the vehicle).
3. Connect Pin 4 on the speedometer to the positive (+) terminal on the battery (after the ignition switch, and after the fuse box)
4. The signal input should be connected in either of the following ways:-

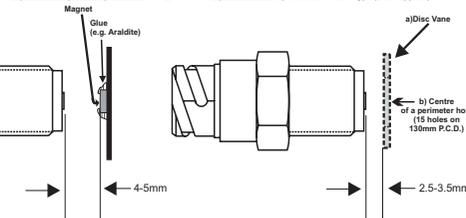
**a) Magnetic Induction Sensors** - Connect Pins 7 & 8 on the speedometer to the terminals on the heavy duty magnetic induction sensor or to the red and black wires on the light duty induction sensor. It does NOT matter which way round you wire the sensor to the speedometer.

**b) Hall effect Sensor** - The signal output wire from the sensor should be connected to Pin 8. (Please contact the sensor or vehicle manufacturer to obtain wiring information with regard to the hall-effect sensor wiring configuration)

**c) OEM Gearbox Sensors** - Please contact sensor / vehicle manufacturer to obtain specification of gearbox sensors. Alternatively please contact ETB Instruments Limited on (01702) 711127 for advice.

**d) Reed Switch Sensor** - Connect Pins 7 & 8 on the speedometer to the terminals or wires on the reed switch.

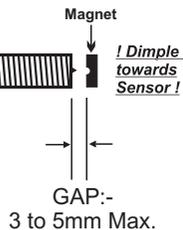
## 1) Using Magnets OR 2) Disc



Connect wires to Pins 1 & 2 using the 2 connectors provided.  
It does not matter which way round these two wires are connected

Light Duty Induction Sensor Part # 340 016

**!!IMPORTANT !!**  
**DO NOT OVERTIGHTEN FIXING NUTS ON LIGHT DUTY SENSOR. TIGHTEN NUTS BY HAND AND APPLY A SUITABLE THREAD LOCKING ADHESIVE.**



## Set-up of Induction Sensors and Magnet(s)

The Magnets supplied should be fixed to the selected location (a component that rotates in relation to road speed) for supplying the speedometer with pulse signals. For example, prop-shafts, bolts heads (on a hub or differential flange) or drive shaft couplings can be used.

Clean the surface to be used, attach the magnet, (which will stay in place if the surface is ferrous) and apply a fixing adhesive (e.g. araldite) around the edge and top surface of the magnet to permanently hold it in place.

Ensure that as the magnet rotates on its mounting position, that it passes directly in line with the centre of the sensor.