

# Injectronics

Remanufactured Automotive Electronics Components

## TECHNICAL BULLETIN

Document number: T0054

For further technical information regarding testing, repairs or to search for New or Remanufactured Automotive electronic products, please visit [www.injectronics.com.au](http://www.injectronics.com.au), call our office on (+613) 8792 6999, or email [sales@injectronics.com.au](mailto:sales@injectronics.com.au)

Make: Various

Model: Various

Subject: Air flow meter pin outs

Injectronics receives many calls on how to test air flow meters. Usually these items are trouble free and don't 'go' out of calibration unless the top has been removed and someone has adjusted the spring tension.

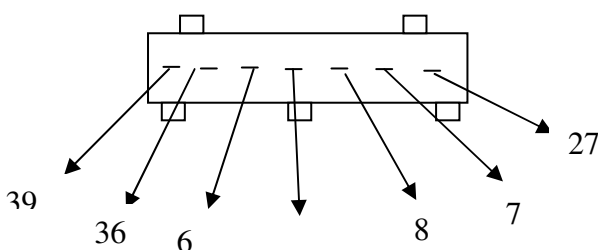
Some common problems are:

1. No output voltage
2. Intermittent output voltage –(worn circuit board)
3. Flat spots from binding flap or bearing
4. Calibration problems ( Tampered with )

Injectronics can test and recalibrate Air flow meters using our computer operated Air flow test bench, however some quick basic tests that can be performed are:

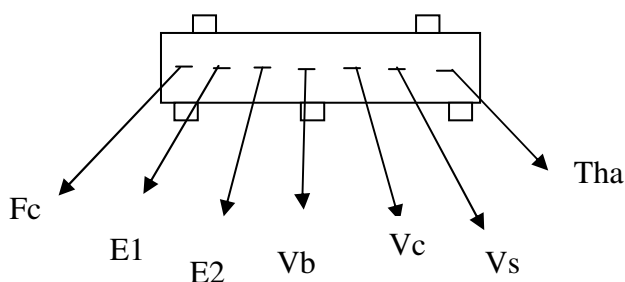
- a. Check for binding flap throughout the full range
- b. Check there is an output voltage and that it increases at a steady rate as the flap is moved open (note: some systems decrease voltage as the flap opens). On some Bosch LE systems the tachometric relay will need to be bridged out to supply power to the Air flow meter
- c. If there is no output voltage, check the supply and earth's to the Air flow meter.

Some plug and wiring configurations are shown below



### Early Bosch 7 pin

39,36 pump contacts  
6 earth  
9 supply in  
8 reference voltage – approx 4v lower than supply  
6 load/output signal  
27 air temp sensor



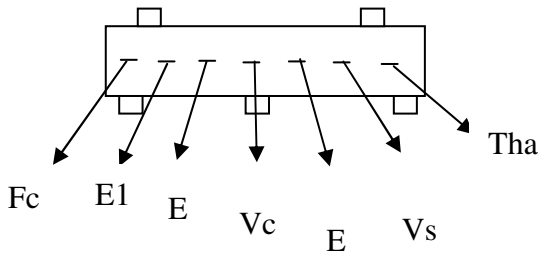
### Nippon denso (Toyota/Mazda)

Fc,E1 pump contacts  
E1,E2 earth  
Vc reference voltage – approx 4v than supply  
Vb supply voltage  
Vs load/output signal  
Tha air temp sensor

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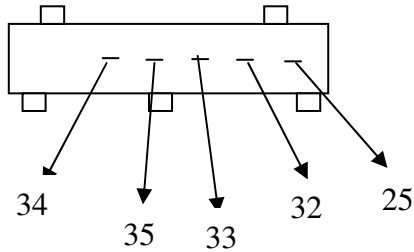
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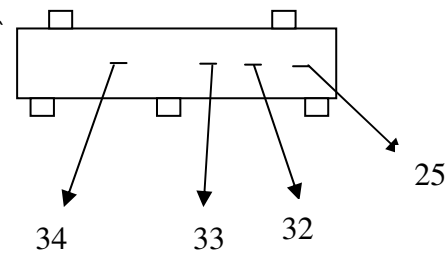
**Nippon denso 2 (Toyota/Mazda)** note: some start with a high voltage and go lower

Fc,E1 pump contacts  
E earth  
Vc reference voltage  
Vb supply voltage  
Vs load/output signal  
Tha air temp sensor



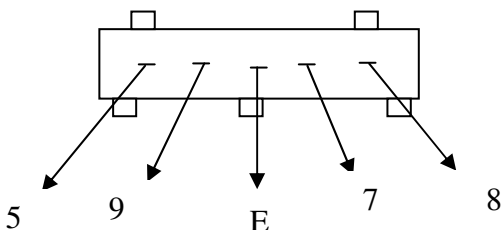
**Jecs 1 (Nissan/Subaru)**

34 earth  
35 12v supply  
33 reference voltage –approx 4v lower than supply  
32 loaded output signal  
25 temp



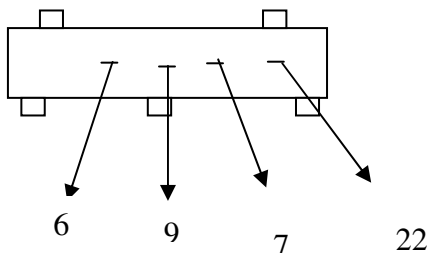
**Jecs 2 (Nissan – N12 Turbo , some 280zx )**

25 air temp  
32 load/output signal  
33 earth  
34 8v power supply



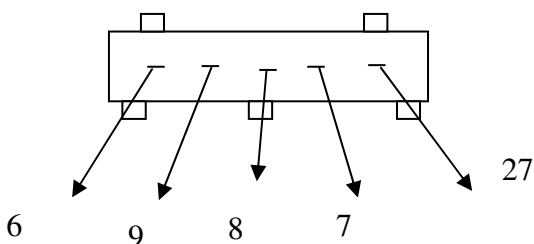
**Bosch LE 5 pin**

5 earth  
9 supply  
E not used  
7 load/output signal  
8 reference voltage (approx 4v lower than supply)



**Bosch digital (also xf ford)**

6 earth  
9 supply in 5 v  
7 load/output signal  
22 air temp sensor



**Bosch (Pintara)**

6 earth  
9 supply in  
8 reference voltage  
7 load/output signal  
27air temp sensor

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