

# Fiat Barchetta Lambda Probe (oxygen sensor)

## DIY replacement (and may work on other old FIAT and Alfa Romeo etc)

Dear readers.

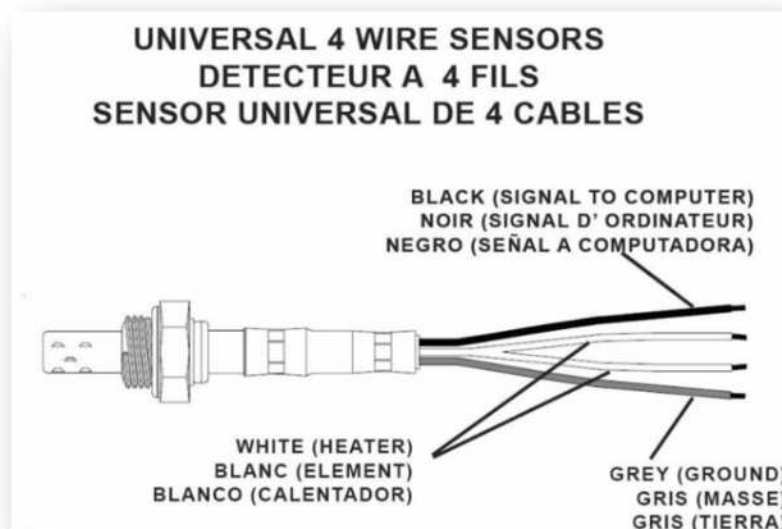
Let me share my experience with you. This is what I did and it worked for me.

I purchased a universal 4 wire Lambda probe from eBay exactly like this one.....



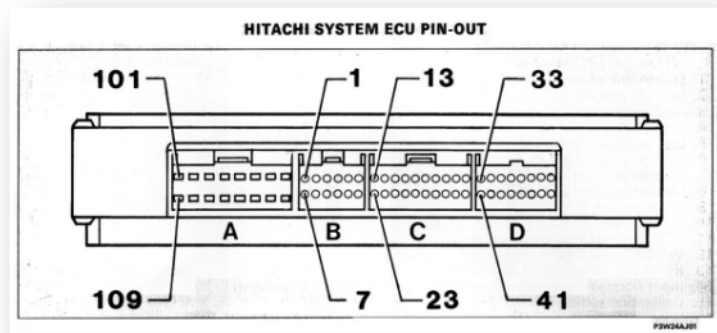
It has one black wire (+ve signal to ECU), one grey wire (signal ground) and two white wires which are for the built in heater element.

I also found this following image on the net which details a similar probe with exactly the same connections.....



Now in my case the 4 pin connector that usually connects the Lambda sensor to the ECU had melted. I had to cut this connector off and remove and dispose of the old Lambda probe. This left me with two distinct pairs of wires coming from the ECU.... a) single Green wire and a single Black wire. b) single Orange with a black stripe wire and a single Black wire.

Therefore I felt the need to refer to the user manual to find out the correct wiring and colours to be used. Let me show you an error that I think I found in the manual, section 10 page 24.



I was particularly interested in the pin-out of connector 'C'

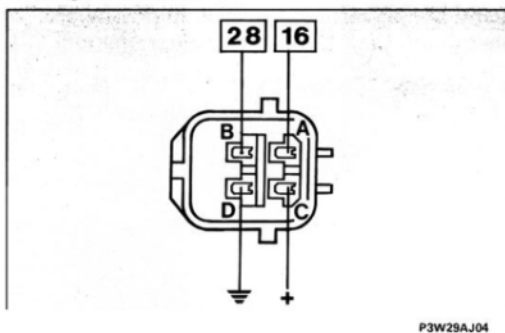
#### Connector C

- 13. EEPROM writing
- 14. Air flow meter positive
- 15. Coolant temperature sensor positive
- 16. Lambda probe positive
- 17. Three-stage pressure-switch signal
- 18. N.C.
- 19. N.C.
- 20. Connection with FIAT CODE
- 21. Knock sensor positive
- 22. Air flow meter negative
- 23. K line

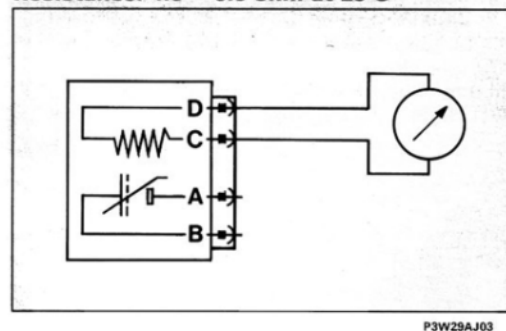
- 24. N.C.
- 25. Throttle position sensor signal
- 26. Lambda probe negative
- 27. N.C.
- 28. Compressor activation signal (if present)
- 29. Start-up signal from ignition switch (+50)
- 30. N.C.
- 31. Knock sensor earth
- 32. Coolant temperature and throttle position negative

And the following diagram detailed on page 29.....

#### Wiring connector



Resistance:  $4.5 \pm 0.5$  ohm at  $20^{\circ}\text{C}$



I think there is an error in the detail of the diagram on the left. Please read on.

The following information may be of interest to some of you.

The wiring of the connector detailed illustrates that the connection 'B' labelled as being connected to '28' on the ECU. But if you look at the ECU pin-out for connector 'C' you will see that '28' is **not** allocated to the Lambda Probe but instead it is the connection for the Compressor activation signal (if fitted). But the Connector 'C' detail clearly shows that the Lambda probe negative is on **pin '26'**. Therefore I assumed a printing mistake. There may be an amendment somewhere but I did not find it.

### KEY to wires coming from the ECU

A = Lambda probe positive (solid black wire)

B = Lambda probe negative (solid green wire)

C = Lambda heater positive (solid black wire)

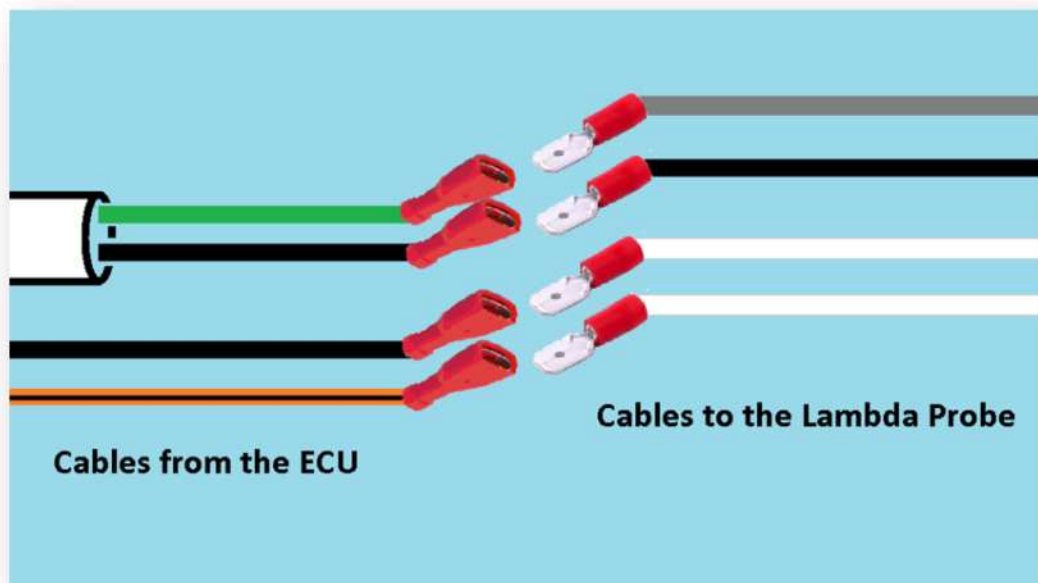
D = Lambda heater ground (orange with a black stripe wire)

### Final connection

I prepared all the ends of the wires and fitted male and female spade connectors.....



I then fitted the universal Lambda Probe to the exhaust system and connected the wires as follows.....



That is what I did and it passed the emissions test at my local garage first time.

Hope this helps others.