



DIGITECH

User Manual

Versatile Automotive LED Display Module for Cars

AA-0375

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Technical Specifications:

- Power: 12VDC
- Dimensions: 81(L) x 52(W) x 21(H) mm

Instructions:

- Connect the module according to the wiring diagram depending on your use of the module. Incorrect wiring will damage the module and your vehicle if you connect it in the incorrect polarity:
 - Three connections should be made to your car, (1) +12V (ignition switched); (2) chassis (0V); and (3) sensor or car battery signal. The car battery signal is best taken at a point close to the battery for accuracy.
 - Use the car's wiring diagram to find these connections, and then use a multimeter to check that they're correct (e.g. check that the +12V supply switches off when you turn off the ignition).
 - Confirm that there is a fluctuating signal in the 0-1V range on the oxygen sensor lead (the car will need to be fully warmed up) or that the signal coming from the airflow meter, or MAP sensor changes when the throttle is blipped. NOTE: The 0V connection for the Voltage Display should be made at the ECU or to a terminal that is directly to a chassis point.

- The red LEDs are the lowest voltage, and the yellow LEDs are the highest voltage. Adjust the trimpot to suit the voltage reading for your application.
- A Light Dependent Resistor (LDR) can be connected to the unit for the LEDs to adjust their brightness according to the ambient light. Use the trimpot to adjust the dimming.

Setting up for an Oxygen Sensor:

Links LK1 and LK2 should be out and link LK4 should be installed.

- Set the trimpot VR1 fully clockwise and trimpot VR2 fully anticlockwise.
- Start the car, let the oxygen sensor warm up and confirm that the LED display changes.
- Go for a drive and briefly use full throttle. The end yellow LED should light up. Back off sharply – the end red LED should light.
- Check that the LEDs travel back and forth when the engine is at idle.
- If the end yellow LED never lights, even at full throttle, adjust VR1 so that it lights when the mixtures are fully rich.
- During normal driving, the LED should move back and forth around the centre LED. If the oscillations are all down one end after adjusting VR1, adjust VR2 to centre the display.

Setting up for a 0-5V Airflow Sensor:

Link LK2 should be installed and LK4 out.

- Use a multimeter to measure the battery voltage. Now with the engine running fast and with all accessories off, etc. lights, set VR1 so that the top green LED lights at a measured 14.4V.
- Now stop the engine and switch on the lights. Wait until the battery falls to a measured 12V and set VR2 so that the lower green LED lights up.
- Again, the adjustments will affect one another to a small extent so you may need to recheck the results at either end of the scale.

Calibrating for Fuel Mixture Display:

- The easiest way of calibrating the module is on the road, but is not appropriate for a car that is heavily modified. For a modified car, use a chassis dyno.
- A low voltage reading from your car indicates that your mixture is too lean. A high voltage shows that it is too rich.
- Calibrating on the road: with an assistant in the passenger seat and with the engine up to operating temperature, drive at a constant speed with a steady throttle opening. The lit LED should start oscillating up and down the display, as the ECM makes the mixtures alternatively rich and lean in closed loop operation. Adjust the trimpot VR1 so that the oscillations in either

direction are symmetrical around the middle LED. It is now ready for use.

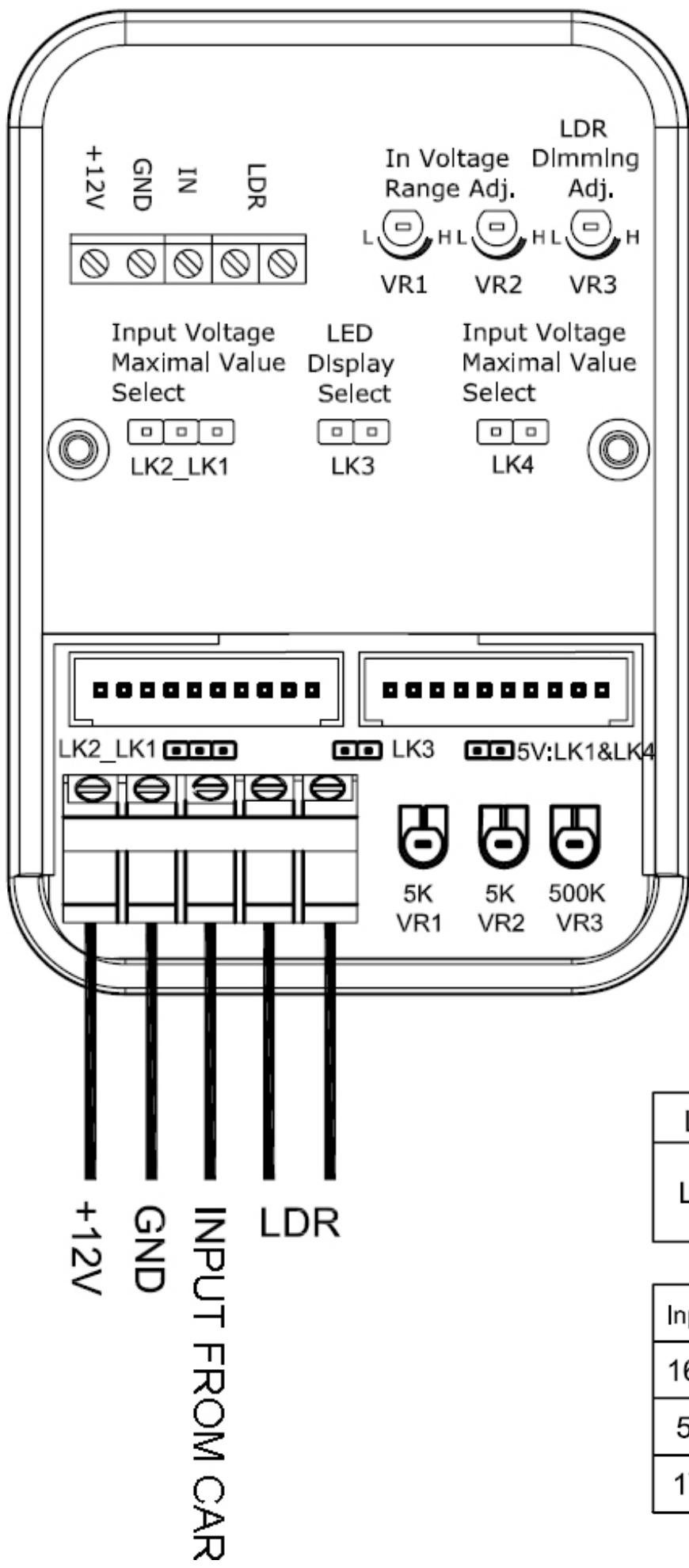
NOTE: At idle, the mixture display should again show the closed loop oscillations.

- Calibrating on a car that is heavily modified: in-car calibration can still be done with the proviso that the mixtures may be all wrong to start with. The safest approach is to use a chassis dyno and an exhaust gas analyzer so that the mixture display can be calibrated according to the gas analyser's readout.
- LEDs can also be attached to the module with fly leads if you would like to integrate it into your vehicle's dashboard.

Notes:

- Never get any part of the module wet.
- Never attempt to open, modify or repair any part of the module.

Wiring Diagram:



LED Display Select			
LK3	DOT	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	BAR	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Input Voltage Maximal Value Select			
16V	LK2_LK1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5V	LK2_LK1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1V	LK2_LK1	<input checked="" type="checkbox"/>	<input type="checkbox"/>