

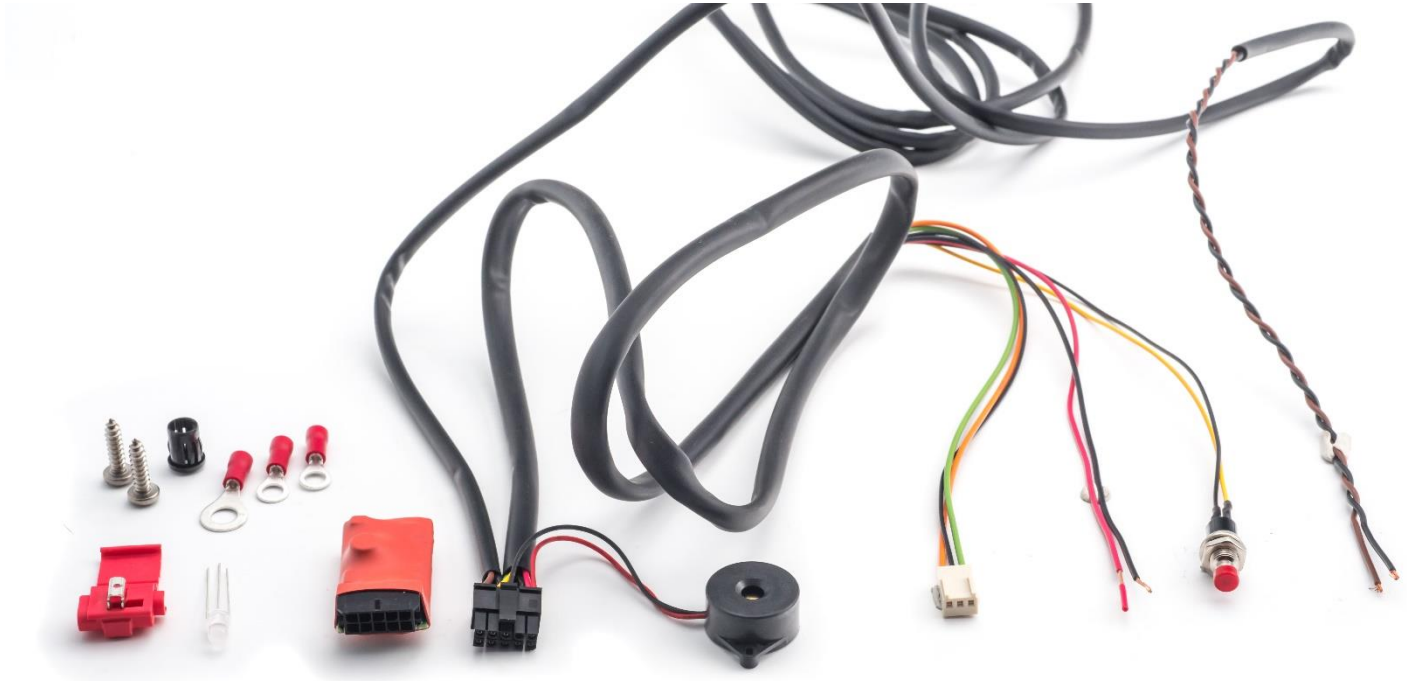


CLD2

Coolant Level Detector 2

Users Manual – English 1.03

www.MadmanDevelopments.com



Introduction

The CLD2 is a engine coolant level early warning system. It combines microprocessor technology and AC signal probe excitation to accurately determine the absence/presence of coolant level. A 2-color LED visual coolant level state as well as an audio alarm is given. The CLD2 can use inexpensive probes such as stainless steel screws to determine the coolant level. It also features a failsafe input circuit. The CLD2 can also be used with float level type sensors.

Features

- Coolant level early warning system
- Bi-Color LED indication to determine the state of the coolant level
- AC probe excitation which eliminates corrosion/dissolving of the probes as with DC excitation.
- Fail safe circuit design.
- A 5 second coolant level delay time is given before the alarm is activated. This eliminates false triggering of the alarm due to off-road conditions or cornering.
- Reset switch to acknowledge alarm
- Buzzer sound override to disable the buzzer sound.
- Override function to disable the unit until reboot.
- Microprocessor controlled circuit
- On board voltage reversal and over voltage protection for harsh vehicle environments
- Can be used on 12V or 24V vehicles
- Float level type sensors also supported.
- 1 year limited warranty

1 Installation

Connect the CLD2 unit as indicated in the following diagram.

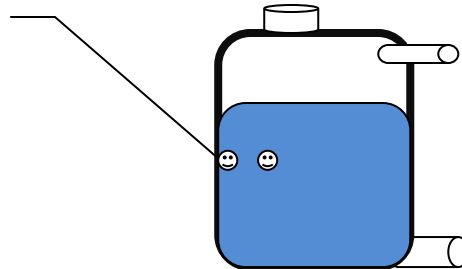
Mounting the Level Sensor:

There are two basic methods of sensing the coolant level, either with the included self tapping screws screwed into the coolant bottle or by using a separately supplied level sensing plug.

Self Tapping Screws Option:

Place screws +-25mm below the normal water level or on the recommended minimum mark. Screws must be horizontal and 25mm apart.

Drill 1.5 to 2mm holes for the 4.2mm Screws



Level Sensing Plugs:



These plugs are available in different thread sizes to suit coolant plugs or bleed screws originally fitted to engines.

1/2BSP, M6x1, M10x1, M12x14tpi, others on request.

Currently to suit Land Rover Tdi, Td5, V8 and TdV6

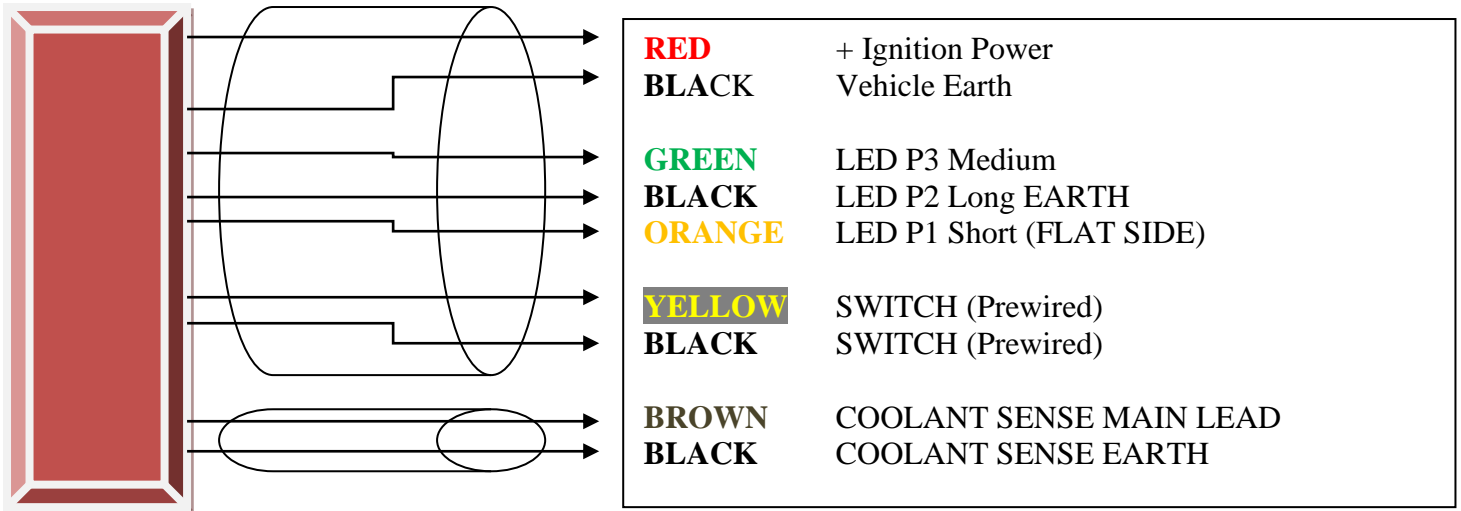
Mounting of the Switch and Led:

The LED holder requires a neat 8mm hole in a panel. Push the LED holder in from the front. Look at the LED, it has 3 legs, the shorter of the two outer legs corresponds to a tiny flat side on the rim of the LED, This pin must line up with the GREEN wire on the 3way connector.

Push the white 3 way connector onto the LED legs carefully and push the LED into the LED holder from the back of the panel.

The switch requires a 7mm hole, inserted and screwed in from the back of the panel. Push the button onto the switch spindle until it clicks on.

Wiring:



Red: 8 to 30Vdc (switched power), Use the cable joiner to Tee into a positive ignition wire.

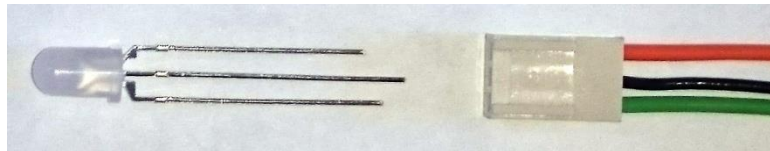
Black: Ground (-ve) – Use the 6mm round lug to earth the wire where suitable.

Green/Black/Orange 3 way plug – Bi-Color LED.

Yellow/Black – Reset switch.

Sleeved and Twisted Brown/Black – **Brown:** Coolant level tank high probe, **Black:** Coolant level tank low probe.

If you are using a level sensing plug, fit the **Brown** wire to the tag on the plug and the **Black** wire to the engine block as near as is possible to the level sensing plug.



LED indication:

Green: Coolant level ok

Flashing Red: Coolant level alarm (Not yet acknowledge by the reset switch)

Solid Red: Coolant level alarm (Acknowledged by the reset switch)

Flashing Green / Red: Override – Unit is disabled completely and is NOT monitoring coolant level.

Turning the sound on or off:

Press and hold the reset switch for 2 seconds as power is applied to the unit. The unit will enable or disable the audio warning beep. The LED will be orange for 5 seconds when in the audio on/off mode. The CLD2 will remember this setting until changed. The CLD2 will emit a short beep if the sound is enabled.

TOTAL OVERRIDE:

Press and hold the reset switch for 5 seconds as power is applied to the unit. The unit will flash the led RED/GREEN while in override mode. The CLD2 will remember this setting until changed.

2 Specifications

Operating Temperature Range	-10°C to 60°C (14°F to 122°F)
Storage Temperature Range	-20°C to 80°C (-4°F to 176°F)
Humidity	<85% non-condensing
Power Supply	8 to 30VDC Linear power supply with built in 33V over voltage and reverse voltage protection
Current Consumption	approx. 10mA (depending on alarm mode)
Visual indication	Bi-Color LED (Red/Green)
Audio Indication	Piezo element
Probe excitation	2.5KHz AC signal
Alarm Contact	Transistor open collector, Max current = 50mA
Non-volatile memory storage	1000000 write cycles

3 Warranty

This product carries a warranty for a period of one year from date of purchase against faulty workmanship or defective materials, provided there is no evidence of misuse or evidence that the unit has been mishandled. Warranty is limited to the replacement of faulty components and includes the cost of labour. Shipping costs are for the account of the purchaser.

Note: Product warranty excludes damages caused by unprotected, unsuitable or incorrectly wired electrical supplies and or sensors, and damage caused by inductive loads or moisture.

4 Disclaimer

Operation of this instrument is the sole responsibility of the purchaser of the unit. The user must make themselves familiar with the operation of this instrument and the effect of any possible failure or malfunction.

The manufacturer reserves the right to alter any specification without notice