

TWO YEAR WARRANTY

REDARC Electronics warrants to the original purchaser that the product(s) on the reverse side of this sheet ("Product") will be free, under normal use and maintenance, from defects in material and workmanship for a period of TWO YEARS from the date of purchase, subject to the conditions shown below.

1. Warranty

Unless otherwise stated in this warranty, Redarc Electronics will at its sole discretion either replace or repair any of the Product that is defective in material or workmanship within the abovementioned period without charge to the original purchaser.

2. Other Warranty

Subject to any terms implied by law, this warranty contains the whole of the Redarc Electronics' obligations and any distributor and the agents, officers and employees of such distributor and of Redarc Electronics are not authorised to vary or extend the terms of the warranty. The benefits conferred by this warranty are in addition to the conditions and warranties implied by applicable legislation conferring rights upon consumers, which apply only to the extent to which they may not by law be excluded.

3. Exclusions

This warranty shall not apply to, or include, any of the following:

- 3.1 Any defect or failure due to accident, misuse, abuse, movement of the Product to a new site, negligence, non-observance of any of the instructions supplied with the Product including the instructions on the reverse side of this sheet ("Operating Instructions") or local regulations on the part of any user, choice of location, improper installation, configuration or connection, or faulty power supply.
- 3.2 If the Product is installed, repaired or serviced by a person who is not a qualified auto electrician or electronics technician, or if non-approved parts have been fitted.
- 3.3 Failure to obtain proper maintenance for the Product or any associated equipment or machinery.
- 3.4 Failure to pay for the products in full or comply with Redarc Electronics' Trading Terms.
- 3.5 If the Product is used other than for any reasonable purpose for which it was manufactured, or is used in a way not specified by Redarc Electronics.
- 3.6 If the original purchaser sells, leases or otherwise parts with possession of the Product.
- 3.7 Deterioration due to normal use and exposure, including abnormal environmental conditions such as lightning strike, flood and extreme heat.
- 3.8 Any freight, packing and insurance expenses relating to transportation of the Product.
- 3.9 Any expenses relating to installation and/or removal of the Product.
- 3.10 Any damage, indirect or incidental, of whatever nature.

4. Limitations

4.1 Redarc Electronics is not liable for any consequential, indirect or accidental loss or damage or for any service not expressly provided herein (including without limitation liability for any loss or damage caused by a fault in the Product or its external wiring connections) and the liability of Redarc Electronics under this warranty is limited to the repair or replacement of defective material or workmanship by a qualified auto electrician or electronics technician, provided such person and work is approved by Redarc prior to commencement. Subject to **clause 2**, Redarc Electronics is hereby excluded to the maximum extent permitted by law from all other liability in respect of the Product.

4.2 While Redarc Electronics warrants, where applicable, that the Product is free from defects in materials and workmanship under normal use at the time of delivery, Redarc Electronics does not warrant that the Product will meet any user specific requirements or that the operation of the Product will be uninterrupted or error-free.

5. Owner's Responsibilities

- 5.1 Maintenance of the Product and associated equipment and/or machinery is the responsibility of the owner. The owner must retain evidence that proper maintenance has been performed on the Product by Redarc Electronics or a qualified auto electrician or electronics technician. Claims made during the warranty term will not be accepted if resulting from lack of maintenance rather than faulty material or workmanship.
- 5.2 The owner must operate the Product in accordance with all of the Operating Instructions.
- 5.3 Upon discovery of a fault the owner must return the Product to the distributor with full details of the nature of the fault. Removal of the Product must be done by a qualified auto electrician or electronics technician to ensure that the warranty remains valid. A written report describing the circumstances of failure must accompany the returned Product with proof of purchase which clearly shows the date of such purchase by the original purchaser.
- 5.4 If the Product is found to be working satisfactorily on return to Redarc Electronics a reasonable charge will be made for the cost of testing, packing and freight. The Product will be returned on receipt of the amount charged.

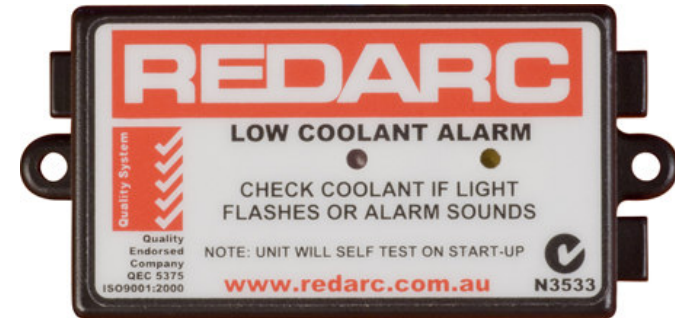
FREE TECHNICAL ASSISTANCE

REDARC

THE POWER CONVERSION SPECIALISTS
23 Brodie Road North
Lonsdale
South Australia 5160
Phone: 08 8322 4848
Fax: 08 8387 2889
Email: power@redarc.com.au
Web: www.redarc.com.au



LCA1224 Low Coolant Alarm.



FUNCTION

The Redarc LCA1224 is used in a 12V or 24V automotive system to monitor radiator coolant level and provide a visual and audible alarm if the coolant falls below the chosen level. It can give warning of a sudden loss of coolant (Eg from a burst radiator hose) and allow the operator to stop the vehicle and switch off the engine, to prevent any damage due to overheating.

FEATURES

- **AC Sensing:** The probe is supplied with AC, so it does not produce electrolysis to cause cooling system corrosion.
- **Broken Wire Detection:** If the wire to the probe is broken it will sound the alarm.
- **Universal supply:** Suitable for 12V or 24V, negative or positive earth vehicles.
- **Self-test:** On ignition turn on, it performs a self test by internally duplicating low coolant or a broken probe wire. In self-test, the LED flashes twice and the beeper sounds 4 times.
- **Anti-slosh delay:** If the radiator is not quite full and coolant sloshes around, the LED flashes after ½ second but the beeper will not sound for 3-4 seconds. So there is a visual reminder to top up but no annoying beeps.
- **External warning lamp:** If the LCA1224 is to be mounted where it cannot be seen by the driver, an external warning lamp output allows a dashboard lamp to be used. The maximum rating for an external lamp is 0.5A max.
- **External warning buzzer:** If the LCA1224 is to be mounted where it cannot be heard by the driver, an external warning buzzer output allows a louder (or more suitably located) buzzer to be used. The maximum rating for an external buzzer is 0.5A max.

FREE TECHNICAL ASSISTANCE, contact Redarc Electronics
Ph (08) 8322 4848, Fax (08) 8387 2889
or Email power@redarc.com.au
Specifications are subject to change without notification.

INSTALLATION

REDARC strongly recommends that the probe be installed in the radiator by a suitably qualified radiator specialist.

1. Allow the engine to cool completely before commencing any work on the radiator.
2. Select the position on the radiator header tank for the lowest safe coolant level (the point where alarm is to sound).
3. Drain coolant (to at least below the probe mounting point).
4. Drill and mount the coolant level probe, taking care to avoid any drilling swarf entering cooling system:
 - For a metal tank, solder in the threaded brass boss. When cool, screw the probe in using thread tape.
 - For a plastic tank, thread the hole then screw the probe in using thread tape.
5. Refill the cooling system.
6. Mount the LCA1224 where it can be seen and heard from the driving position (or use external warnings, see below).
7. Connect the wires. (Refer to diagram below)

- BLACK** Battery Negative
RED Positive from ignition switch
BLUE Connect to probe in radiator header tank.
YELLOW Ground output for external buzzer (0.5A Max). If not used, this wire should be folded/taped over.
GREEN Ground output for external lamp (0.5A Max). If not used, this wire should be folded/taped over.

The external warning outputs (YELLOW & GREEN wires) are GROUND outputs, so the other terminal of the lamp or buzzer must be connected to BATTERY POSITIVE. The warning lamp may be a LED with a suitable series resistor or a filament lamp. The maximum load on these wires must not exceed 0.5A. To operate higher loads (either output), use the wire to operate an external relay.

PRECAUTIONS

The LCA1224 is for emergency warning only. It warns of sudden loss of coolant while the vehicle is operating. It will provide an indication when gradual loss has reached the low level, but should not be used to avoid regular visual checking of the cooling system. The cause of any loss of coolant should be investigated rather than just using the LCA1224 as a reminder to top it up.

SPECIFICATIONS

MODEL	LCA1224
Supply range	11-32V
Current draw (alarm off)	<2mA
Current draw (alarm on)	Approx 15mA
Warning	LED & Beeper
Dimensions	65 x 40 x 25mm
Weight	<40gm
Warranty	2 years

