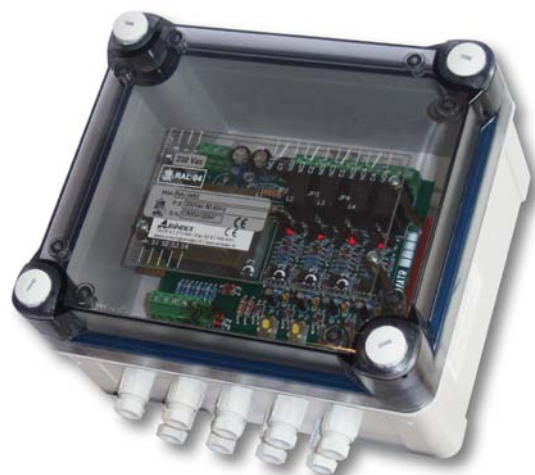


Conductive Level Sensor

- Detection of 1 to 4 levels in the same tank,
- Each level is Failsafe (Max) or Negative (Min) ajustable.
- 4 potential-free changeover contacts,
- Adjustable detection threshold from 3.3 to 50 kohms



Functions & Introduction

See our **NR Manual**: Conductive Level Switches..

The DR54 must be associated with "Conductive probes": See Manuals **A11** and **SR01**.

It comes in two versions:

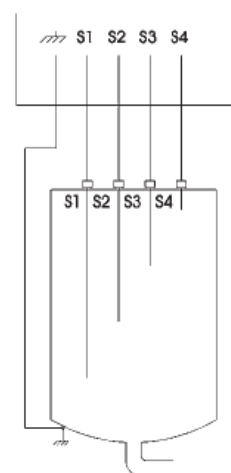
- IP00: As "Bare Card" version for cabinet mounting, with DIN rail fixing,
- IP65: the "Bare Card" is mounted in a PVC housing, for wall fixing.

In both cases, it detects up to FOUR levels in the same tank (See Diagram 2), as each level can be set independently of the others to the operating mode of its relay:

- **"MAX" setting**: The relay is energized with the electrode dry and de-energized when the electrode is in contact with the conductive fluid.
- **"MIN" setting**: The relay is de-energized with the electrode dry and energized when the electrode is in contact with the conductive fluid.

If the tank is not metal, a reference electrode must be used.

SCHEMA / FIGURE 2



Technical specifications

Power Supply	Standard: 230V, +10-15%, 50..60Hz. Optional: 24 and 115V AC
Consumption	3 VA max.
Voltage & current on electrode	10V AC max. and 3.3mA max.
Adjustable sensitivity	3.3 to 50 k Ω 20 to 300 microhms
Output	FOUR potential-free changeovers 3A/250V AC
Terminals	Maxi clamping capacity: 0.5
Temperature	Use -20 to +70°C/Storage -30 to +80°C.

Ordering Information

Item code	Version	Protection/Weight	Power Supply
DR0254CICI	Bare Card for DIN rail mounting	IP00/350g	230V AC
DR0254CIBM	Card mounted in PVC housing: 192x164x105 mm	IP66	230V AC
		Optional	24V AC
			115V AC

Subject to change without notice.

Conductive Level Sensor

Installation & Dimensions

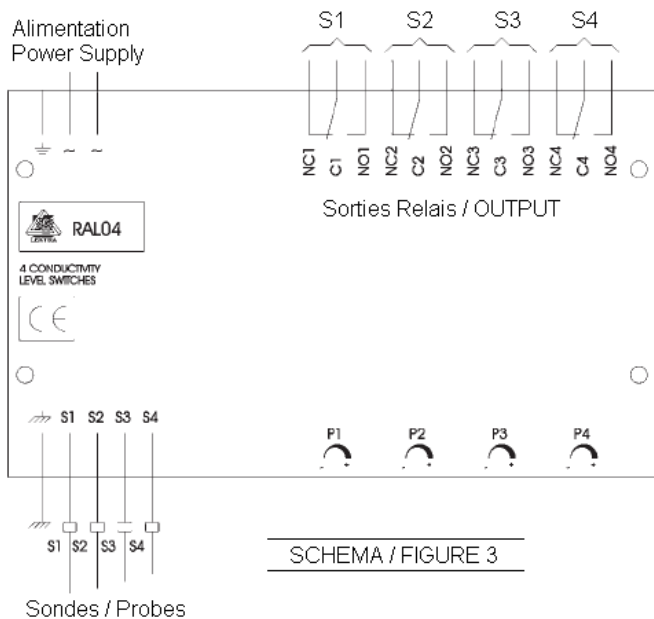
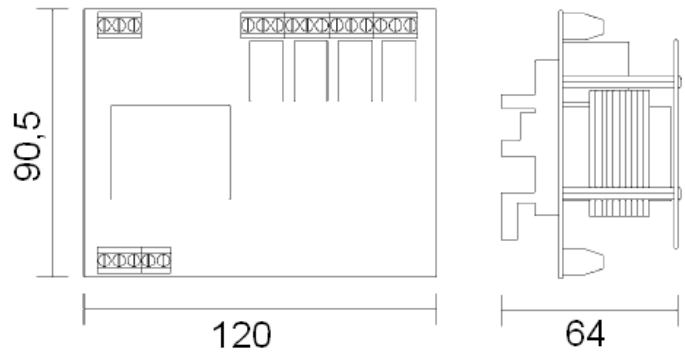
The Detector Housing plugs into its DIN 41556 base.

Wiring

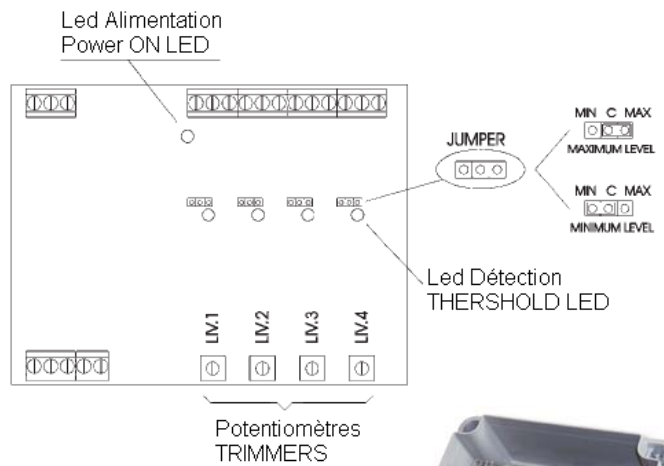
See DIAGRAM 3.

If the tank has an insulating wall, connect a reference electrode to the ground electrode.

Recommended cable for probe connection: 0,5 mm² and max. length: 250 m. it must be separate from the power supply lead.



SCHEMA / FIGURE 3



SCHEMA / FIGURE 4



Relay at rest, Contacts shown with "Power Off" and/or "JUMPER" set to MIN.

Operation

Normally, the device requires no calibration. However, if there is a sensitivity problem:

- Turn the potentiometer (P1 to P4, depending on your probe) to the left until against the stop,
- fill until the liquid touches the level electrode, then rotate the knob clockwise until the relay trips.
- to have a safety margin, turn the potentiometer again by 15%.

	JUMPER STATUS				SCHEMA / FIGURE 2
	MIN C MAX MINIMUM LEVEL		MIN C MAX MAXIMUM LEVEL		
Relay status	De-energized	Energized	Energized	De-energized	
Red LED status					
CONTACT STATUS					

Subject to change without notice.

DR54

Technical data

DR54

825B011E

Resistive level switch with 4 threshold

Power supply:	24, 115, 230 Vac
Consumption:	3 VA max.
Storage temperature:	-30÷+80 °C
Working temperature:	-20÷+70 °C
Thresholds:	4
Electrodes voltage:	max 10Vac
Electrodes current:	max 3,3mA
Range:	0 ÷ 50kohm
Measure range:	3,3kohm ÷ 50kohm
Calibration:	trimmer independent for each threshold
Sensibility:	20microS ÷ 300microS
Alarms:	max o min jumpers settable
Outputs:	4 SPDT contact (3A 250Vac)
Display:	power supply: green LED ON relay on: red LED ON
Protection:	IP00
Esecuzione:	barra DIN

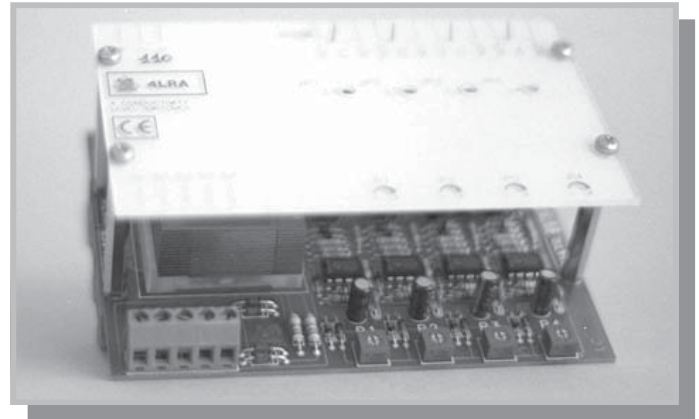


fig.1

DR54 Application

DR54 General

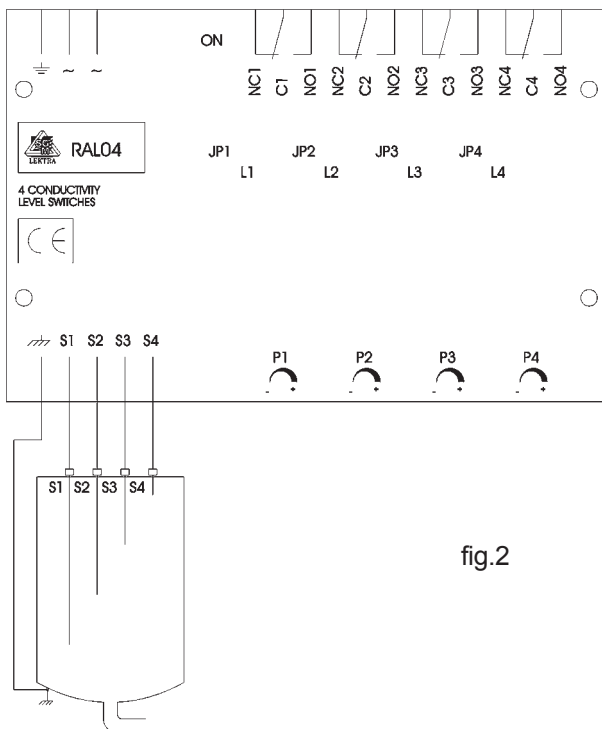


fig.2

DR54 unit to monitor the presence or absence of the liquid under control. DR54 unit works by the conductivity principle, consequently, the medium must be conductive. Normally DR54 unit detects the conductivity between one of the electrodes and the metallic tank wall. When the electrode come in contact with the conductive medium, a small current flow and DR54 unit detects the medium presence. 4-off are the max electrodes number connectable. Every electrodes (point) can be configured as Min or Max by means the relevant bridges on the board.

The differences are the following:

- **Max:** The relay energized with dry electrode, de-energized when the medium is in contact with the electrode;
- **Min:** The relay de-energized with dry electrode, energized when the medium is in contact with the electrode.

The unit works with a small alternate current on the electrodes in order to avoid electrolysis and corrosion on the electrodes and tank.

If non-metallic tank is used an extra reference electrode must be installed.

DR54 Electrical connections

The electrical diagram is showed in fig.3

Suggested cable size: 0,5 mm².

Max connection length: 250 m.

The electrode connection cable have to be considered as signal cable, consequently need to be separate from power cables.

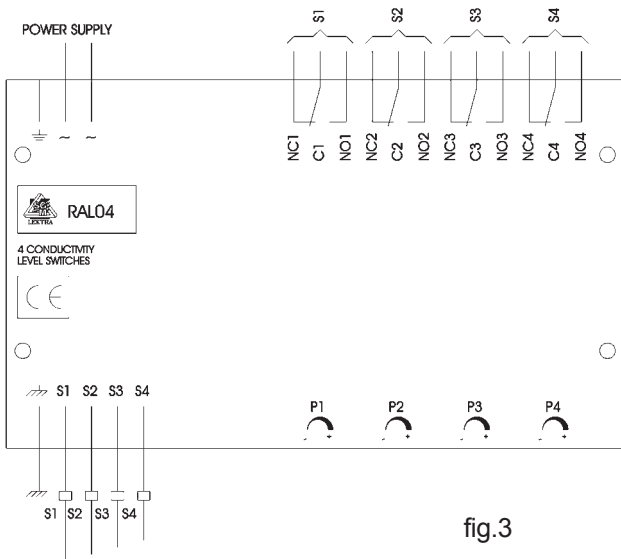


fig.3

DR54 Set-point calibration

Normally the unit doesn't required any calibration.

The calibration :

- turn the trimmer (LIV.1 - .3) at minimum ;
- fill-up until the liquid have a contact with the electrode for 5 -10mm than turn the trimmer clock-wise until relay switch;
- in order to have a further safety margin, turn again the trim clock-wise for 15% about of the total trimmer rotation.

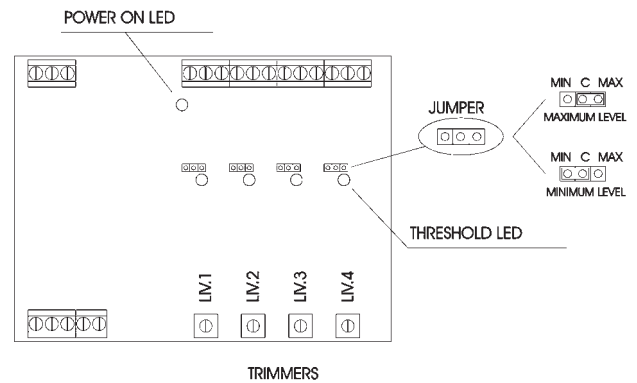


fig.4

DR54 Warranty

Products supplied by AIRINDEX are guaranteed for a period of 12 (twelve) months from delivery date according to the conditions specified in our sale conditions document. AIRINDEX can choose to repair or replace the Product. If the Product is repaired it will mantien the original term of guarantee, whereas if the Product is replaced it will have 12 (twelve) months of guarantee. The warranty will be null if the Client modifies, repair or uses the Products for other purposes than the normal conditions foreseen by instructions or Contract. In no circumstances shall AIRINDEX be liable for direct, indirect or consequential or other loss or damage whether caused by negligence on the part of the company or its employees or otherwise howsoever arising out of defective goods.

DR54 Factory test certificate

In conformity to the production and check procedures I certify the equipment:

DR54 serial n.

satisfy technical characteristics as write in TECHNICAL DATA and it is conform to the internal procedures
Quality control Manager

Date of manufacture:

DR54 Mechanics

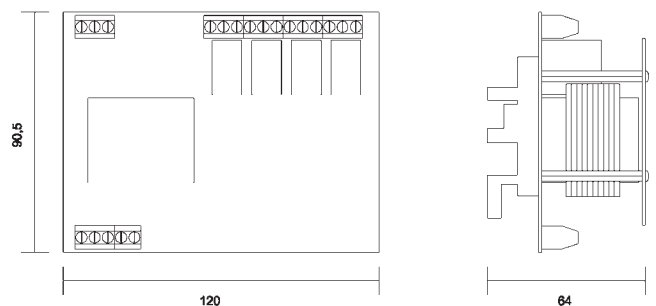


fig.5

