

# Conductive Level Sensor

|          |          |
|----------|----------|
| R7D      | NR       |
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- Detection of a Single Level
- Regulation between Two points
- 2 potential-free change over contacts

## Functions

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

A Conductive Detector is associated with a Probe: See Manuals **A11**, **A11W** and **SR01**.

## Introduction

**R7D detector**: This is the basic unit, in the form of an electronic card, which is plugged into a connector Its maintenance is particularly easy. In its simple form, without a case, R7D can be integrated with electrical equipment contained in a cabinet. Simply fix the connector and the support and immobilization strut at the high end of the circuit.

**R7D detector** : The R7E electronic relay comprises a R7D relay mounted in a PVC housing.

**R7G detector** : The R7G electronic relay comprises two R7D relays mounted in a PVC housing.

For the three versions, if damaged, simply unplug the damaged circuit and replace it.

The replacement circuit has the reference 212432.

## Technical specifications

|                                   |  |   |
|-----------------------------------|--|---|
| <b>Power Supply</b>               | Standard: 230V 50/60 Hz.<br>Optional: 24/48, 110/127 and 380V AC<br>See <b>Power Supply</b> section, page 2/2. |   |
| <b>Consumption</b>                | 3 VA   |   |
| <b>Ambient temperature</b>        | - 20 to +60°C  | <p><b>R7E &amp; R7G card dimensions</b><br/>See § Dimensions.<br/>Outside installation option: IP66</p> |
| <b>Voltage on the electrode</b>   | 12V AC<br>causing no electrolysis.   |   |
| <b>Sensitivity</b>                | Standard: 10000 ohms.<br>Optional: 100,000 ohms by cutting the shunt S<br>(See DIAGRAMS 1-4, page 2/2).        |   |
| <b>Output relay</b>               | Two pole changeover  |   |
| <b>Breaking capacity</b>          | 5A at 220V/3A at 48V   |   |
| <b>Intermittent working life.</b> | 500 000 changes at 3 A.<br>1000 000 changes at 2A.   |   |
| <b>Continuous working life</b>    | 500 000 changes at 1,5 A, resistive load<br>1000 000 changes at 0.7A, resistive load                           |   |
| <b>Weights</b>                    | R7D relay = 320 g; spare circuit = 250g  |   |

## Standards reference

|                     |  | R         | 7 | - | - | - | - | - | - | - |   |   |
|---------------------|--|-----------|---|---|---|---|---|---|---|---|---|---|
| <b>Version</b>      | Basic card fitted with a 211 798 connector | D         | T |   |   |   |   |   |   |   |   |   |
|                     | 1 R7DT card mounted in PVC housing         | E         | T |   |   |   |   |   |   |   |   |   |
|                     | 2 R7DT cards mounted in PVC housing        | G         | T |   |   |   |   |   |   |   |   |   |
| <b>Power Supply</b> | 380V AC                                    | 3         | 8 | 0 |   |   |   |   |   |   |   |   |
|                     | 230V AC                                    | 2         | 2 | 0 |   |   |   |   |   |   |   |   |
|                     | 115V AC                                    | 1         | 1 | 0 |   |   |   |   |   |   |   |   |
|                     | 24-48V AC                                  | 2         | 4 | . | 4 | 8 |   |   |   |   |   |   |
| <b>Spare Parts</b>  | Basic card without 211 798 connector       | 380V AC   | 2 | 1 | 2 | 4 | 3 | 2 | / | 3 | 8 | 0 |
|                     |  | 230V AC   | 2 | 1 | 2 | 4 | 3 | 2 | / | 2 | 2 | 0 |
|                     |  | 115V AC   | 2 | 1 | 2 | 4 | 3 | 2 | / | 1 | 1 | 0 |
|                     |  | 24-48V AC | 2 | 1 | 2 | 4 | 3 | 2 | / | 2 | 4 |   |
|                     | Plug-in connector                          | 2         | 1 | 1 | 7 | 9 | 8 |   |   |   |   |   |

Subject to change without notice.

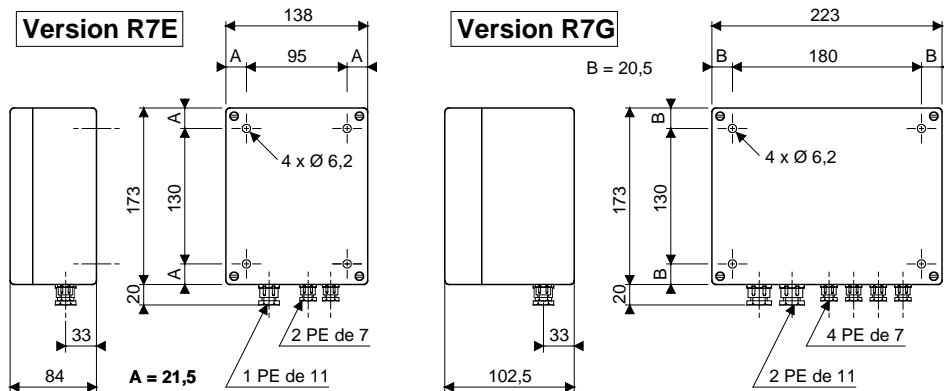
# Conductive Level Sensor

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## Dimensions

Dimension **A** = 21.5  
Dimension **B** = 20.5

R7E weight = 750g  
R7G weight = 1300g

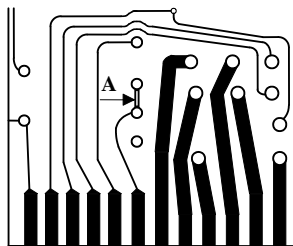


## Power Supply

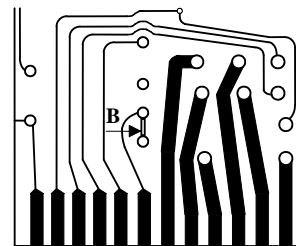
Standard: 230V AC  
Optional: 380V AC, 24/48V AC, 110/127V AC

For 24 and 110V AC devices, the supply voltage (48V AC and 127V AC respectively) is changed by unsoldering the shunt A on the back of the circuit board and replacing it with the shunt B.

**DIAGRAM A: 24 or 110V**



**DIAGRAM B: 48/127V**



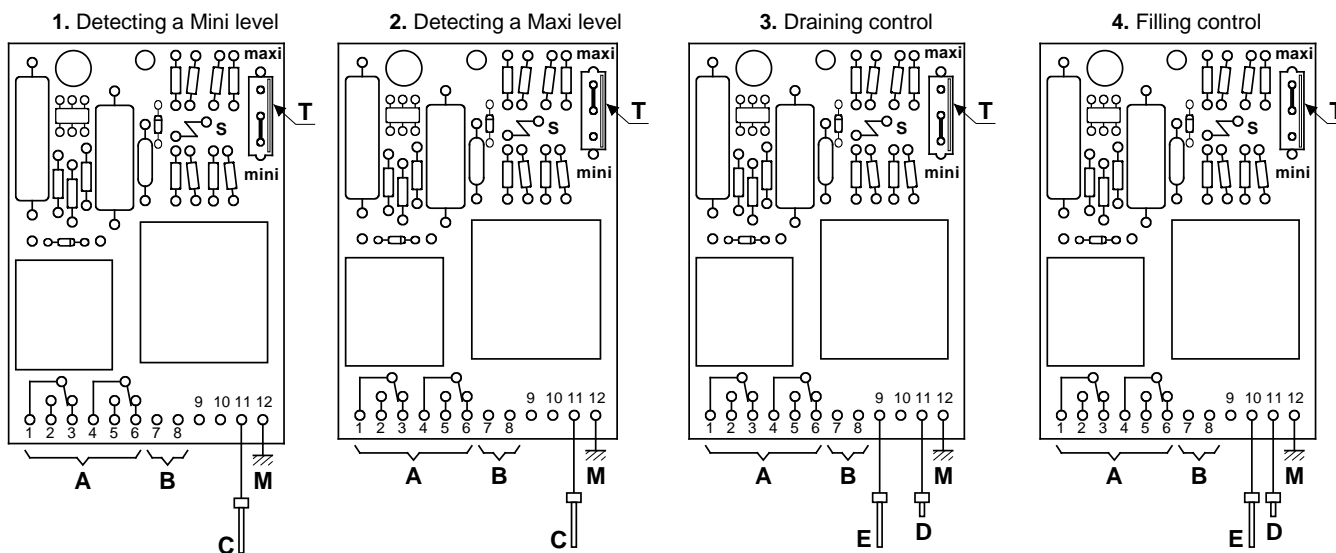
## Commissioning & Operation

The diagrams below show the main uses of this relay.

The relay contacts are shown at rest (Detector not powered or call conditions not met).

The mobile plug, keyed with a pin, chooses the direction of operation: call relay by closing or opening the control circuit, thereby satisfying in all cases operating safety.

- DIAGRAM No. 1** : "Mini" level detection - obtained by relay dropping when the "Mini" level is reached.
- DIAGRAM No. 2** : "Maxi" level detection - obtained by relay dropping when the "Maxi" level is reached.
- DIAGRAM No. 3** : **Run** : obtained by calling the relay after closing the circuit on a high level electrode.  
: **Stop**: obtained by the relay dropping when the level leaves the low level electrode.
- DIAGRAM No. 4** : **Run** : obtained by calling the relay after opening the circuit on a low level electrode.  
: **Stop**: obtained by the relay dropping when the level reaches the high level electrode.



|                       |  |                    |
|-----------------------|--|--------------------|
| <b>A</b> Relay output | <b>C</b> Detection: Level probe        | <b>M</b> Reference |
| <b>B</b> Power Supply | <b>E</b> Regulation - Low Level probe  |                    |
|                       | <b>D</b> Regulation - High Level probe |                    |

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