

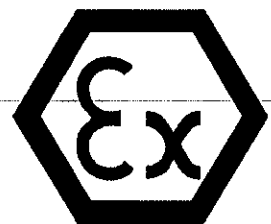


Operating Instructions

For

Capacitance Level

SOLICAP. 400



2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to health & safety and prevention of accidents.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.

Scope of delivery

The standard delivery includes:

- Capacitive Level Monitor
- Cable gland M20
- Operating Instructions

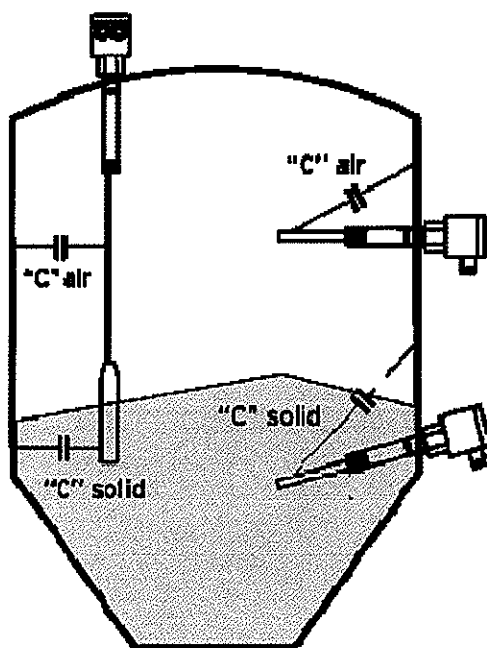
4. Description

This level switch instruments for solids has been designed to be used in all applications where the level of the solid must be detected in tanks and silos.

5. Operating principle

The sensor together with the wall of the tank is a capacitor.

The dielectric constant of this capacitor is the air when the product (media) doesn't reach the sensor. When the product covers the sensor, the dielectric constant is the product one. The electronic circuit of the NSC detects this change and activates an output relay.



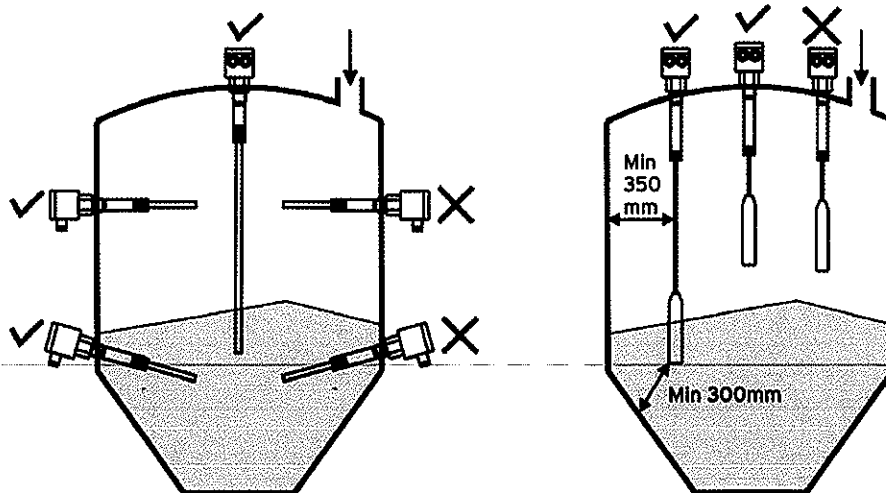
6. Mechanical connection

The I has a thread of 1" BSP male. The sensitive part of the probe goes from the PP isolator to the end of the probe.

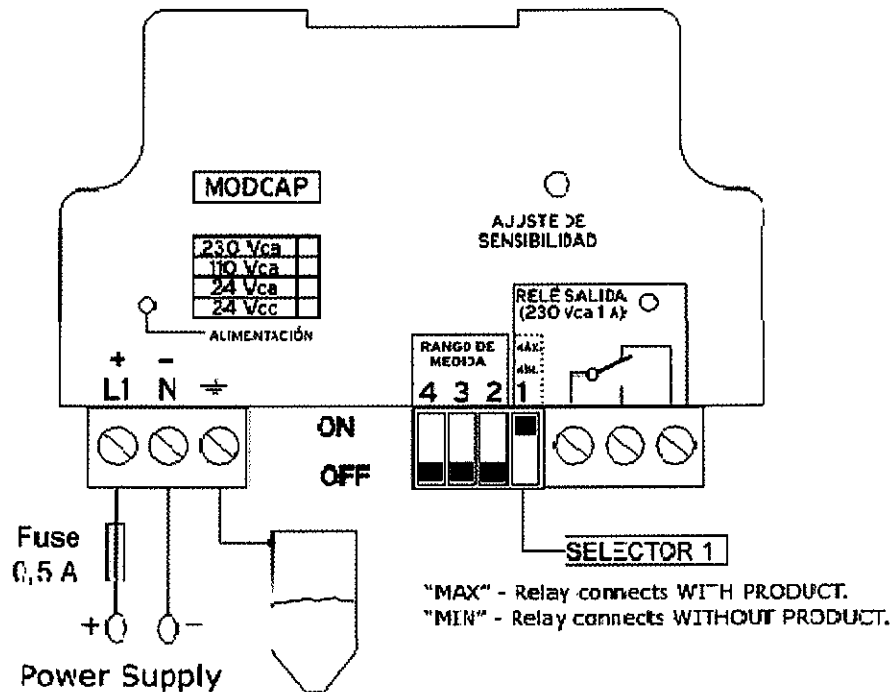
Check that length of probe is according the level to be detected.

When the housing is installed in the outdoor it is recommended to protect it against sun radiation and rain by means of a small roof.

When installing the probe of the ; by means of an extension sleeve, the max. length of this sleeve must be 70mm to avoid short-circuit in between the tank and the probe due to product accumulation inside the sleeve.



7. Electrical connection



VERY IMPORTANT

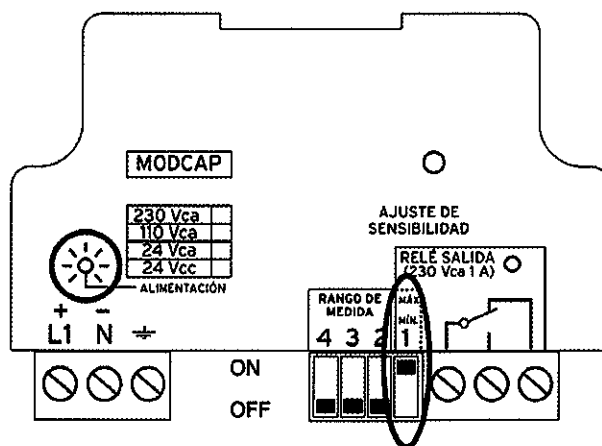
- Be sure that power supply corresponds with the indicated in the equipment's label.
- GREEN led lighting indicates that equipment is powered
- RED led lighting indicates that output relay is activated.
- Using SELECTOR 1, you can choose relay operation NO or NC when the product covers the probe.
- Protection fuse of 0.5mA must be put in serial with supply line.
- Ground terminal is internally tied to the connection thread.
- Be sure that ground line has same potential than ground of tank.
- If you are not sure, please do not connect the ground terminal since the instrument could be damaged.

8. Adjustment

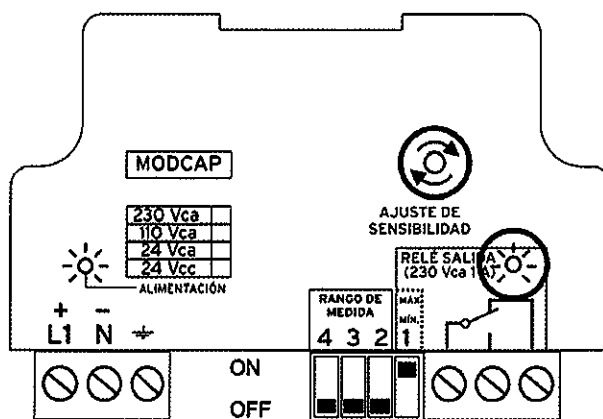
After installation and connection verification, we proceed to AJUST SENSITIVITY to fit the NSC with the tank and the product to measure.

Check that product doesn't reach the probe. Power supply GREEN LED must be ON

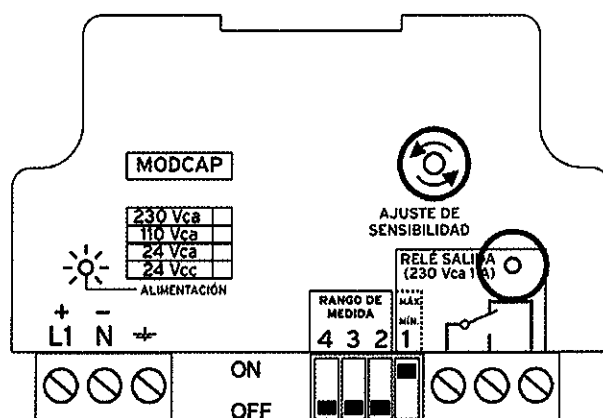
1. Put DIP-SWITCH 1 to "MAX" position.



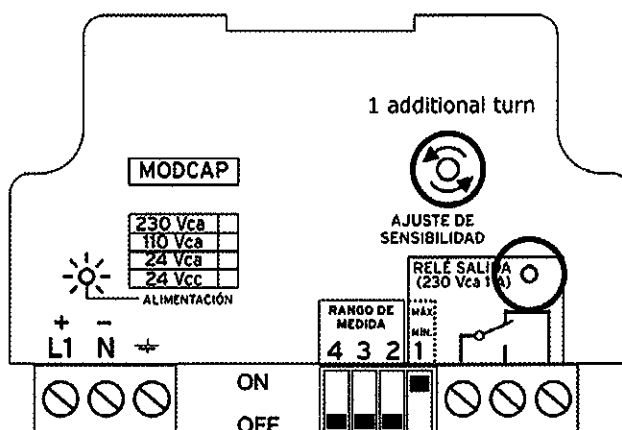
2. Turn the "SENSITIVITY ADJUSTMENT screw" clockwise until RED LED lights.



3. Turn slowly the “SENSITIVITY ADJUSTMENT screw” counter clockwise until RED LED switches off.



4. Turn 360° more counter clockwise to avoid a critical adjustment. In case of sticky products it is recommended to increase this adjustment.



The instrument is now adjusted. When product will reach the probe relay will be activated and RED LED will light.

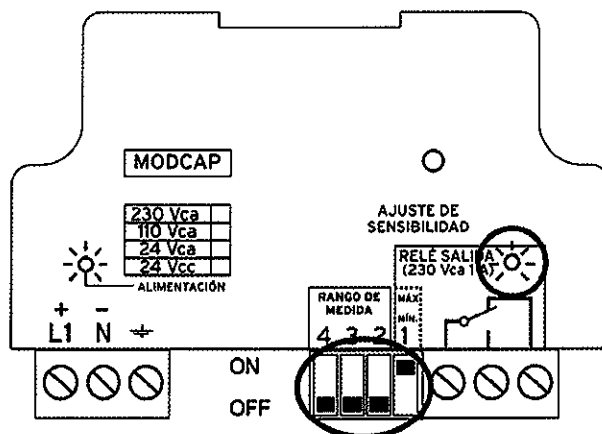
If we want the relay to work the REVERSE, put DIP-SWITCH 1 to “MIN”.

Check that no product remains on the probe when unloading the tank.

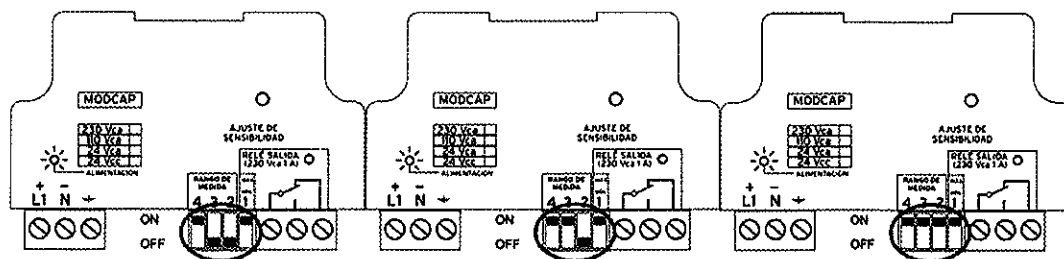
8.1 Module replacement

MODCAP modules are delivered with DIP-SWITCHES 2, 3 and 4 adjusted with its own probe. In case of replacement, following procedure must be done with the probe free of product:

1. With DIP-SWITCH 1 to "MAX" and 2, 3 and 4 to "MIN", turn the multiturn potentiometer totally to clockwise (20 turns). RED LED will switch ON.



2. In case that RED LED doesn't lights, move DIP-SWITCH 4 (drawing 1) to ON. If RED LED still remains OFF, do same with DIP SWITCH 3 (drawing 2) and finally with DIP-SWITCH 2 (drawing 3) until RED LED finally lights.



Drawing 1

Drawing 2

Drawing 3

3. Once DIP-SWITCHES are correctly settled the SENSITIVITY ADJUSTMENT must be done (chapter 8).

9. Models

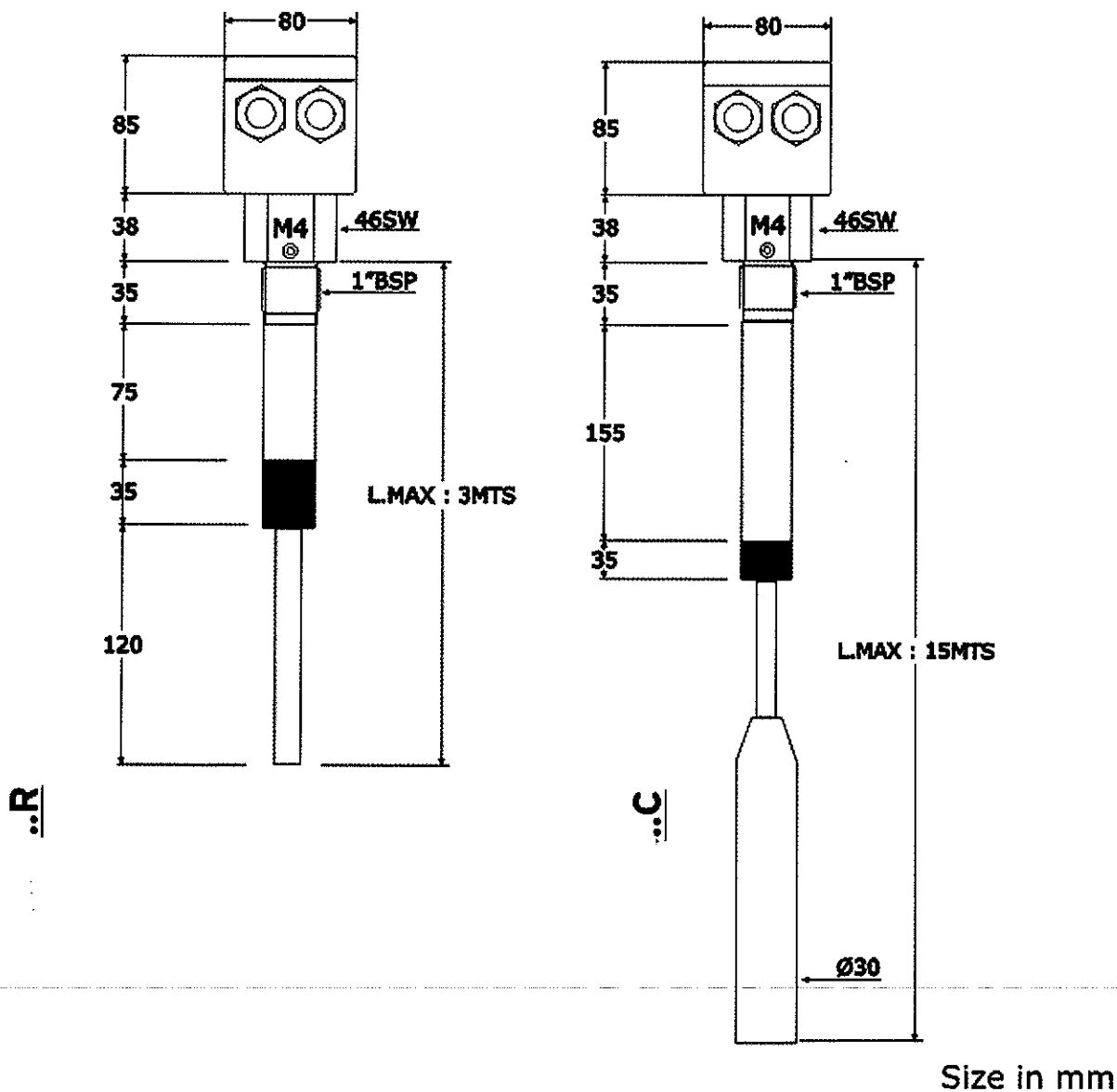
There are 2 basic models of NSC:

..R

The probe is a rod made of st.st. and covered with PTFE. It is used for minimum and intermediate level detection. It is produced a Standard version with a sensor of a maximum length of 3000mm

..C

The probe is a flexible cable covered with PP, with a st.st. weight at the end. It is used for maximum level detection.



NSC

10. Technical Data

Note: [redacted] makes every attempt to ensure the accuracy of these specifications but reserves the right to change them at any time.

- Supply: 24, 110, 230 Vac ó 18 a 36 Vdc.
- Max. Power: 1 VA
- Process connection: 1G
- Other connections: Flange DIN, clamp, etc.
- Power supply and relay status LED.
- Polycarbonate housing IP.65.
- Ambient Temperature: -20...+60 °C.
- Process Temperature: máx. 90°C (125°C con racor TE).
- Cable gland 2 x M20.
- Relay Output: max. 250 Vca 1 A.
- Sensitivity adjustment by multi-turn trimmer.
- Vdc polarity reverse protection.
- Minimum or maximum securit adjustment.
- Rod version probe (NSC.R) covered with PTFE. Flexible cable st.st. probe (NSC.C) or steel covered with PP.
- Electromagnetic compatibility
EN 61010-1:2001 y EN61000-6-2:2006

ONLY ATEX VERSION:

- Certified:
ATEX II 2/1 tD[iaD]iaD A21/20 IP65 T85 °C Ta: -20°C/+60°C
- Aluminium housing IP.65



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