

# Side level controllers CNL



CNL 200



CNL 250



CNL 320



CNL 450

## USER MANUAL

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**CNL**

14-02-2022

M-526.01-EN-AA

**NIV**

**526-01 /1**

## SAFETY INSTRUCTIONS

- The operation of the device must be in accordance with and strictly limited to the applications, as mentioned further on and on data-sheet.
- Installation, commissioning and maintenance must be carried out by qualified personnel.
- Only connect the device to the voltage specified in the technical features and on the label.
- Disconnect all power sources from the device during interventions or maintenance tasks.
- Ensure compatibility of the liquid with the chemical resistance of the controller's materials at operating pressure and temperature.

## APPLICATIONS

- Level detection for liquids

## DESCRIPTION

The lateral level controller CNL, consists of a float fixed to a shaft which end has a magnet on metal models or a magnetic float on PPH models. The float is moved by the liquid and the magnet acts on a Reed contact isolated from the liquid.

**Protection of the reed contact and respect of its breaking capacity can be ensured by an amplifier relay, type ES 2001 (data-sheet 530-01).**

## MOUNTING

**The CNL 200 and CNL 250 are screwed onto the tank wall: fitting BSP-M 3/4".**

- Prepare the female thread on tank wall to fix the controller
- Use PTFE ribbon or equivalent insulation to seal the fitting
- Screw the controller onto the tank
- Once mounted, the controller must be oriented so that the connector is oriented downwards (vertical tilting of the float).  
The nut near the support is used to position it correctly.

**In this case, the insulation will be achieved by the insulator.**

**CNL 320 is fixed on the tank, after drilling with proper bore**

- Drill at Ø 22 mm the tank wall (thickness of the wall must not exceed 8 mm)
  - Insert the controller in the desired position according to the direction of action (vertical tilting) and the direction of action (see "contact setting")
  - After installing the seal and the plastic washer, re-tighten the nut until the seal is crushed enough for the controller to be stuck on the tank.
- In this case, the insulation will be carried out by the cylindrical seal.**

**The CNL 450 is screwed onto the tank wall: fitting NPT-M 1/2"**

- Prepare the female thread on tank wall to fix the controller
- Use PTFE ribbon or equivalent insulation to seal the fitting
- Screw the controller onto the tank, making sure by means of the mark of the correct float position (vertical tilting) and the direction of action (see "contact setting")

**In this case, the insulation will be carried out by the insulator**

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## ELECTRICAL CONNECTIONS AND CONTACT SETTINGS

The contact is connected in series to the desired device (solenoid valve, etc.).

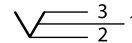
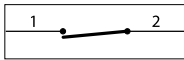
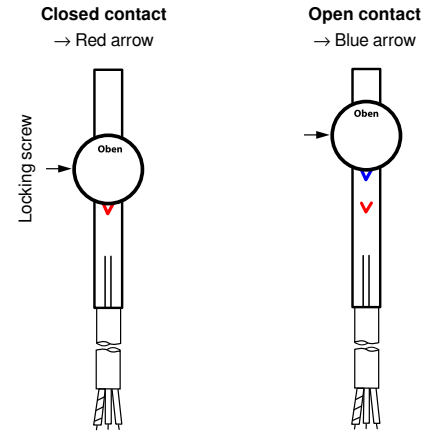
### CNL 200 & CNL 250:

On metallic models, the threshold is adjusted by moving the contact stem. Loosen the locking screw (hexagonal female 1.5) and move the stem until the red arrow is visible at the entrance if closed contact is desired, and, the blue arrow if the open contact is desired. Once the adjustment has been made, tighten the locking screw. Fine adjustment of the switching point can be carried out between limit points 2 and 3 of the adjustment range.

Move to arrowhead (2) → The switching point is advanced.

Move to the base of the arrow (3) → The switching contact is delayed.

After adjusting the switching point, we recommend sealing the locking screw of the stem with a suitable varnish.

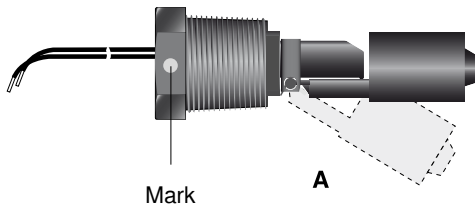


1: Factory setting

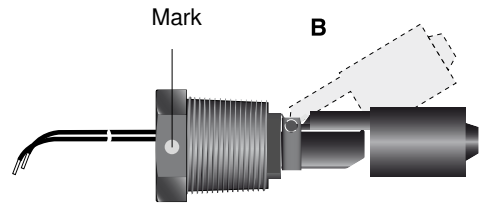
2 & 3: Threshold limits of the adjustment range

### CNL 320 & CNL 450:

On the PPH models, the threshold is not adjustable, in all cases, it is done when the float is in line with the controller. The threshold, or for an increasing, or a decreasing level, is chosen according to the orientation of the controller.



In position (A): The contact detects when level is rising.



In position (B): The contact detects when level is going down

## TECHNICAL FEATURES

Body	AISI 316	Brass	PPH
Float	AISI 316	PVDF	PPH
Minimum liquid S.G.	0.83		0.78
Seal	FPM		NBR for CNL 320
Maximum temperature	110 °C		80 °C
Maximum pressure	6 bar		2 bar
Switching power (resistive load)	Max. 1 A Max. 230 V AC or 48 V DC Max. 26 VA or 20 W		

**EC Conformity:** The instruments meet the legal requirements of the current European Directives

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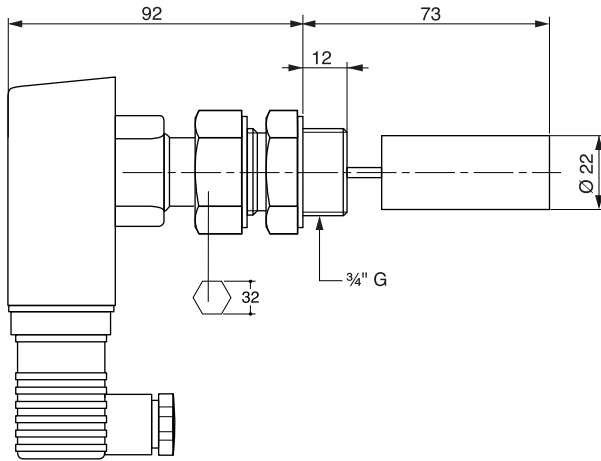
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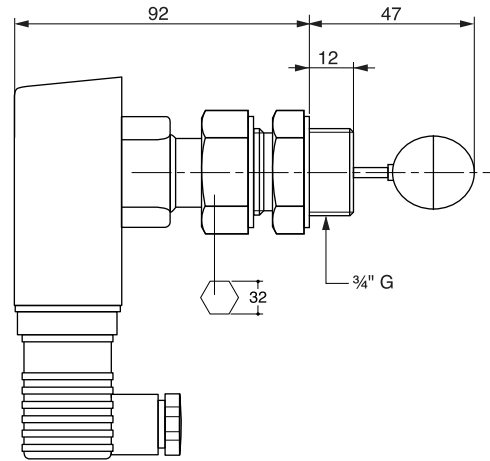
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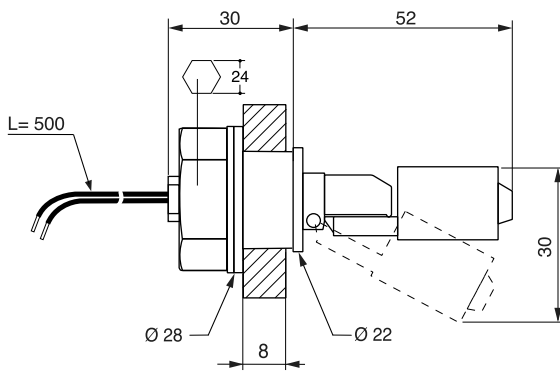
## DIMENSIONS



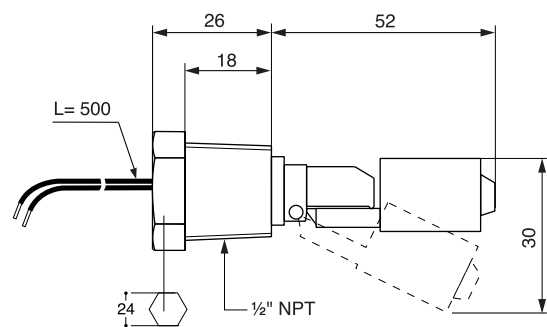
CNL 200



CNL 200



CNL 320



CNL 450

## MAINTENANCE

When adjusting thresholds on metal versions, check that the contact support is correctly reassembled. Monitor the tightness of the sealing over time, it is advisable to put a suitable seal on the fitting before mounting the device.

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