# Non–Contact Water or Liquid Level Sensor

SKU: CQRSENYW001, ASIN: B07ZMHJ6NN

## Description

CQRobot Non–contact type liquid level sensor, It utilizes advanced signal processing technology by using a powerful chip with high–speed operation capacity to achieve non–contact liquid level detection. No contact with liquid makes the module suitable for hazardous applications such as detecting toxic substances, strong acid, strong alkali and all kinds of liquid in an airtight container under high pressure. Connect the sensor's 3–Pin cable directly to the microcontroller, such as the Arduino motherboard, and the signal terminal (Green Line) collects digital signals to determine if the sensor senses liquid. At the same time, the sensor is also compatible with the Raspberry Pi motherboard, we provide the corresponding Raspberry Pi connection method and test code.

The sensor has 2 DIP switches (SET), and the DIP switch on the right controls the output voltage (High Level) of the signal end (Green Line); when the DIP switch is dialed up, the high level is 5V; When the code switch is dialed down, the high level is 3.3V. The SET dial switch is used to set the signal end (Green Line) output to high and low level after detecting the liquid; when the dial switch is dialed up, the sensor detects that the liquid signal end (green line) is high level, no liquid is detected. The signal end (Green Line) is low level; when the dial switch is dialed downward, the sensor detects that the liquid signal end (Green Line) is low level, and does not detect that the liquid signal end (Green Line) is high level.

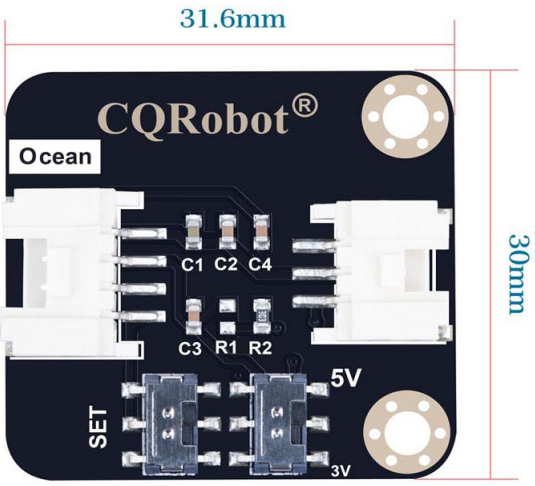
Working principle: use the sensing capacitance of water to detect the presence of liquid. When there is no liquid approaching the sensor, due to the existence of distributed capacitance on the sensor, the sensor has a certain static capacitance to the ground, when the liquid level rises slowly. When approaching the inductor, the parasitic capacitance of the liquid will be coupled to the static capacitor, causing the final capacitance of the inductor to become larger. The changed capacitance signal is then input to the control IC for signal conversion, converting the changed capacitance into some kind. The amount of change in the electrical signal is then detected and judged by a certain algorithm. When the amount of change exceeds a certain threshold, the liquid level is considered to reach the sensing point.

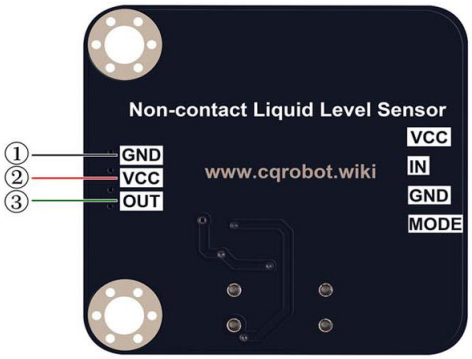
## Funcition

1. Non–contact liquid level sensor, suitable for non–metallic container outer wall without direct contact with liquid, no corrosion by corrosive liquid such as strong acid and alkali, free from scale or other debris.
2. Intelligent liquid level reference adjustment and liquid level memory function, liquid level status display, high and low level output.
3. The detection is accurate and stable, and the boiling water level can be detected.

4. Pure electronic circuit structure, non–mechanical working mode, stable performance and longevity.
5. High stability, high sensitivity, strong interference ability, free from external electromagnetic interference, special treatment for power frequency interference and common mode interference.
6. Strong compatibility, through a variety of non–metallic containers, such as plastic, glass, ceramics and other containers, the sensing distance can reach more than 12mm; liquid, powder, particles can be detected.
7. Open collector output mode, suitable for connecting various circuits and product applications.

## Display




| | |
|---|---|
| 1 | Power Negative |
| 2 | Power Positive |
| 3 | Signal Interface |







## Specification

### Sensor Probe and Adapter Specifications

- Input Voltage: DC 5V
- Current Consumption: 5mA
- Output Voltage (High Level): 3.3V or 5V (Right Dial Switch Control)
- Output Voltage: 0
- Output Current: 1mA to 50mA
- Response Time: 500ms
- Working Environment Temperature: 0 to 105 Degree Celsius
- Induction Thickness (Sensitivity) Range: 0 to 13 mm
- Humidity: 5% to 100%
- Material: ABS
- Waterproof Performance: IP67
- Dimension: 31.6mm * 30mm
- Mounting hole size: 3.0mm

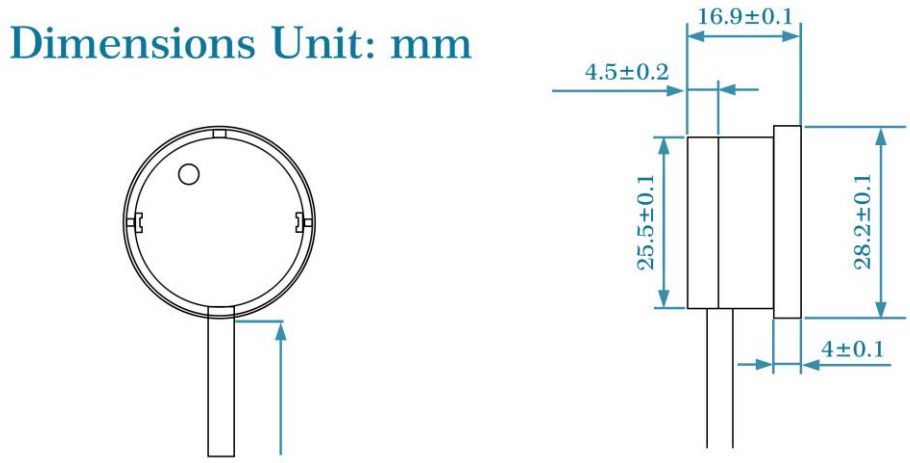
**Ocean interface Cable Specifications**

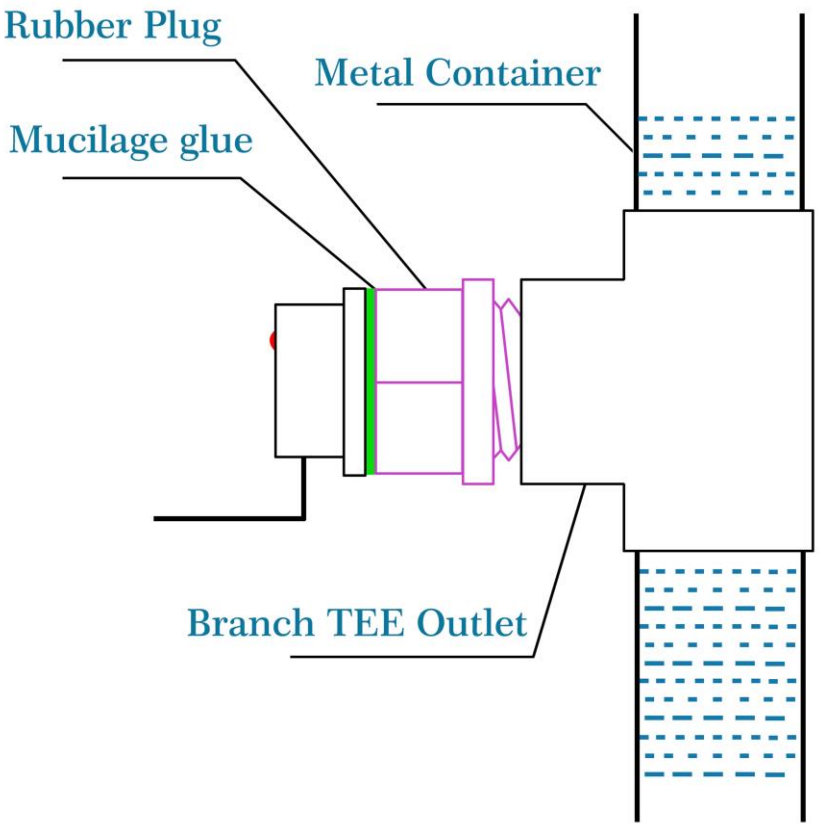
- Cable Specifications: 22AWG
- Material: Silicone
- Length: 21cm
- Withstand Voltage: Less Than 50V
- Withstand Current: Less Than 1000MA
- Line Sequence: Black–Negative Power Supply, Red–Positive Power Supply, Green–Signal.

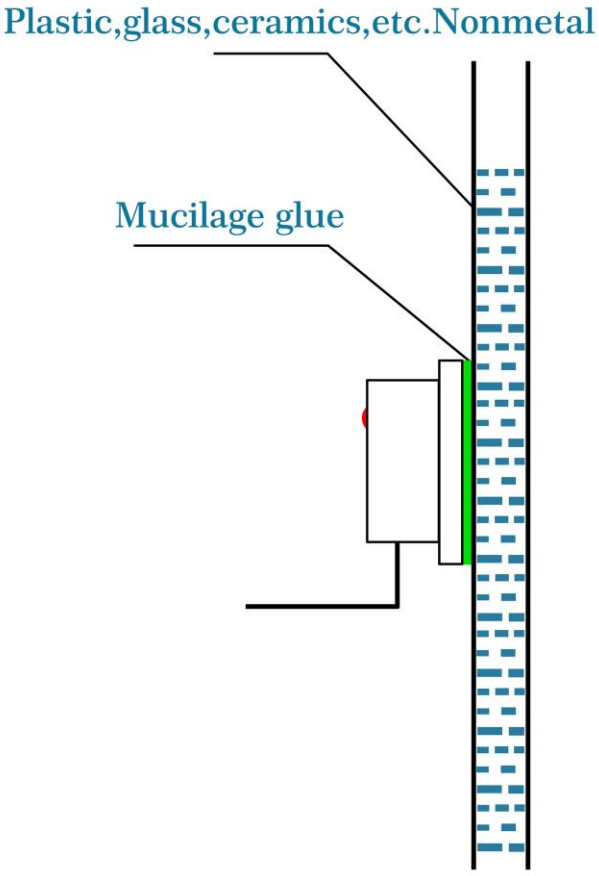
## Test Code and Support

http://www.cqrobot.wiki/index.php/Non–Contact_Water/Liquid_Level_Sensor_SKU:_CQRSENYW001

## Connection Diagram




Rubber Plug
Metal Container
Mucilage glue
Branch TEE Outlet

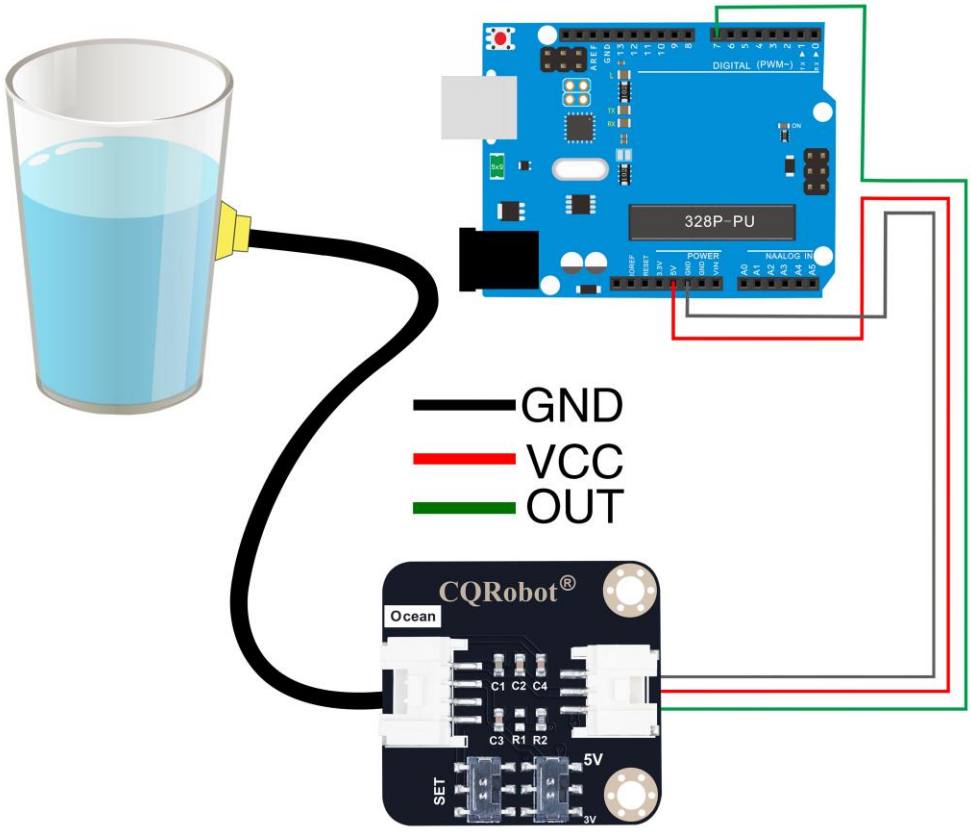

Plastic,glass,ceramics,etc.Nonmetal
Mucilage glue

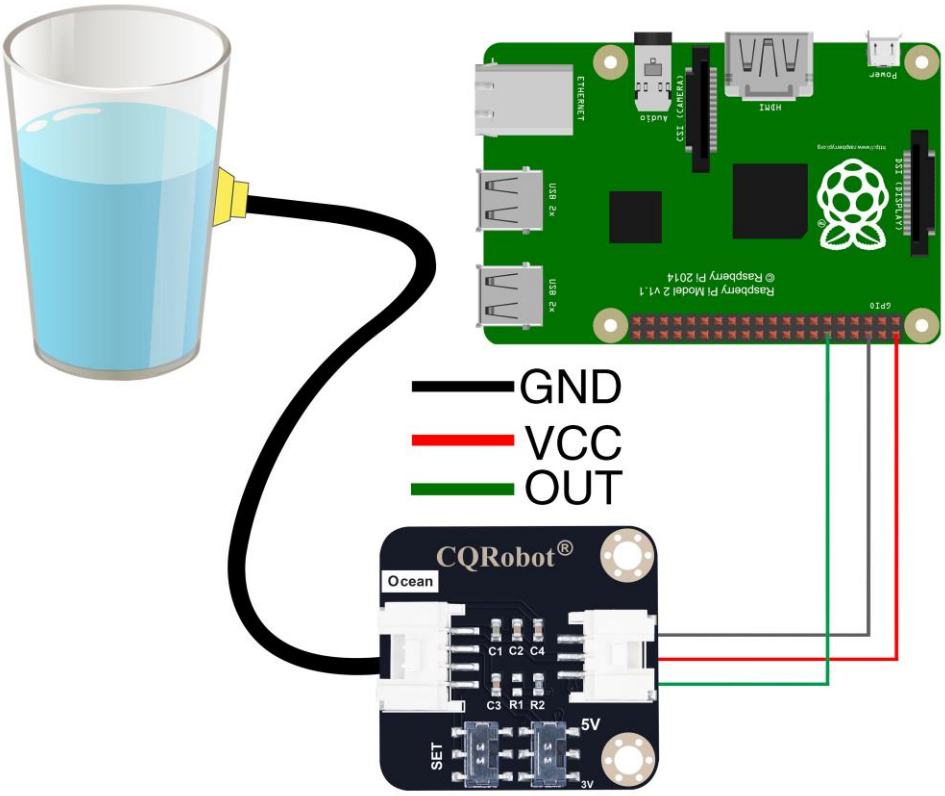
# Sensitivity Adjustment:

**Rotate counterclockwise to increase sensitivityRotate clockwiseto reduce sensitivity.**




## Test Case




GND
VCC
OUT
CQRobot®
Ocean
C1 C2 C4
C3 R1 R2
SET
5V
3V
GPIO
Raspberry Pi Model 2 V1.1
© Raspberry Pi 2014
ETHERNET
USB 2x
USB 2x
Audio
CSI (CAMERA)
HDMI
Power
DSI (DISPLAY)