Patented Product

- Counterfeiting Will Be Prosecuted!

AX01-GY2 Capacitive Pipeline Liquid Detection Module

1. Description:

The AX01-GY2 is a capacitive pipeline liquid detection module that uses a spring as a sensor to detect capacitance changes within the pipeline cavity. It determines the liquid level height and the presence or absence of liquid.

2. Product Features:

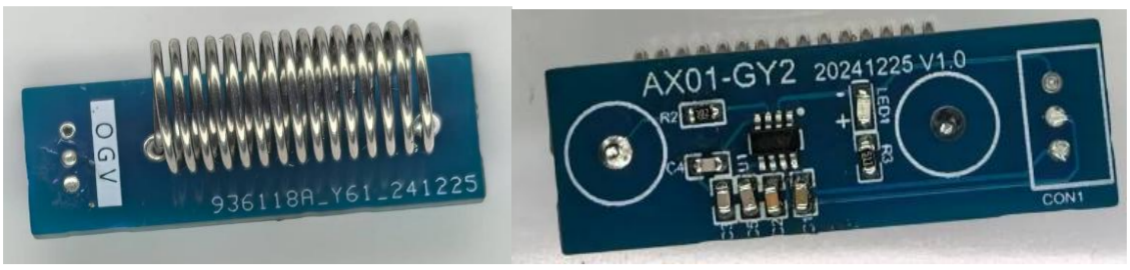
- Non-contact, easy to clean, and corrosion-resistant.
- High liquid level detection accuracy, low false alarm rate, and high reliability.
- No mechanical moving parts, stable performance, low wear, and high reliability.
- The output signal is a debounced high/low level signal, making it easy to process.
- Environmentally friendly, compliant with RoHS directives.

3. Application

- Intelligent Floor Scrubber
- Sweeping Robot
- Water Purifier
- Water Dispenser
- Coffee Machine
- Pipeline Liquid Flow Detection Equipment, etc.

4. Module Appearance Image

1. Detection Circuit
2. Spring



5. Terminal Block Description

Pin Sequence	Name	Type	Function
1.O	OUT	Test Output Port	High level for no liquid state, low level for liquid state.
2.G	GND	Power Negative Terminal	
3.V	OUT	Power Positive Terminal	

6. Rated Value*

Operating Temperature ..... -10~+75°C

Storage Temperature ..... -40~+105℃

Maximum Vdd Voltage ..... -0.3~+6.0V

Maximum DC Output Current for Pin..... ±10mA

Pin Voltage Tolerance ..... -0.3V~(Vdd+0.3)Volts

*Note: Exceeding the above values may result in permanent damage to the chip.

7. Electrical Characteristics:

Electrical Parameters：TA=25℃

Characteristic	Symbol	Conditions	Min	Typical	Max	Unit
Operating Voltage	Vdd		2.5		6.0	V
Current Consumption	Idd	VDD=5.0V		0.68		mA
		VDD=3.0V		0.47		mA
Power-On Initialization Time	Tini			120		ms
Output Resistance (NMOSopen-drain)	Zo	Low Level		510		Ohm
		High Level		10K		
Output Sink Current	Isk	VDD=5V			10.0	mA
Response Time	rt			24		Ms

8. Structure and Dimensions:

PCB Size:：12*34cm

Spring Specification: Suitable for 8mm Pipeline

9.Application Precautions

1)The supply voltage will affect the sensitivity. The debug voltage is 5V, and it is recommended to use 5V. If this voltage cannot be provided, it is advised to contact us for re-verification.

2)The module's spring is exposed, and capacitive sensing is easily affected by external interference. It is recommended to fix the module in a specific position, avoiding nearby factors such as wires, motors, and large metal objects that could interfere with the capacitance.

3)The material of the conduit, wall thickness, and liquid composition may affect the sensitivity. It is recommended to establish conduit standards before application. If the liquid application environment is complex, please inform us in advance for verification.

(Current debugging standard: Supply voltage DC 5.0V, the liquid TDS value at the pipeline application end should be between 0-200. The TDS value for purified water is 0, and for tap water, it is approximately 200.)