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Regun XKC-Y25-PNP

Regun XKC-Y25-PNP Non-Contact Liquid Level Sensor User Manual

Model: XKC-Y25-PNP

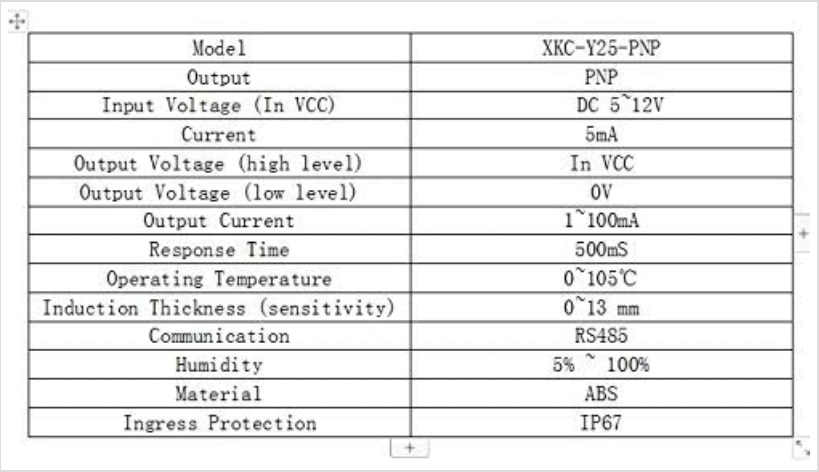
1. Introduction

The Regun XKC-Y25-PNP is an advanced non-contact liquid level sensor designed for detecting liquid levels in non-metallic containers without direct contact with the liquid. This sensor utilizes electronic circuit technology to provide stable and reliable performance, making it suitable for various applications where direct contact is undesirable or impractical. Its robust design ensures high stability, sensitivity, and strong anti-interference capabilities.

2. Features

- **Non-Contact Detection:** Operates without direct contact with the liquid, preventing contamination and unaffected by scale or other impurities inside the container.
- **Intelligent Level Adjustment:** Features intelligent liquid level adjustment and memory functions, supporting multi-point series connection for complex setups.
- **Stable Performance:** Electronic circuit structure ensures stable performance, durability, and a long operational lifespan.
- **Wide Power Compatibility:** Compatible with most 5-12V DC power supplies.
- **High Anti-Interference:** Designed with high stability and sensitivity, offering strong resistance to electromagnetic interference, power frequency interference, and common mode interference.
- **Versatile Detection:** Accurately and stably detects various substances including liquids, powders, and particles. Capable of detecting boiling water.
- **Broad Container Compatibility:** Strong compatibility with various non-metallic containers such as plastic, glass, and ceramic, with an induction thickness of up to 13mm.

3. Specifications



Model	XKC-Y25-PNP
Output	PNP
Input Voltage (In VCC)	DC 5~12V
Current	5mA
Output Voltage (high level)	In VCC
Output Voltage (low level)	0V
Output Current	1~100mA
Response Time	500mS
Operating Temperature	0~105℃
Induction Thickness (sensitivity)	0~13 mm
Communication	RS485
Humidity	5% ~ 100%
Material	ABS
Ingress Protection	IP67

Image: Technical specifications table for the XKC-Y25-PNP sensor, detailing parameters such as input voltage, output, current, response time, and induction thickness.

Parameter	Value
Model	XKC-Y25-PNP
Output	PNP
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Current	5mA
Output Voltage (High Level)	In VCC
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Response Time	500mS
Operating Temperature	0~105°C
Induction Thickness (Sensitivity)	0~13 mm
Communication	RS485
Humidity	5%~100%
Material	ABS
Ingress Protection	IP67
Brand	Regun
Part Number	LY0502
UPC/GTIN	713135185749

4. Setup and Installation

The XKC-Y25-PNP sensor is designed for external mounting on the container wall. Ensure the mounting surface is clean and dry for optimal adhesion and performance. The sensor has three wires for connection: VCC (power input), GND (ground), and OUT (signal output).



Image: Close-up view of the sensor's label, indicating the model number XKC-Y25-PNP and wiring connections: Brown (5-12V OUT), Blue (GND), Black (M - likely signal output).

4.1. Installation for Non-Metallic Containers

For non-metallic containers (e.g., plastic, glass, ceramic), the sensor can be directly attached to the outer wall of the container at the desired detection level. Use a strong adhesive (glue) to secure the sensor firmly in place. Ensure there are no air gaps between the sensor and the container wall.

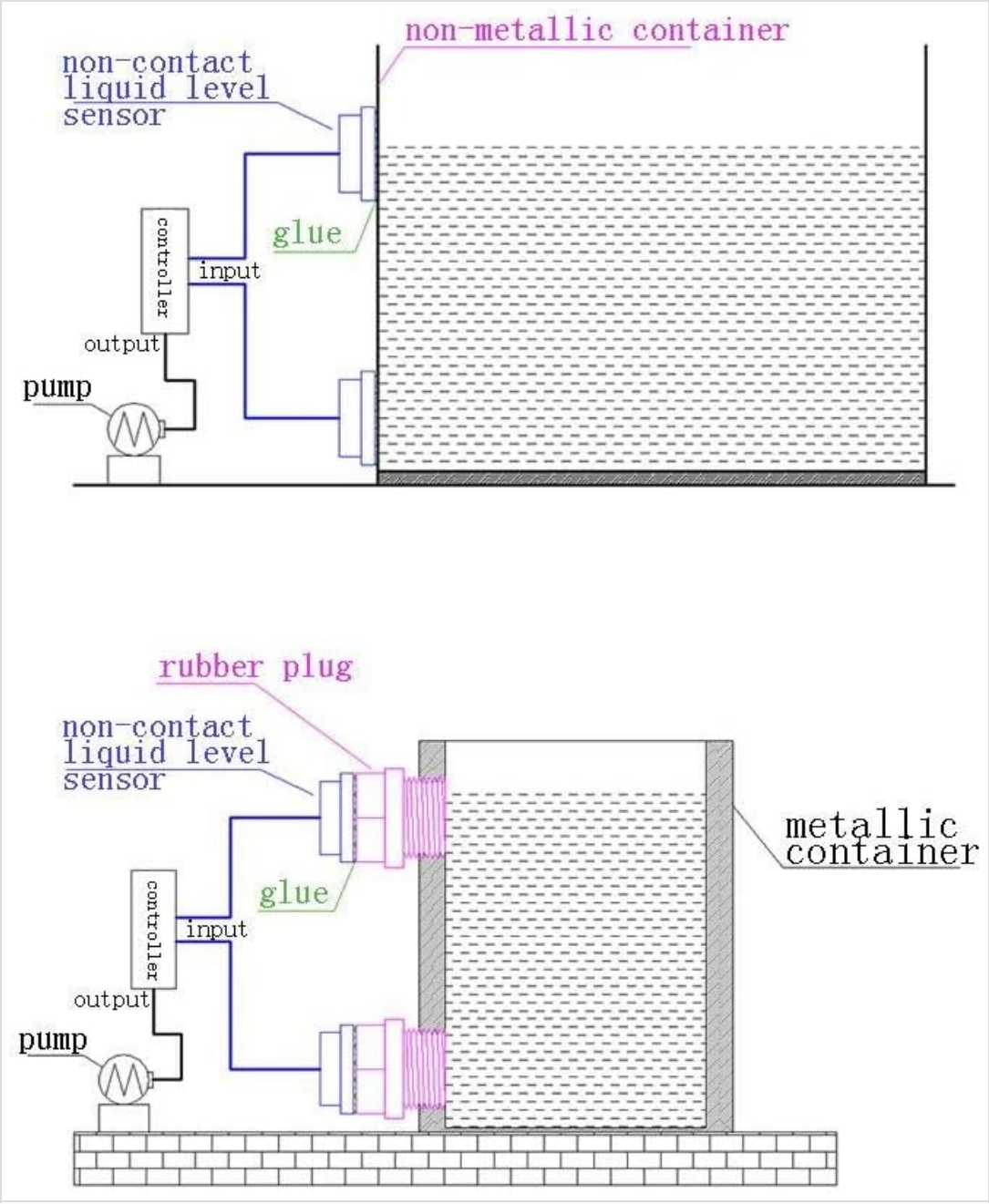


Image: Installation diagram for a non-metallic container. The sensor is glued to the outside of the container, connected to a controller which then operates a pump based on the liquid level.

4.2. Installation for Metallic Containers

While primarily designed for non-metallic containers, the sensor can be adapted for metallic containers using a rubber plug or similar non-conductive interface. The sensor is mounted externally, with the rubber plug providing the necessary insulation and allowing the sensor to detect through the non-metallic barrier.

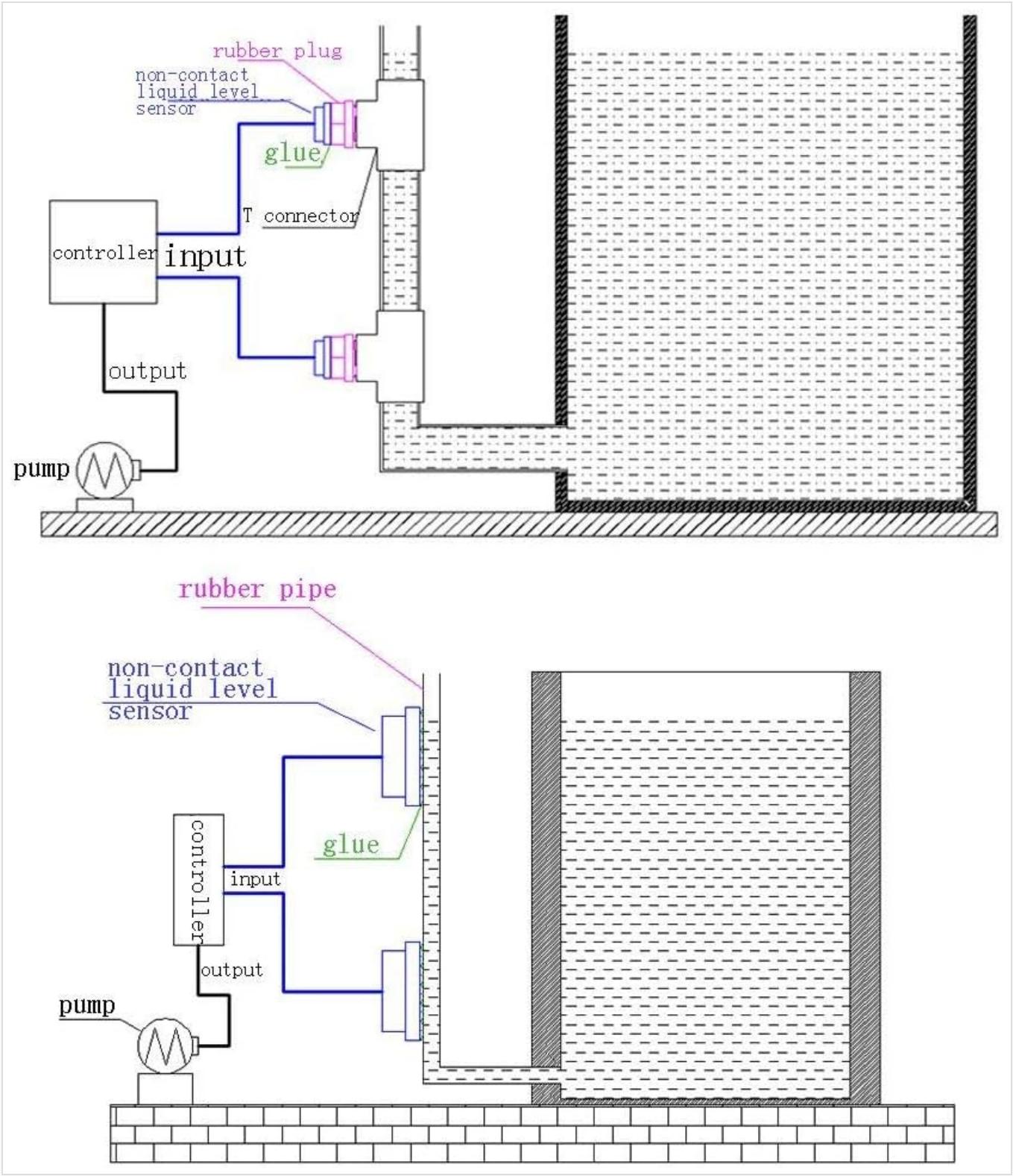


Image: Installation diagram for a metallic container. The sensor is attached to the outside of the container via a rubber plug, which acts as an interface for detection. It connects to a controller and pump.

4.3. Installation for Pipes

The sensor can also be used to detect liquid levels within pipes. This can be achieved by mounting the sensor on a T-connector or directly on a rubber pipe section. Ensure the sensor is securely attached and has good contact with the pipe material.



Image: Installation diagram for a pipe system. The non-contact liquid level sensor is attached to a T-connector in the pipe, connected to a controller and pump.



Image: Installation diagram for a rubber pipe. The sensor is directly attached to the outside of the rubber pipe, connected to a controller and pump.

5. Operating Principles

The XKC-Y25-PNP sensor operates on the principle of capacitance. It detects the presence or absence of liquid by measuring changes in capacitance when liquid approaches its sensing surface through the container wall. When liquid is present, the capacitance changes, triggering the sensor's output. This non-invasive method ensures that the sensor does not interfere with the liquid's properties or purity.

6. Maintenance

The XKC-Y25-PNP sensor is designed for low maintenance. To ensure optimal performance and longevity:

- **Keep Clean:** Periodically wipe the sensor's surface and the contact area on the container to remove dust or debris that might affect detection.
- **Avoid Physical Damage:** Protect the sensor from impacts or excessive force that could damage its internal components or external casing.
- **Environmental Conditions:** Operate the sensor within its specified temperature and humidity ranges (0~105°C, 5%~100% humidity) to prevent malfunction.
- **Wiring Integrity:** Regularly inspect the wiring for any signs of wear, fraying, or loose connections.

7. Troubleshooting

If you encounter issues with your XKC-Y25-PNP sensor, consider the following troubleshooting steps:

- **No Detection / Inaccurate Readings:**
  - **Check Power:** Ensure the sensor is receiving the correct DC 5-12V power supply.
  - **Verify Connections:** Confirm that VCC, GND, and OUT wires are correctly connected and secure.
  - **Sensor Placement:** Ensure the sensor is firmly attached to the container wall with no air gaps.
  - **Container Material/Thickness:** Confirm the container is non-metallic and its thickness is within the 0-13mm induction range.
  - **Liquid Type:** While versatile, extremely viscous liquids or those with unusual electrical properties might affect detection.
- **Interference Issues:**
  - **Electromagnetic Fields:** Keep the sensor away from strong electromagnetic fields or devices that could cause interference.
  - **Power Supply Noise:** Ensure a stable and clean power supply to minimize electrical noise.
- **Sensor Not Responding:**
  - **Check for Damage:** Inspect the sensor and its cable for any visible signs of damage.
  - **Test with Known Good Setup:** If possible, test the sensor in a simple, controlled environment to isolate the issue.

8. Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact the seller directly. Ensure you have your product model (XKC-Y25-PNP) and purchase details available when seeking assistance.

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