Jectse XKC-Y26A-V

Jectse XKC-Y26A-V Capacitive Liquid Level Sensor Instruction Manual

1. INTRODUCTION

The Jectse XKC-Y26A-V is a non-contact capacitive liquid level sensor designed for detecting liquid levels in various non-metallic containers. This manual provides essential instructions for its proper installation, wiring, and operation to ensure reliable performance and accurate liquid level detection.

This sensor utilizes advanced signal processing technology and high-speed signal processing chips, enabling non-contact detection through the walls of non-metallic containers. It is suitable for use with various non-metallic pipes and containers, offering high stability and sensitivity.

Image 1.1: The Jectse XKC-Y26A-V Capacitive Liquid Level Sensor. This image displays the compact white sensor unit with its integrated black cable and 4-pin connector, highlighting its design for external mounting.

2. SPECIFICATIONS

Refer to the following table for detailed technical specifications of the XKC-Y26A-V sensor:

Feature	Specification
Item Type	Liquid Level Sensor
Working Voltage	5-24 V
Induction Principle	Capacitive Liquid Level Sensing
Output Form	High and Low Level
Model	XKC-Y26A-V
Output Voltage (High Level)	Vin
Output Voltage (Low Level)	0V

| Feature	Specification
Response Time	500 ms
Output Current	1~100 mA
Working Environment Temperature	0~75°C
Diameter Range Of The Pipe Used	3~10 mm
Level Error	±2 mm
Material	ABS
Performance	IP65
Product Dimensions	0.39 x 0.39 x 0.39 inches; 0.32 ounces

PRODUCT SIZE

Unit: mm
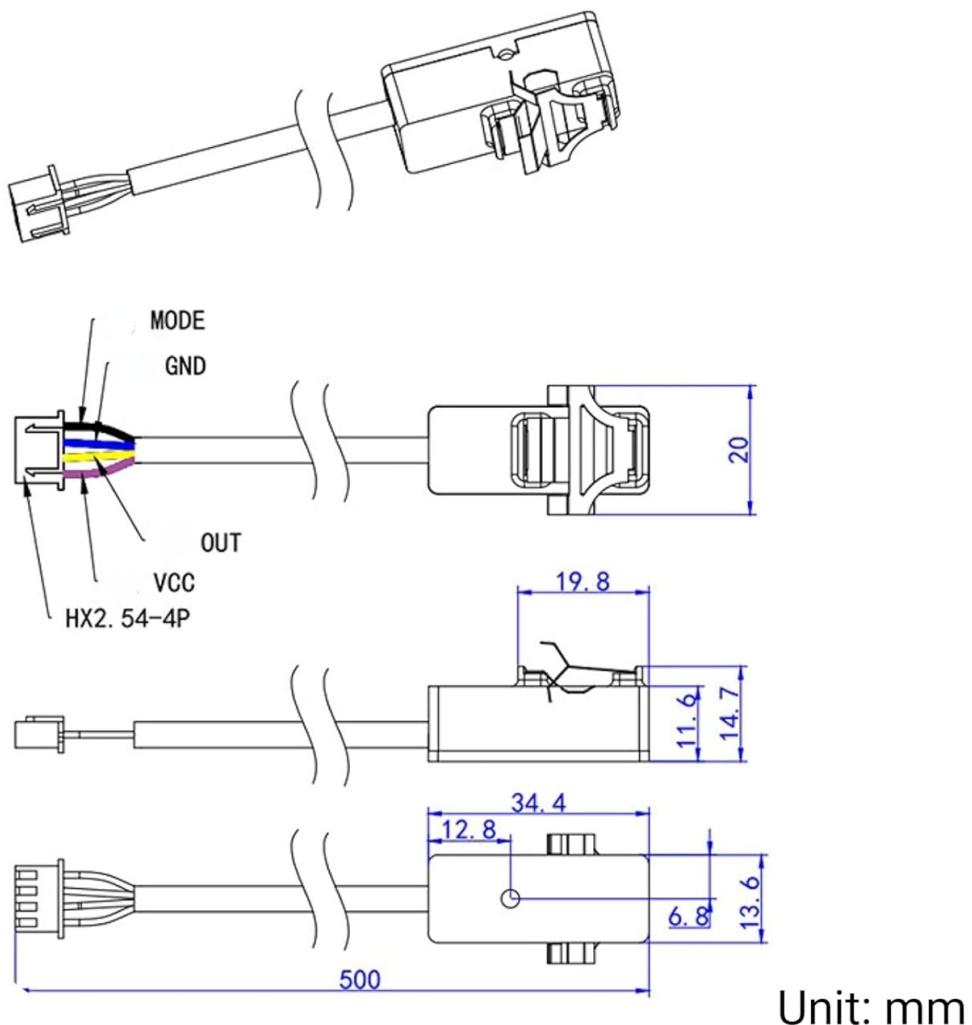
Image 2.1: Product Size Diagram. This diagram provides detailed measurements of the sensor unit and its cable, including dimensions for the main body (34.4mm length, 14.7mm width, 11.6mm height) and the 500mm cable length, all in millimeters.

3. SETUP AND INSTALLATION

The XKC-Y26A-V sensor is designed for easy, non-invasive installation on the exterior of non-metallic containers or pipes. Follow these steps for proper setup:

1. **Prepare the Surface:** Ensure the external surface of the container or pipe where the sensor will be mounted is clean, dry, and free from any obstructions or debris.
2. **Position the Sensor:** Determine the desired liquid level detection point. The sensor should be placed at this exact height on the container wall.
3. **Secure the Sensor:** The sensor features a clip-on mechanism for attachment.

   - Pull off the shrapnel (the spring-loaded clip) to open the sensor's gripping mechanism.
   - Carefully insert the non-metallic pipe or container wall into the middle of the shrapnel, ensuring the sensing surface makes firm contact with the container.
   - Release the shrapnel to secure the sensor in place. Verify that the sensor is stable and does not move easily.

INSTALLATION METHOD

1. Pull off the shrapnel

2. Put the water pipe into the middle of the shrapnel

3. Release the shrapnel
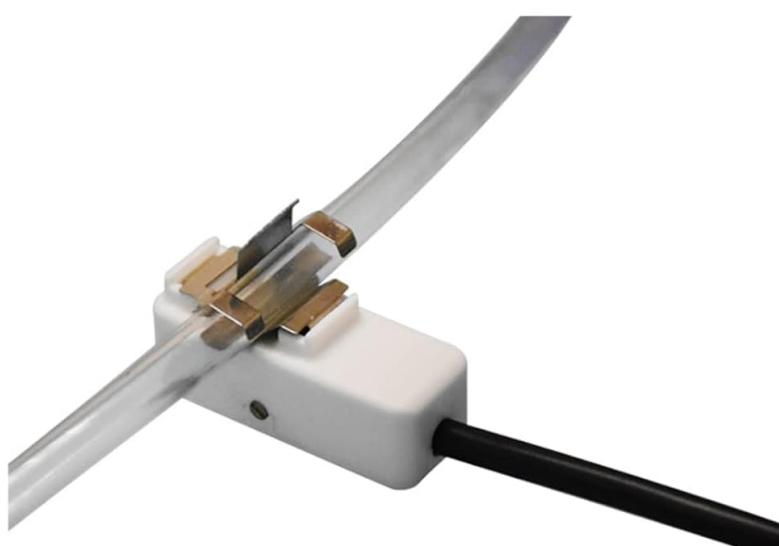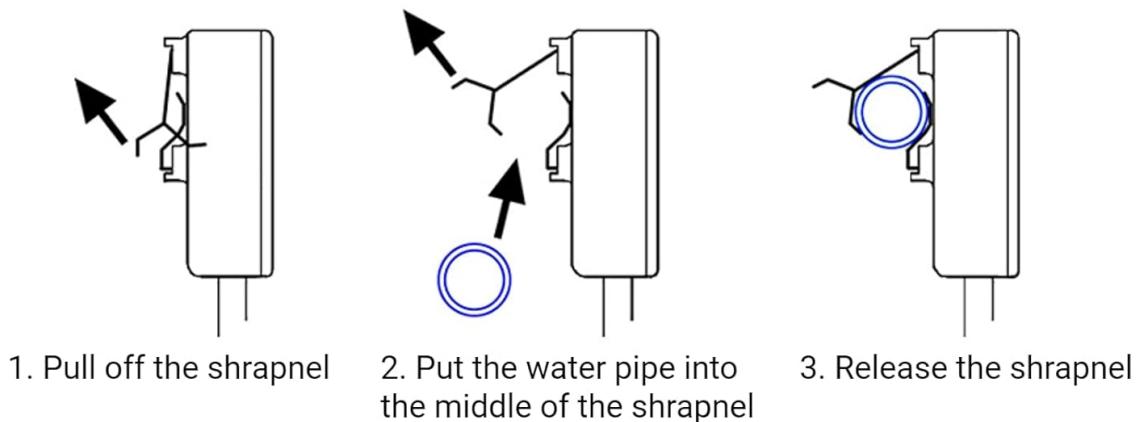
Image 3.1: Installation Method. This diagram illustrates the three steps for installing the sensor: 1. Pull off the shrapnel, 2. Put the water pipe into the middle of the shrapnel, and 3. Release the shrapnel to secure the sensor.

Important Considerations:

- The sensor is designed for non-metallic containers (e.g., plastic, glass, ceramic).

- The induction pipe diameter should be between 3mm and 10mm for optimal performance.
- Ensure the sensor is mounted horizontally for accurate level detection.

4. Wiring Diagram

Correct wiring is crucial for the proper functioning of the sensor. The XKC-Y26A-V sensor uses a 4-pin connector with defined wire functions:

- **Brown Wire (VCC):** Power input (connect to 5-24V DC).
- **Yellow Wire (OUT):** Signal output (high/low level).
- **Blue Wire (GND):** Negative power supply / Ground.
- **Black Wire (MODE):** Signal selection line.

Signal Output Mode Selection:

- **Positive Output / Normally Open Output:** Leave the black wire unconnected. The output will be high when liquid is detected and low when no liquid is detected.
- **Inverse Output / Normally Closed Output:** Short the black wire to the blue wire (GND). The output will be low when liquid is detected and high when no liquid is detected.
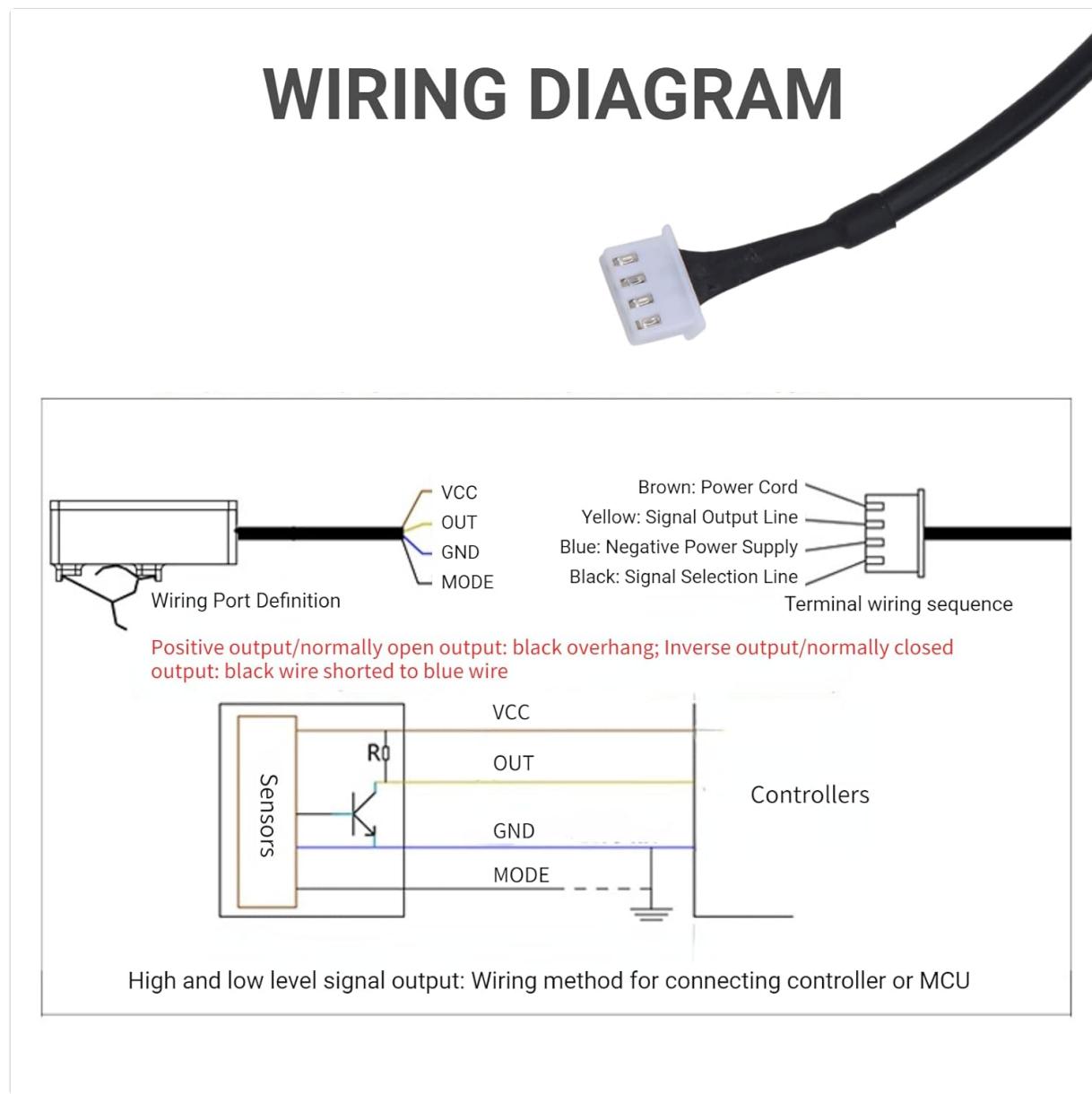

Image 4.1: General Wiring Diagram. This diagram shows the wiring port definition (VCC, OUT, GND, MODE) and the

terminal wiring sequence (Brown: Power Cord, Yellow: Signal Output Line, Blue: Negative Power Supply, Black: Signal Selection Line). It also illustrates the high and low level signal output wiring method for connecting to a controller or MCU.

WIRING DIAGRAM

XKC-Y26A-V
CE 棕5-24V 黄OUT
蓝GND 黑M

Sensors | VCC ——— VCC
OUT
0V ——— 0V GND
Controllers
Normally closed/normally open output selection
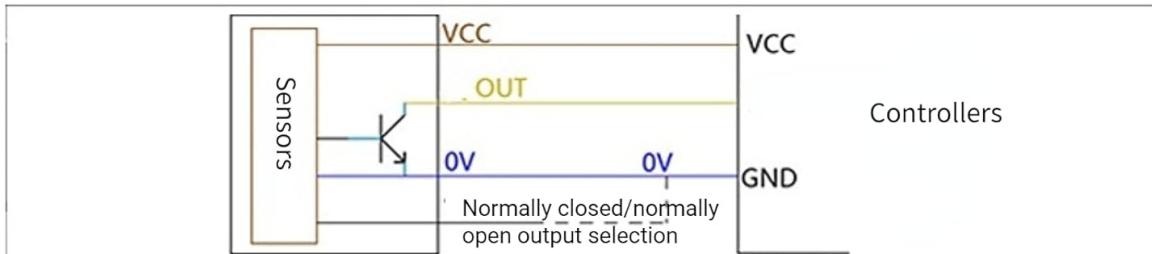
NPN signal output: Wiring method for connecting to controller or MCU

Note: connect relays and other inductive loads to add current-continuing diodes for protection

Sensors | VCC DC5V~12V/24V
OUT
GND ——— 0V
Normally closed/normally open output selection
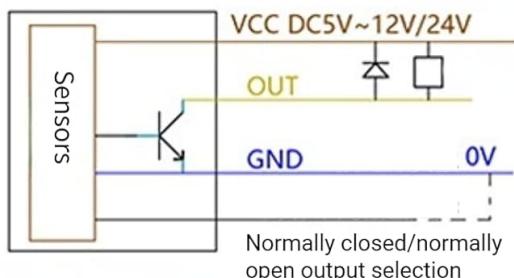
NPN signal output: Wiring method for connecting relays

Sensors | VCC DC5V~12V/24V
OUT
Indicator Light
0V
Normally closed/normally open output selection
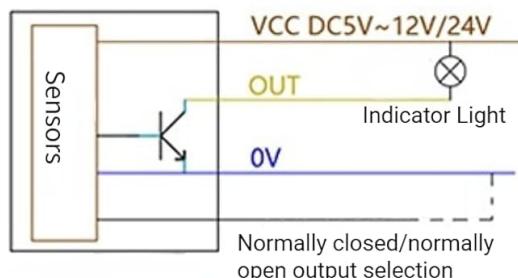
NPN signal output. Wiring method for connecting indicator light

Image 4.2: NPN Signal Output Wiring Diagram. This diagram provides specific wiring methods for connecting the NPN signal output to relays and indicator lights, showing configurations for normally closed/normally open output selection. It also notes to connect relays and other inductive loads to add current-continuing diodes for protection.

Always ensure power is disconnected before making any wiring changes to prevent damage to the sensor or connected equipment.

5. OPERATING PRINCIPLES

The XKC-Y26A-V sensor operates on the principle of capacitive sensing. It detects the presence or absence of liquid by measuring changes in capacitance when liquid comes into proximity with the sensor's detection area. Since water and other liquids have a different dielectric constant than air, the sensor can differentiate between the two states (liquid present or absent) through the non-metallic container wall.

When liquid reaches the level of the sensor, the capacitance changes, triggering the sensor's output. This non-contact method allows for detection without direct contact with the liquid, making it suitable for applications where hygiene or chemical compatibility is a concern.

The sensor provides a high or low level output signal, which can be directly interfaced with microcontrollers (MCUs), PLCs, or other control circuits to automate liquid level monitoring and control tasks.

6. APPLICATIONS

The versatility of the XKC-Y26A-V sensor makes it suitable for a wide range of applications:

- **Aquariums:** Monitoring water levels to prevent overflow or ensure adequate levels for aquatic life.
- **Beverage Dispensers:** Detecting liquid levels in non-metallic tanks or bottles.
- **Industrial Processes:** Level control in various non-metallic chemical or water tanks.
- **Home Appliances:** Integration into humidifiers, coffee makers, or other devices requiring liquid level detection.
- **Medical Equipment:** Non-invasive liquid level monitoring in certain medical devices.

Image 6.1: Application Examples. This image collage demonstrates the sensor's use in different scenarios, including attachment to a large plastic container, a clear pipe, and a smaller bottle, showcasing its adaptability for various non-metallic liquid containers.

Image 6.2: Sensor Detecting Liquid in a Pipe. This image shows the sensor attached to a clear pipe, with its red indicator light illuminated, signifying the detection of liquid within the pipe.

7. MAINTENANCE

The Jectse XKC-Y26A-V sensor is designed for low maintenance. Adhering to these guidelines will help ensure its longevity and accurate performance:

- **Cleaning:** Keep the external sensing surface of the sensor clean and free from dust, dirt, or any liquid residue. A soft, dry cloth can be used for cleaning. Avoid abrasive cleaners or solvents.
- **Mounting Security:** Periodically check that the sensor is securely mounted to the container or pipe. Ensure the clip mechanism maintains firm contact.
- **Environmental Conditions:** Operate the sensor within its specified working environment temperature (0~75°C) and avoid exposure to extreme humidity or direct sunlight for prolonged periods.
- **Wiring Integrity:** Inspect the wiring connections periodically for any signs of wear, corrosion, or loose connections. Ensure all connections are firm and properly insulated.
- **Avoid Physical Damage:** Protect the sensor from impacts or excessive mechanical stress.

8. TROUBLESHOOTING

If you encounter issues with your XKC-Y26A-V sensor, consider the following troubleshooting steps:

- **No Detection or Inaccurate Readings:**

  - **Power Supply:** Verify that the sensor is receiving the correct working voltage (5-24V DC).
  - **Mounting:** Ensure the sensor is securely mounted and making firm, direct contact with the container wall at the desired detection point.
  - **Container Material:** Confirm that the container is made of a non-metallic material and its wall thickness is within the sensor's operational limits (typically 3-10mm pipe diameter).
  - **Wiring:** Double-check all wiring connections against the wiring diagram (Section 4). Ensure the black MODE wire is correctly configured for your desired output (normally open or normally closed).
  - **External Factors:** Check for excessive moisture, condensation, or foreign objects on the sensor's surface or the container exterior that might interfere with detection.

- **Indicator Light Not Functioning:**

  - **Power:** Confirm the sensor is powered on.
  - **Damage:** Inspect for any visible physical damage to the sensor or its indicator light.

- **Interference:** If the sensor is near strong electromagnetic fields or other electronic devices, try relocating it or shielding the area to reduce potential interference.

If the issue persists after performing these checks, contact customer support for further assistance.

9. WARRANTY AND SUPPORT
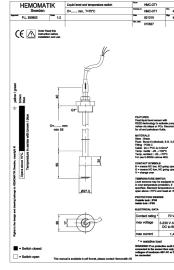
The Jectse XKC-Y26A-V Capacitive Liquid Level Sensor is manufactured by Jectse. For specific warranty information, including duration and coverage, please refer to the product packaging or contact your point of purchase. Keep your proof of purchase for warranty claims.

For technical support, product inquiries, or assistance with troubleshooting beyond the scope of this manual, please reach out to Jectse customer service or the authorized reseller from whom you purchased the product. Contact information can typically be found on the seller's website or product documentation.

Related Documents - XKC-Y26A-V

[Pro Range PRO RANGE-Y25-NPN Non-Contact Liquid Level Sensor Instruction Manual](#)
Comprehensive instruction manual for the Pro Range PRO RANGE-Y25-NPN non-contact liquid level sensor, detailing features, applications, installation, troubleshooting, and warranty information. This guide provides technical specifications and operational guidance for intelligent externally attached liquid level detection products.

[Pro Range PRO RANGE-Y26-V Non-Contact Liquid Level Sensor Instruction Manual](#)

Detailed instruction manual for the Pro Range PRO RANGE-Y26-V non-contact liquid level sensor. Covers features, applications, installation, parameters, troubleshooting, and warranty for intelligent liquid detection in non-metallic containers.

[Gira HHS 230 V~ Thermostat with Opening/Closing Contact, Switch, and Indicator Light](#)

User manual for the Gira HHS 230 V~ thermostat, detailing its features, operation, installation, and technical specifications. Includes safety instructions and warranty information.

[HEMOMATIK HMC-OT1 Liquid Level and Temperature Switch - Technical Specification](#)

Detailed technical specification for the HEMOMATIK HMC-OT1 liquid level and temperature switch. Features include REED technology, material specifications, electrical data, and protection degrees.

[LevelPro ShoPro SP100 Level Display Controller Manual](#)

User manual for the LevelPro ShoPro SP100 Level Display Controller, detailing features, specifications, installation, wiring, and programming.

[Gira RTC 230 V~ Operating Instructions for 1-Way Switch and Control Light](#)

Comprehensive operating instructions for the Gira RTC 230 V~, a 1-way switch and control light with NC/NO contact. Learn about device components, intended use, product characteristics, functional description, operation, technical data, and warranty.