Ortis KJ-033

Ortis Hi-Lo Sump Pump Switch Controller KJ-033 User Manual

Model: KJ-033

1. Introduction

The Ortis Hi-Lo Sump Pump Switch Controller KJ-033 is an electronic adjustable float switch designed for automatic water level management in various applications such as sewage pits, fish tanks, and water tanks. It features stainless steel anti-corrosion dual sensors and supports both 220V and 110V AC power inputs. This manual provides detailed instructions for installation, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your device.

2. Safety Information

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Hazard:** Ensure the power supply is disconnected before performing any installation, maintenance, or troubleshooting.
- **Voltage Compatibility:** Verify that the power supply voltage matches the controller's specifications (220V/110V AC).
- **Proper Grounding:** Always connect the device to a properly grounded outlet.
- **Water Exposure:** Do not immerse the controller unit in water. The controller unit is designed to be mounted above the water level.
- **Qualified Personnel:** Installation and electrical connections should be performed by qualified personnel if you are unsure.
- **Environmental Conditions:** Do not operate the device in explosive atmospheres or where flammable liquids or gases are present.

3. Product Features

The Ortis KJ-033 controller offers several features for reliable water level management:

- **Dual Stainless Steel Sensors:** Anti-corrosion sensors for accurate water level detection.
- **Adjustable Sensor Range:** Sensors can be adjusted from 1/2 inch to 20 inches to define high and low water levels.
- **Multiple Operating Modes:** Supports Drain Mode (for emptying) and Water Mode (for filling).
- **LED Indicators:** Visual feedback for power, load status, and alarm conditions.
- **Overload Protection:** Integrated protection for connected pumps.
- **Mute Function:** Allows silencing of the alarm.
- **Wide Application:** Suitable for sewage pits, fish tanks, water tanks, and other water management systems.

Figure 3.1: Ortis Water Level Controller Overview with Key Features.

Figure 3.2: Various Application Scenarios for the Controller.

4. Setup and Installation

Proper installation is crucial for the reliable operation of the controller.

4.1 Controller Mounting

The controller unit should be mounted in a dry location, above the maximum water level, and within reach of a grounded power outlet.

1. **Screw Mounting:** Use appropriate screws and anchors to secure the controller to a wall or stable surface through the mounting tabs.
2. **Suction Cup Mounting:** For temporary or non-permanent installations, a suction cup can be used to attach the controller to a smooth, clean surface.

Figure 4.1: Controller Installation Methods.

4.2 Sensor Installation and Adjustment

The dual sensors detect the high and low water levels. Their position determines the operating range of your pump.

1. **Sensor Placement:** Position the sensors vertically in the water, ensuring they are securely fastened and will not move. The lower sensor defines the 'low' water level, and the upper sensor defines the 'high' water level.
2. **Adjustable Range:** The sensors can be adjusted along their cables to set the desired water level range, from 1/2 inch to 20 inches apart. Ensure both sensors are submerged at the desired 'on' level and the lower sensor is exposed at the desired 'off' level for drain mode, or vice versa for water mode.
3. **Cable Management:** Route sensor cables to prevent entanglement or damage.

Figure 4.2: Adjustable Sensor Installation.

4.3 Electrical Connection

1. **Power Plug:** Plug the controller's power cord into a grounded 220V or 110V AC outlet.
2. **Pump Connection:** Plug your sump pump or other load device into the outlet on the front of the controller. Ensure the pump's power requirements do not exceed the controller's output capacity (15A, up to 2HP).

Figure 4.3: Example Sump Pit Installation.

5. Operating Instructions

The controller features a simple interface for selecting operating modes and managing alarms.

Figure 5.1: Control Panel Overview.

5.1 Mode Selection

Use the 'Drain' and 'Water' buttons to select the desired operating mode:

- **Drain Mode:** (LED indicator 'Drain' illuminates) In this mode, the controller activates the pump when the water level reaches the upper (high) sensor and deactivates it when the water level drops below the lower (low) sensor. This mode is typically used for emptying sewage pits or sumps.
- **Water Mode:** (LED indicator 'Water' illuminates) In this mode, the controller activates the pump when the water level drops below the lower (low) sensor and deactivates it when the water level reaches the upper (high) sensor. This mode is typically used for replenishing water in fish tanks or water tanks.

5.2 Power and Operation Switch

The main switch controls the power and operational state of the connected load:

- **AUTO:** (LED indicator 'AUTO' illuminates) The controller operates automatically based on the selected mode (Drain or Water) and sensor readings.
- **OFF:** (LED indicator 'OFF' illuminates) The connected pump is turned off, regardless of water levels.
- **ON:** (LED indicator 'ON' illuminates) The connected pump is continuously turned on, regardless of water levels. Use this for manual override or continuous operation.

5.3 Mute Function

Press the 'Mute' button to silence any active alarms. The 'DisAlarm' LED will illuminate when the alarm is muted.

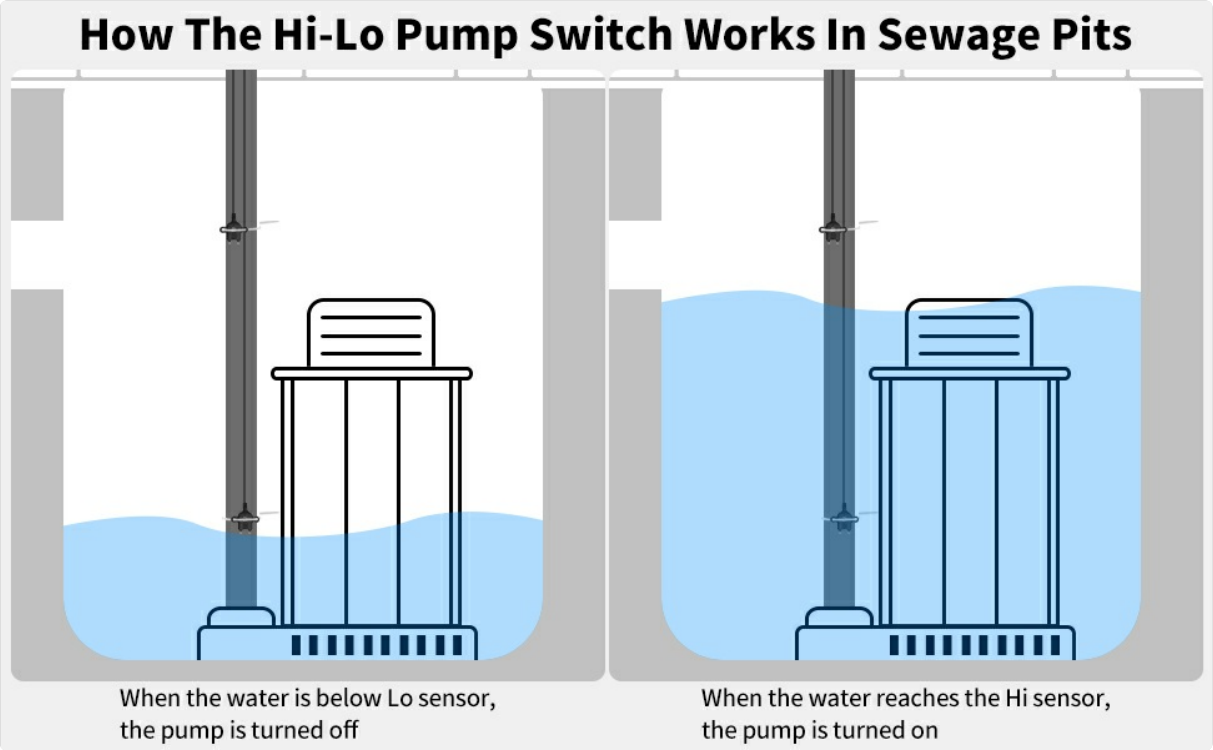

Figure 5.2: Operational Logic in Drain Mode (Sewage Pit Example).

6. Maintenance

Regular maintenance ensures the longevity and reliable operation of your Ortis controller.

- **Sensor Cleaning:** Periodically inspect and clean the stainless steel sensors to remove any buildup of debris, algae, or mineral deposits that could affect their accuracy. Disconnect power before cleaning.
- **Cable Inspection:** Check all cables and connections for signs of wear, damage, or corrosion. Replace any damaged components immediately.

- **Controller Unit:** Keep the controller unit clean and dry. Avoid exposing it to direct sunlight or extreme temperatures.
- **Test Operation:** Periodically test the controller's operation by manually raising or lowering water levels to ensure the pump activates and deactivates as expected in the selected mode.

7. Troubleshooting

Refer to the table below for common issues and their solutions.

Problem	Possible Cause	Solution
Pump does not turn on/off automatically.	1. Controller not in AUTO mode. 2. Sensors are dirty or improperly positioned. 3. Pump is not plugged in or is faulty.	1. Ensure the switch is set to 'AUTO'. 2. Clean sensors and verify their high/low positions. 3. Check pump connection and functionality.
Alarm sounds frequently.	1. Water level not reaching desired sensor within expected time. 2. Sensor malfunction. 3. Alarm sensitivity setting (if applicable, check product documentation).	1. Check pump operation and water flow. Adjust sensor positions if needed. 2. Inspect sensors for damage or debris. Replace if faulty. 3. Use the 'Mute' button temporarily. Consult manufacturer for alarm logic details.
Controller has no power.	1. Power cord unplugged. 2. Outlet has no power. 3. Internal fuse blown.	1. Ensure power cord is securely plugged in. 2. Test the outlet with another device. Check circuit breaker. 3. Contact customer support for assistance.
Pump runs continuously in AUTO mode.	1. Sensor stuck in 'on' position (e.g., upper sensor always wet in Drain Mode). 2. Controller malfunction.	1. Clean and reposition sensors. Ensure they can freely detect water level changes. 2. Disconnect power and reconnect. If issue persists, contact support.

8. Specifications

Figure 8.1: Controller Dimensions.

Feature	Specification
Model	KJ-033
Brand	Ortis
Input Voltage	220V / 110V AC
Output Current	15A
Max Load Power	Up to 2 HP
Sensor Material	Stainless Steel
Adjustable Sensor Range	1/2 inch to 20 inches

Feature	Specification
Manufacturer	FJKJ INC.

9. Warranty and Support

For warranty information and technical support, please refer to the product packaging or contact the seller/manufacturer directly. Keep your purchase receipt as proof of purchase.

Manufacturer: FJKJ INC.