

Johnson Controls A19ADB-2

Johnson Controls A19ADB-2 Direct Immersion Temperature Controller User Manual

Model: A19ADB-2

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Johnson Controls A19ADB-2 Direct Immersion Temperature Controller. This device is designed for precise temperature regulation in various industrial and scientific applications, specifically within a 100/240°F range. Please read this manual thoroughly before attempting any installation or operation to ensure safe and efficient use of the product.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read and understand these instructions completely before proceeding.

- Always disconnect power before servicing the unit to prevent electrical shock.
- Ensure all wiring complies with local and national electrical codes.
- Installation should only be performed by qualified personnel.
- Do not exceed the specified electrical ratings of the device.
- Protect the device from moisture and extreme temperatures outside its operating range.

3. PRODUCT OVERVIEW

The Johnson Controls A19ADB-2 is a direct immersion temperature controller designed for applications requiring precise temperature sensing and control. It features a robust housing and an immersion bulb for direct contact with the medium being controlled. The unit is capable of operating within a temperature range of 100°F to 240°F.



Figure 1: Johnson Controls A19ADB-2 Direct Immersion Temperature Controller. This image shows the main unit with its gray protective casing, a visible adjustment dial on the top, and the copper immersion bulb extending from the right side, designed for direct contact with the controlled medium.

Key Features:

- Direct immersion sensing for accurate temperature measurement.
- Adjustable setpoint within 100°F to 240°F range.
- Durable construction suitable for industrial environments.
- Open-high (m/r open-hi) contact configuration.

4. SETUP AND INSTALLATION

Installation of the A19ADB-2 controller requires careful attention to detail and adherence to safety protocols. It is recommended that installation be performed by a certified technician.

4.1 Mounting the Controller

1. Select a suitable location for mounting the controller, ensuring it is easily accessible for adjustments and maintenance, and protected from excessive vibration or physical damage.
2. Ensure the immersion bulb can be fully submerged in the medium whose temperature is to be controlled.
3. Securely fasten the controller housing using appropriate mounting hardware.

4.2 Electrical Wiring

CAUTION: Disconnect all power before making electrical connections.

- Refer to the wiring diagram provided with the unit (not included in this general manual) for specific connection points.
- Connect the power supply wires to the designated terminals.
- Connect the load wires (e.g., to a heater or cooling element) to the appropriate control terminals.
- Ensure all connections are tight and secure to prevent loose contacts and potential hazards.

5. OPERATING INSTRUCTIONS

Once installed and wired, the A19ADB-2 controller is ready for operation.

5.1 Setting the Temperature Setpoint

1. Locate the adjustment knob on the top of the controller housing (refer to Figure 1).
2. Rotate the knob to align the desired temperature with the indicator mark. The temperature range is 100°F to 240°F.
3. The controller will now maintain the temperature of the immersed medium at or around the setpoint.

5.2 Understanding Control Action

The A19ADB-2 features an "open-high" (m/r open-hi) contact configuration. This typically means the control contacts open when the sensed temperature rises above the setpoint, and close when the temperature falls below the setpoint. This action is suitable for applications where the controlled device (e.g., a heater) needs to be turned off when the temperature is too high.

6. MAINTENANCE

The Johnson Controls A19ADB-2 is designed for reliable operation with minimal maintenance. However, periodic checks can help ensure its longevity and accuracy.

- **Cleaning:** Keep the exterior of the controller clean and free from dust and debris. Use a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connections:** Periodically inspect electrical connections for tightness and signs of corrosion.
- **Immersion Bulb:** Ensure the immersion bulb is clean and free from buildup that could affect temperature sensing accuracy.
- **Calibration:** While the unit is factory calibrated, if precise accuracy is critical and deviations are suspected, professional recalibration may be required.

7. TROUBLESHOOTING

This section provides solutions to common issues encountered with the A19ADB-2 temperature controller.

| Problem | Possible Cause | Solution |
|--------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Controller not responding | No power supply; Loose wiring; Blown fuse/tripped breaker. | Check power connections; Verify wiring integrity; Reset breaker/replace fuse. |
| Inaccurate temperature reading | Immersion bulb not fully immersed; Buildup on bulb; Controller out of calibration. | Ensure full immersion; Clean the bulb; Contact service for recalibration. |
| Temperature fluctuates widely | Improper setpoint; External environmental factors; Controller malfunction. | Adjust setpoint; Shield from drafts/heat sources; Contact service if malfunction suspected. |

If troubleshooting steps do not resolve the issue, contact Johnson Controls technical support or a qualified service technician.

8. SPECIFICATIONS

| Attribute | Detail |
|-----------------------|-----------------------------------------|
| Model | A19ADB-2 |
| Brand | Johnson Controls |
| Temperature Range | 100°F to 240°F |
| Control Action | Open-High (m/r open-hi) |
| Type | Direct Immersion Temperature Controller |
| National Stock Number | 5930-01-424-8404 |
| Manufacturer | Johnson Controls, Inc. |

9. WARRANTY AND SUPPORT

For specific warranty information regarding your Johnson Controls A19ADB-2, please refer to the documentation included with your purchase or visit the official Johnson Controls website. For technical support, service, or parts, please contact Johnson Controls customer service directly.

Contact Information: Please refer to the official Johnson Controls website for the most current contact details.

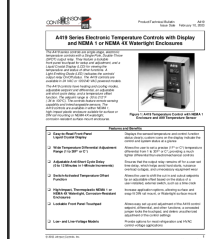
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Related Documents - A19ADB-2




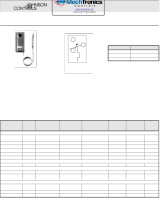

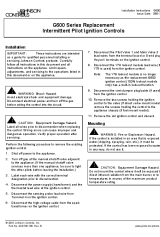
[PENN A19 Series Remote Bulb Control Catalog Page | Johnson Controls](#)

Catalog page for the PENN A19 Series Remote Bulb Controls, featuring single-stage temperature controls with liquid-filled sensing elements. Includes selection charts, technical specifications, replacement parts, and contact information.



[A419 Series Electronic Temperature Controls with Display and NEMA 1 or NEMA 4X Watertight Enclosures](#)

This technical bulletin from Johnson Controls details the A419 Series Electronic Temperature Controls, designed for single-stage refrigeration and HVAC applications. It covers features, benefits, NEMA 1 and NEMA 4X enclosure options, operation, wiring, adjustments, troubleshooting, fault codes, ordering information, and technical specifications.

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|  | <p>Johnson Controls A421 Series Electronic Temperature Controls with Off-Cycle Defrost Installation Instructions</p> <p>Comprehensive installation guide for Johnson Controls PENN A421 Series Electronic Temperature Controls, featuring off-cycle defrost functionality. Covers product overview, applications, dimensions, mounting, wiring, setup, adjustments, troubleshooting, and technical specifications.</p> |
|  | <p>Johnson Controls A19 Series Remote Bulb Control - Temperature Sensors</p> <p>Detailed specifications and selection guide for Johnson Controls A19 Series remote bulb temperature controls, used in HVAC, heating, ventilating, and refrigeration applications. Includes model numbers, electrical ratings, and features.</p> |
|  | <p>Hx 3 Touch Screen Thermostat User Information Manual</p> <p>This user information manual provides detailed instructions and guidance for the Johnson Controls Hx 3 Touch Screen Thermostat (Model: S1-THXU430W), covering installation, features, operation, app connectivity, and settings.</p> |
|  | <p>G600 Series Replacement Intermittent Pilot Ignition Controls Installation Instructions</p> <p>Comprehensive installation, mounting, wiring, setup, operation, and troubleshooting guide for the Johnson Controls G600 Series Replacement Intermittent Pilot Ignition Controls.</p> |