

## ICM Controls ICM325A

# ICM Controls ICM325A Single Phase Head Pressure Control User Manual

## 1. INTRODUCTION

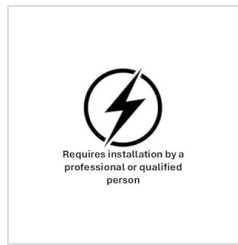
The ICM Controls ICM325A is a sophisticated single-phase head pressure control designed to optimize the performance of air conditioning and heat pump systems, particularly in low ambient temperature conditions. This device intelligently modulates condenser fan speed to prevent common issues such as evaporator freeze-ups, low pressure cut-outs, and liquid-slugged compressors, thereby extending the lifespan of the system and ensuring consistent cooling or heating operation.

## 2. KEY FEATURES

- **Smart Fan Speed Control:** Automatically adjusts fan speed based on temperature and pressure inputs, ensuring efficient system operation.
- **System Protection:** Helps prevent evaporator freeze-ups, low pressure cut-outs, and liquid-slugged compressors, safeguarding the system in cold environments.
- **Heat Pump Compatibility:** Features integral bypass circuitry for seamless operation in both heating and cooling modes.
- **Wide Voltage Range:** Supports 120-600 VAC line voltage and 24-240 VAC control voltage, offering broad application flexibility.
- **NFC Configuration:** Enables easy setup and real-time monitoring via Near Field Communication (NFC) using the ICM OMNI App.
- **Reliable Design:** Constructed to be durable, RoHS compliant, and lead-free for safe and long-lasting performance.

## 3. SAFETY INFORMATION

**WARNING:** Installation and servicing of this product must be performed by a qualified, experienced HVAC technician. Failure to follow these instructions could result in property damage, personal injury, or death. Always disconnect power before installing or servicing the unit.



*Image 1: Icon indicating that installation requires a professional or qualified person. This emphasizes the critical nature of proper electrical handling and system integration.*

Ensure all local and national electrical codes are followed during installation. Use appropriate personal protective equipment (PPE).

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## 4. SETUP AND INSTALLATION

The ICM325A is designed for integration into existing HVAC systems. Due to the electrical nature and complexity of HVAC systems, installation should only be carried out by a certified professional. The unit can be configured wirelessly using the ICM OMNI App via Near Field Communication (NFC), simplifying the setup process.



*Image 2: An angled view of the ICM Controls ICM325A, a blue rectangular electronic control module with various terminals and indicator lights visible on its top surface. The ICM Controls logo and model number ICM325A are clearly printed on the unit, indicating its design and connection points.*

Refer to the detailed wiring diagrams and specific installation instructions provided with the product packaging for precise connection procedures. The NFC capability allows for quick parameter adjustments and diagnostics without direct physical interaction with the unit's terminals once installed.

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## 5. OPERATION

The ICM325A operates by continuously monitoring system conditions and adjusting the condenser fan motor speed. It functions as either a temperature-sensitive or pressure-sensitive motor fan speed control, depending on the system's requirements and configuration. This dynamic control eliminates the overshoots commonly associated with traditional on/off or pressure switch controls, leading to more stable and efficient system performance.

In low ambient conditions, the control actively prevents evaporator freeze-ups and low pressure cut-outs by maintaining optimal head pressure. For heat pump applications, the integral bypass circuitry ensures that

the speed control is electronically bypassed when the system is operating in heating mode, allowing for proper heat pump function.

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## 6. MAINTENANCE

The ICM325A is designed for reliable, long-term operation with minimal maintenance requirements. Periodic inspection by a qualified HVAC technician is recommended to ensure all connections remain secure and the unit is free from environmental damage or debris. No user-serviceable parts are inside the unit. Any issues or suspected malfunctions should be addressed by a professional.

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## 7. TROUBLESHOOTING

If the ICM325A or the HVAC system it controls is not functioning as expected, consider the following general troubleshooting steps:

- **Power Supply:** Verify that the unit is receiving the correct line and control voltages as specified in the installation guide.
- **Connections:** Ensure all wiring connections are secure and correctly terminated according to the wiring diagram. Loose connections can lead to intermittent operation.
- **Sensor Placement:** Confirm that any external sensors (if used) are correctly installed and positioned according to manufacturer guidelines.
- **NFC Diagnostics:** Utilize the ICM OMNI App with NFC to check for diagnostic codes or operational parameters that might indicate a fault.

For complex issues or persistent problems, it is strongly recommended to contact a qualified HVAC technician for professional diagnosis and repair.

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## 8. SPECIFICATIONS

Model Number	ICM325A
Product Dimensions	6 x 2 x 4 inches
Weight	11.29 ounces
Manufacturer	ICM
First Available	October 12, 2023

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## 9. REPLACEMENT INFORMATION

The ICM325A serves as a direct replacement for various head pressure control models, including:

- ACT: FM2000
- Hoffman: 800, 800A, 800AA, 814-50, 816-10

- Ranco: E31 Series
- Johnson Controls: P66AAB/P66AAD
- ICM Controls: ICM325H, ICM325HNV, ICM326HN, ICM327HN, ICM333, and all single-phase legacy LAQS Series Head Pressure Controls.

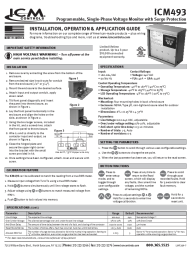
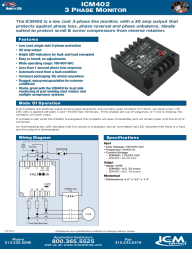


Image 3: An image of the American flag with the text 'USA INNOVATION' below it, signifying the product's origin and design philosophy, highlighting its domestic development.

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Related Documents - ICM325A

	<p><a href="#">ICM325A Single Phase Universal Head Pressure Control Installation Guide</a></p> <p>Installation, operation, and application guide for the ICM325A Single Phase Universal Head Pressure Control. Features NFC technology for programming via the ICM Omni App, dual sensor inputs, heat pump bypass, and universal voltage.</p>
	<p><a href="#">ICM325A Single Phase Universal Head Pressure Control Installation Guide</a></p> <p>Comprehensive installation, operation, and troubleshooting guide for the ICM325A Single Phase Universal Head Pressure Control by ICM Controls, featuring NFC technology for programming.</p>
	<p><a href="#">ICM325A Single Phase Universal Head Pressure Control Installation and Operation Guide</a></p> <p>Detailed guide for installing, operating, and troubleshooting the ICM325A Single Phase Universal Head Pressure Control by ICM Controls. Features NFC connectivity, universal voltage, and variable fan speed control for HVAC systems.</p>
	<p><a href="#">ICM401A 3-Phase Monitor: Phase Loss &amp; Reversal Protection Installation Guide</a></p> <p>Detailed installation guide and specifications for the ICM401A 3-phase line voltage monitor by ICM Controls. Learn about its operation, troubleshooting, and safety precautions for phase loss and reversal protection.</p>

 <p>ICM493 Programmable Single-Phase Voltage Monitor with Surge Protection INSTALLATION, OPERATION &amp; APPLICATION GUIDE</p> <p>This manual is for the ICM493 Programmable Single-Phase Voltage Monitor with Surge Protection. It provides detailed instructions for installation, operation, and application of the device. The guide covers safety precautions, installation steps, calibration procedures, and button functions for HVAC and industrial applications.</p>	<p><a href="#">ICM493 Programmable Single-Phase Voltage Monitor with Surge Protection Installation Guide</a></p> <p>Detailed guide for installing, operating, and applying the ICM493 Programmable Single-Phase Voltage Monitor with Surge Protection. Covers safety, installation steps, calibration, specifications, and button functions for HVAC and industrial applications.</p>
 <p>ICM402 3-Phase Monitor</p> <p>This ICM402 is a 3-phase monitor that monitors the voltage, current, and power of a 3-phase system. It is designed to protect against phase loss, phase reversal, and phase unbalance. The device is ideal for compressors and other 3-phase equipment.</p> <p>Features:</p> <ul style="list-style-type: none"><li>3-Phase Voltage Monitoring</li><li>3-Phase Current Monitoring</li><li>3-Phase Power Monitoring</li><li>Phase Loss Protection</li><li>Phase Reversal Protection</li><li>Phase Unbalance Protection</li></ul> <p>Specifications:</p> <ul style="list-style-type: none"><li>Voltage: 0-600V AC</li><li>Current: 0-100A AC</li><li>Power: 0-100kW</li></ul>	<p><a href="#">ICM402 3-Phase Monitor: Features, Specifications, and Wiring</a></p> <p>Detailed information on the ICM402 3-Phase Monitor, including its features, technical specifications, and wiring diagrams. This device protects against phase loss, phase reversal, and phase unbalance, ideal for compressors.</p>