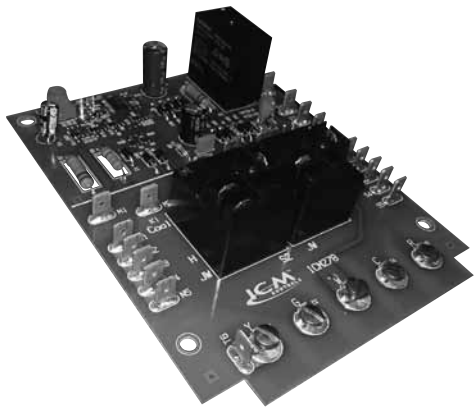




ICM278 Fan Control Board



Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com



Replacement Description

The **ICM278** Fan Control Board is a new generation control for the replacement market.

It is a fit and functional replacement of the OEM control for the following Carrier part numbers: HH84AA017 and HH84AA018 (replaces both boards together).

Specifications

- Input Voltage**
 - Terminals: N1-N5, S1-S5, H, L, L1, D1 120/240 VAC
 - Terminals: Y, G, W, C, R, W2, X, HL, PS1, PS2 18-30 VAC
- Line Frequency** 60 Hz
- Operating Temperature** -40°F to +176°F
- Maximum Operating Humidity** 95% R.H. Non-condensing @ 50°C
- Time Delays**
 - Heat **ON** 60 Seconds
 - Heat **OFF** 60-200 Seconds
 - Cool **OFF** 40 Seconds

Introduction

This application guide covers the installation of the Gas Furnace Control Center, Part No. **ICM278**, in an intermittent ignition, induced draft, or condensing gas furnace.

Safety Considerations

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained personnel should install or service heating equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils, or cleaning and replacing filters. All other operations should be performed by trained personnel only. When working on heating equipment, observe precautions in the literature, on tags, and on labels attached to the unit.

Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available.

CAUTION!: Before beginning the installation or modification, be sure the main electrical disconnect switch is in the OFF position.

CAUTION!: Failure to carefully read and follow these instructions before servicing or operating this control, could result in personal injury, death and/or property damage.

Operational Differences and Added Features

The **ICM278** replaces two OEM Carrier boards. One board (HH84AA017) is used to control the blower fan motor, while the second board (HH84AA018) is mounted to the blower board to control the inducer fan. The **ICM278** combines the functionality of the two boards with a single aftermarket product that controls the blower and inducer fans.

Installation Instructions

1. Disconnect wiring from the blower control center.
**** Note:** *The wiring between the two blower speed relays must be removed as well, and reused on the ICM278. Tag each wire as it is disconnected from the old furnace board. Disconnect all wiring hookups.*
2. Remove the existing blower control boards.
3. Install the ICM278 into the furnace.
4. Reconnect all of the wire(s) that were removed in Step 1 above, to the proper terminals.
5. Turn power to ON position and check unit sequence of operation per unit installation instructions.
6. These instructions must be placed with the original unit instruction packet, or with the unit for future reference.

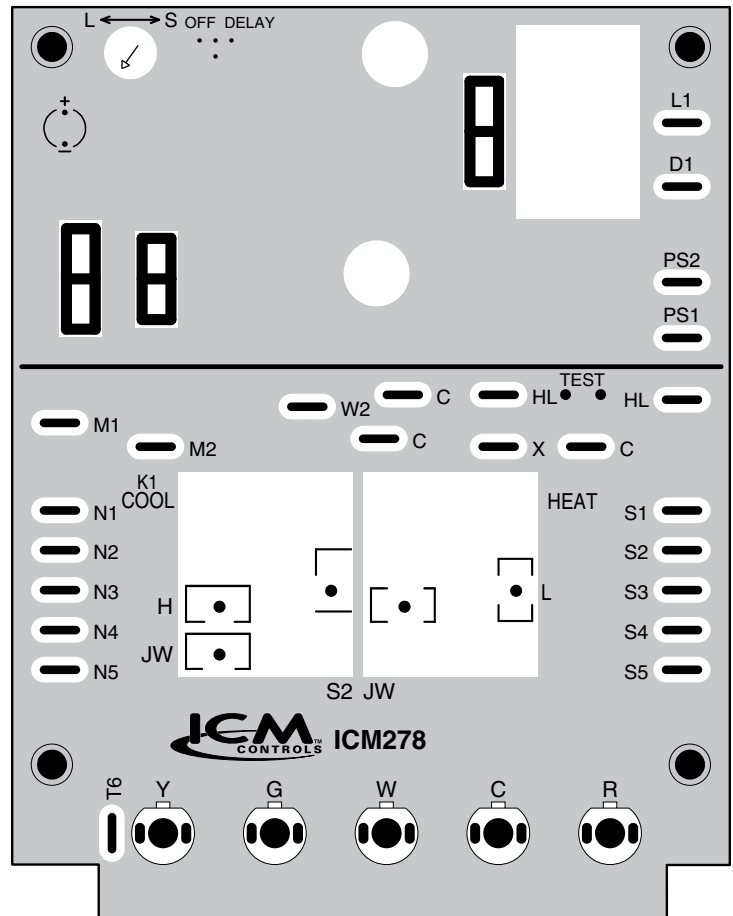
Troubleshooting

WARNING!: High voltage! Troubleshooting this fan control board involves working with high voltage which can result in personal injury, death and/or property damage.

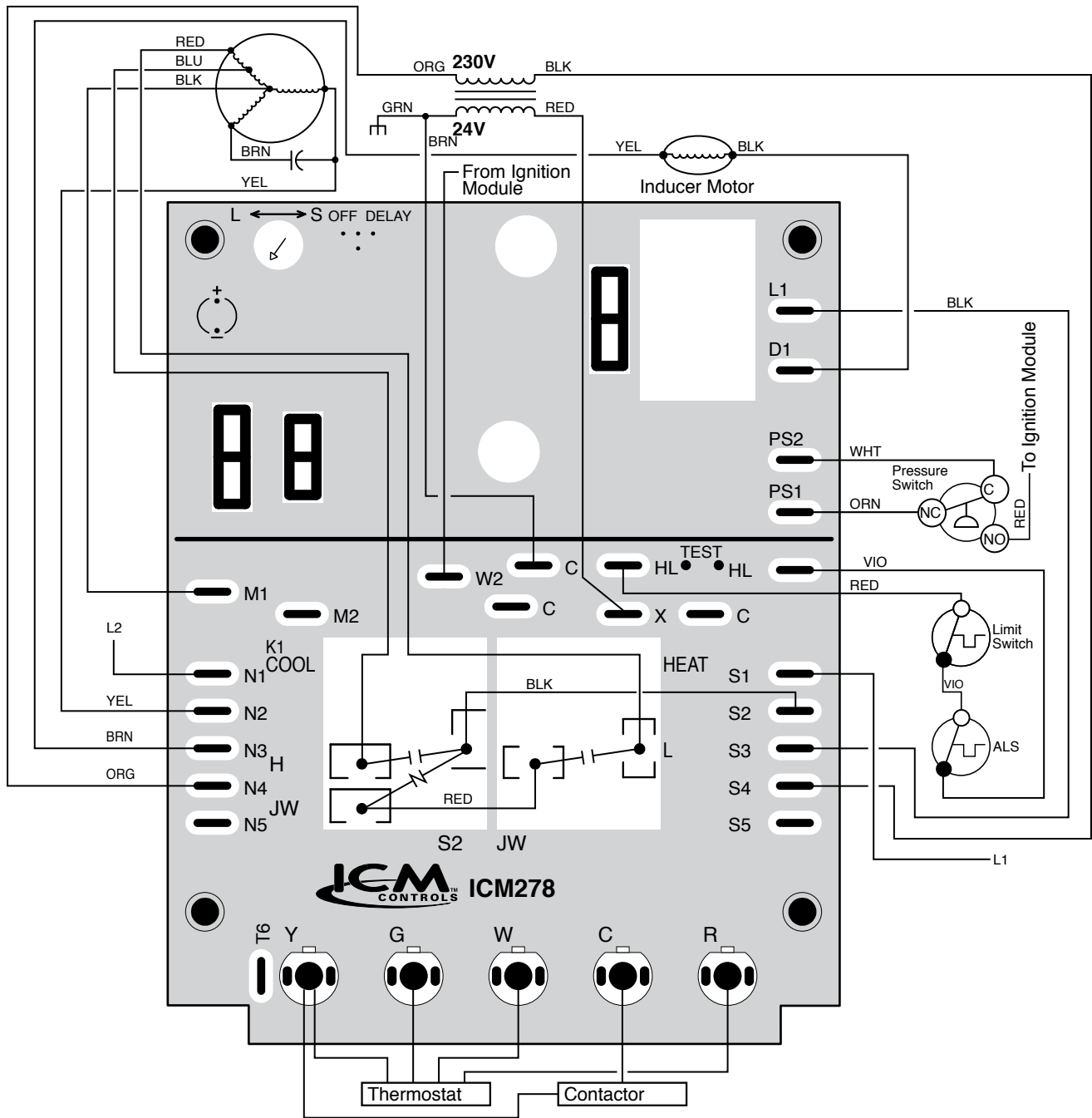
CAUTION!: Always disconnect power by removing a fuse or opening a circuit breaker before doing continuity checks. Verify power is not present before troubleshooting.

CAUTION!: Troubleshooting tasks should only be performed by those trained to install or service HVAC equipment.

Component Layout



Wiring Diagram



Troubleshooting

Symptom	Remedy
Inducer fan does not start on heat call	<ul style="list-style-type: none"> • Check that there is 24 VAC between R and C • Check that the pressure switch is wired correctly
Blower will not turn on during heat call	<ul style="list-style-type: none"> • Check that there is 24 VAC between R and C (limit switches) • Check that jumper wire JW is in place • Check that there is 24 VAC between W2 (from ignition module) and C • Check that there is 120/240 VAC between N2 and S2
Wrong DOB fan delay for heat call	<ul style="list-style-type: none"> • Verify that the PT1 potentiometer is set correctly • Verify that the test pins are not shorted
Blower fan delays are too short	<ul style="list-style-type: none"> • Verify test pins are not shorted
Intermittent fan operation	<ul style="list-style-type: none"> • Check that there is 24 VAC between R and C • Bypass thermostat and test operation of fan control; with no power applied, remove wires to thermostat; use a jumper wire to initiate a call for heat/cool blower; if operation correct, thermostat or thermostat wire is faulty.

ONE-YEAR LIMITED WARRANTY

The Seller warrants its products against defects in material or workmanship for a period of one (1) year from the date of manufacture. The liability of the Seller is limited, at its option, to repair, replace or issue a non-case credit for the purchase prices of the goods which are provided to be defective. The warranty and remedies set forth herein do not apply to any goods or parts thereof which have been subjected to misuse including any use or application in violation of the Seller's instructions, neglect, tampering, improper storage, incorrect installation or servicing not performed by the Seller. In order to permit the Seller to properly administer the warranty, the Buyer shall: 1) Notify the Seller promptly of any claim, submitting date code information or any other pertinent data as requested by the Seller. 2) Permit the Seller to inspect and test the product claimed to be defective. Items claimed to be defective and are determined by Seller to be non-defective are subject to a \$30.00 per hour inspection fee. This warranty constitutes the Seller's sole liability hereunder and is in lieu of any other warranty expressed, implied or statutory. Unless otherwise stated in writing, Seller makes no warranty that the goods depicted or described herein are fit for any particular purpose.



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7313 William Barry Blvd., North Syracuse, NY 13212

(Toll Free) 800-365-5525 (Phone) 315-233-5266 (Fax) 315-233-5276

www.icmcontrols.com

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