iO HVAC Controls iO-LL Lag Controller Installation Guide

Contents

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Specifications:

- **Input:** 24VAC
- **Frequency:** 60/60 Hz
- **Contact Rating:** 12 Amps @ 24VAC
- **PC Board Dimensions:** 3.25 W x 5.5 H
- **Enclosure:** Mounted on Snap-Track ABS Plastic

Product Usage Instructions

Introduction:

The iO-LL Lead/Lag Controller is a versatile 24VAC-powered controller that offers true dual-stage control to balance run time between HVAC equipment and other redundant devices. It features dedicated terminals for power, inputs, and outputs with LEDs for visual indication.

Sequence of Operation:

In a dual-stage application, applying 24 volts to terminal 2 will close the lag output contacts. As long as 24 volts is maintained on terminal 1, the lag output can cycle on and off. The controller must be powered from the same 24 volts as Unit 1 control circuit or a relay will be required.

Wiring Diagrams:

The iO-LL can be applied in various lead/lag control setups. \Refer to the provided wiring diagrams in the

installation manual for different applications. It is important to ensure compliance with all electrical and plumbing codes based on the specific installation.

FAQ

- **What is the power source for the iO-LL Lead/Lag Controller?**
  - The controller is powered by 24VAC.
- **Can the iO-LL be used for single-stage cooling units?**
  - Yes, the iO-LL can be used with single-stage cooling units in parallel or with upstaging. Refer to the wiring diagrams for proper connections.
- **Is the iO-LL suitable for pump systems?**
  - Yes, the iO-LL can be used for 2 pump systems with a relay to trigger lead/lag operation. Check the provided wiring diagram for setup.

INTRODUCTION

The iO-LL is a versatile, 24VAC-powered lead/lag controller offering true dual-stage control to balance the operating run time between HVAC equipment as well as other redundant devices. The controller has dedicated terminals for 24VAC power, 2 inputs and 2 outputs. LEDs provide a visual indication for power and output status.

SEQUENCE OF OPERATION

When 24 volt power is first applied to the 24VAC terminals 7 and 8 on the iO-LL, Unit 1 and Unit 2\ output contacts remain open. When 24 volts is applied to input terminal 1, Unit 1 output contacts go closed and Unit 2 contacts remain open. When 24 volts is removed from terminal 1 for at least 10 seconds, Unit 1 output contacts open. When 24 volts is reapplied to terminal 1, Unit 1 output contacts remain open and Unit 2 output contacts go closed. The lead/lag sequence is reversed every time 24 Volts is removed from terminal 1 for more than 10 seconds and then reapplied. In a dual-stage application, 24 volts applied to terminal 2 will close the lag output contacts. As long as 24 volts is maintained on terminal 1, the lag output can be cycled on and off. The iO-LL Lead/Lag Controller must be powered from the same 24 volts as the Unit 1 control circuit or a relay will be required.

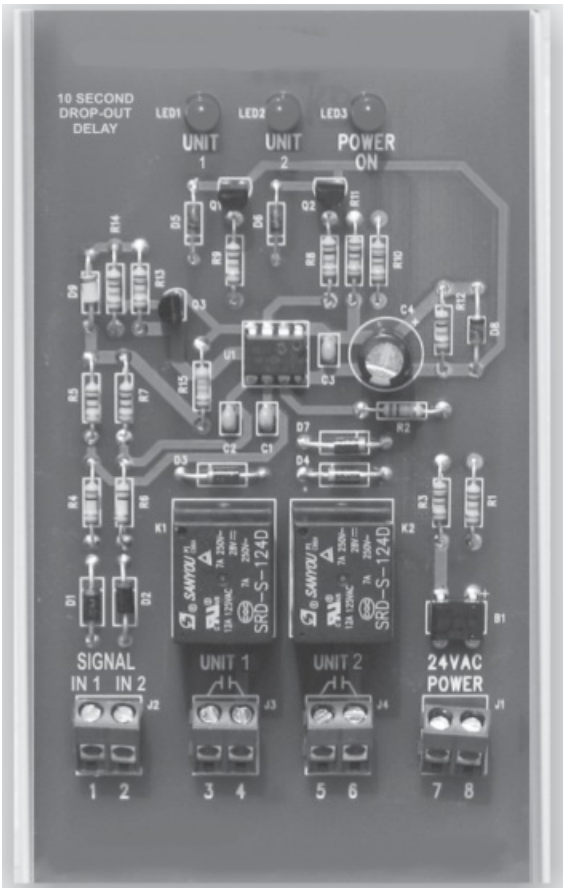
WIRING DIAGRAMS

The wiring diagrams illustrated in this installation manual represent a sampling of the many ways the iO-LL can be applied for lead/lag control. The iO-LL is an operating controller only and depending on the application, it is the responsibility of the installer to verify that the iO-LL complies with all electrical and/or plumbing codes.

SPECIFICATIONS

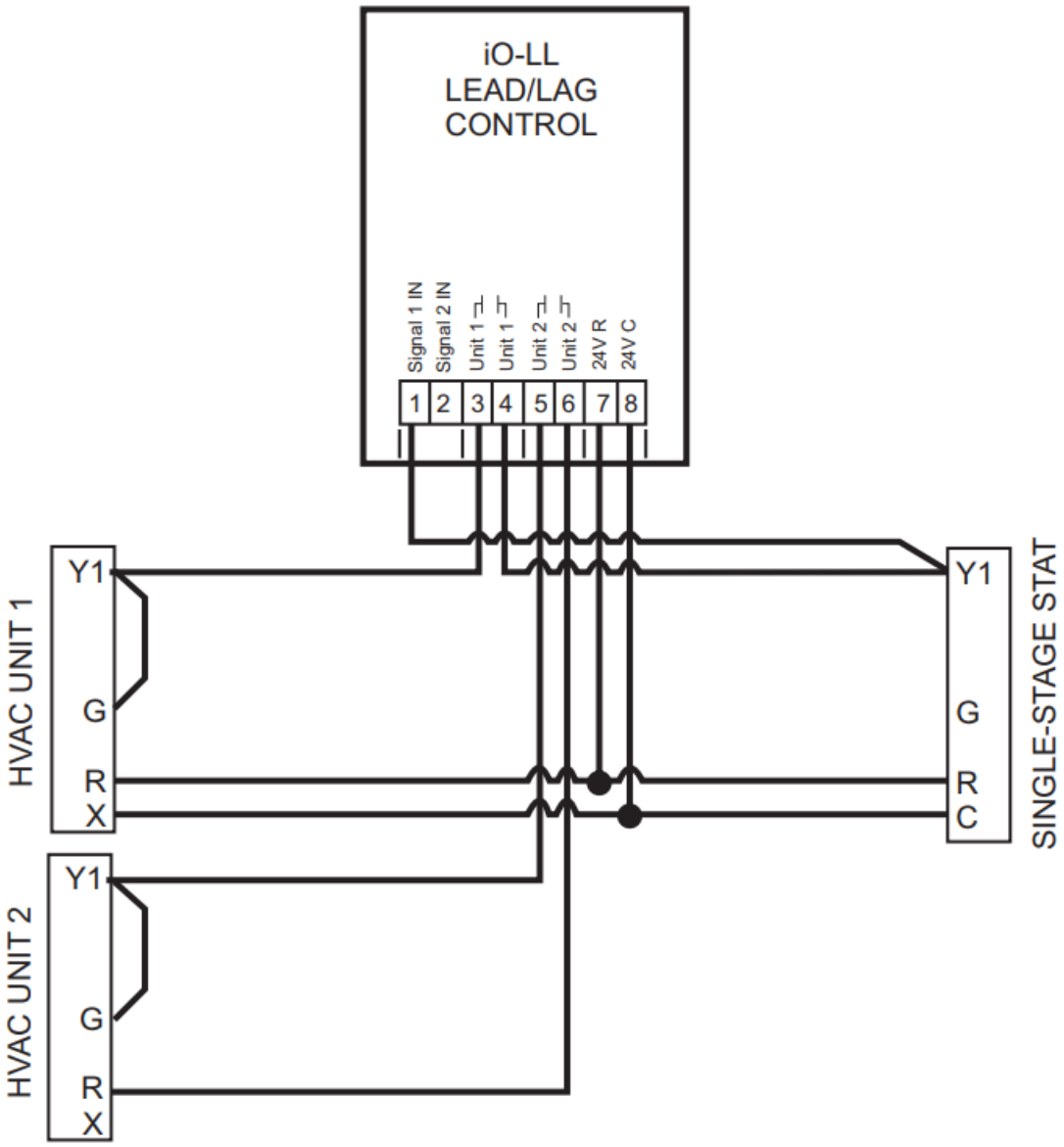
- Input: 24VAC
- Frequency: 60/60 Hz
- Contact Rating: 12 Amps @ 24VAC
- PC Board Dimensions: 3.25” W x 5.5” H
- Mounted on Snap-Track
- Enclosure: ABS Plastic

STAND ALONE APPLICATIONS

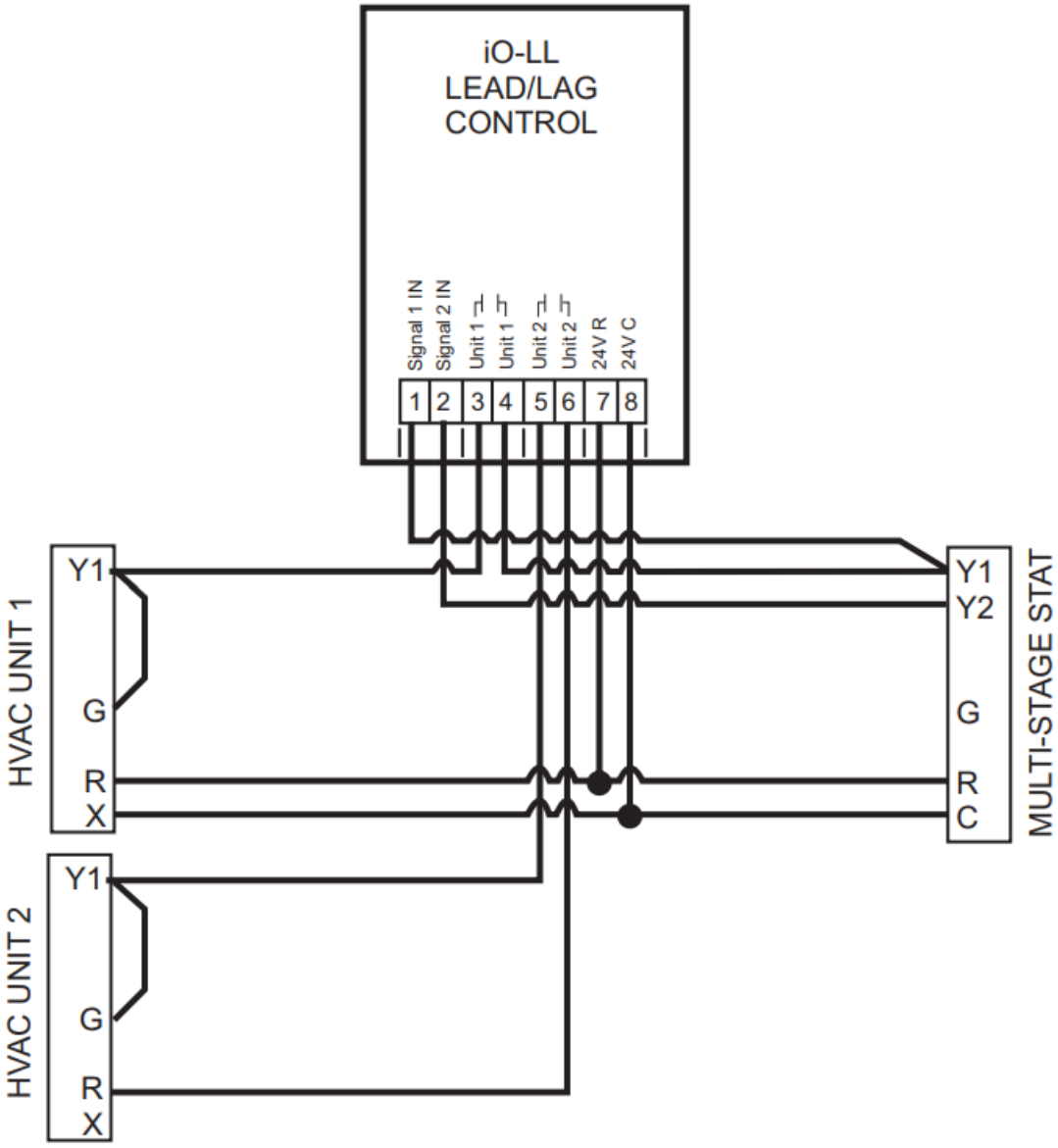


TYPICAL WIRING DIAGRAMS

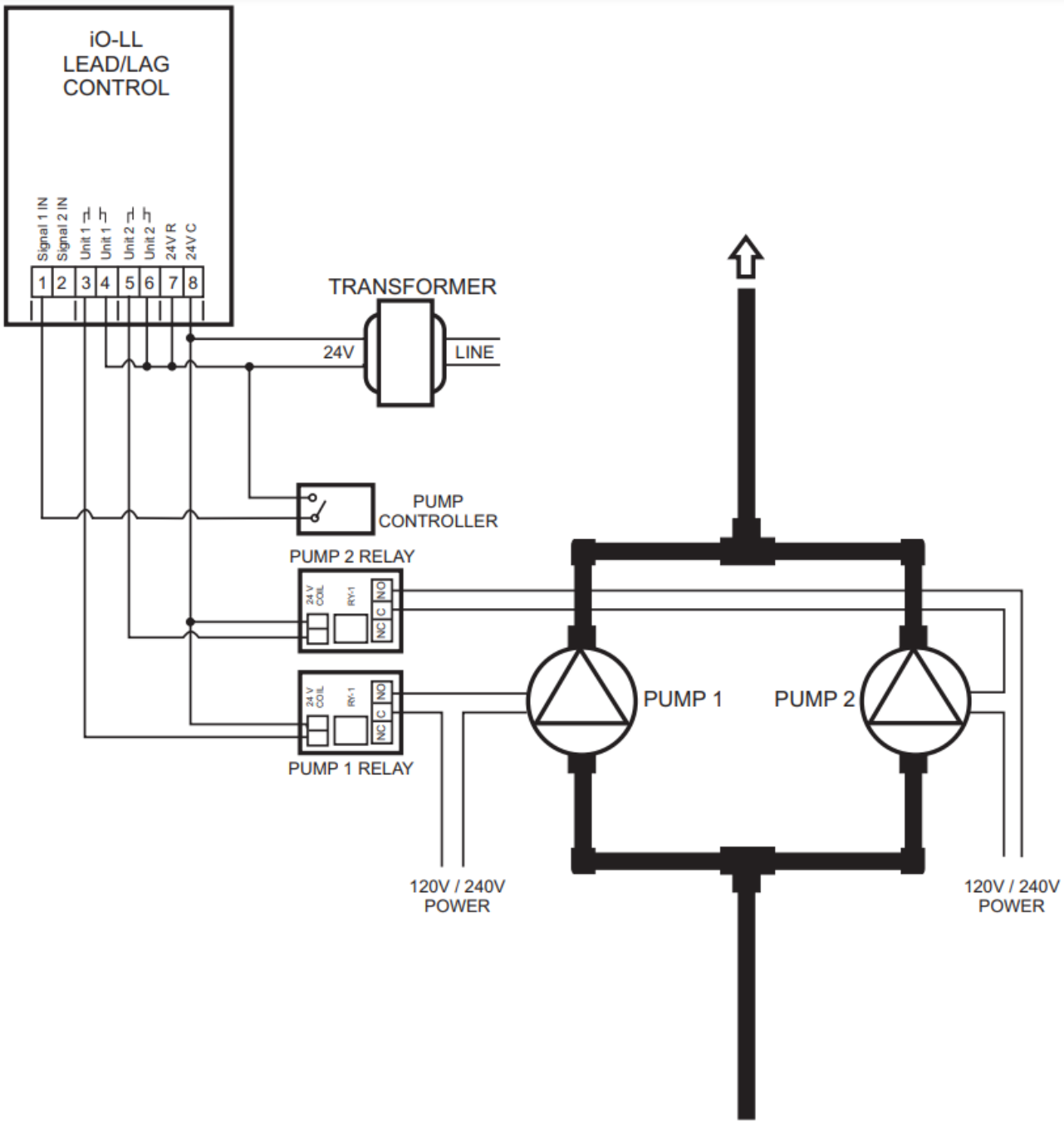
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER WITH SINGLESTAGE COOLING UNITS IN PARALLEL



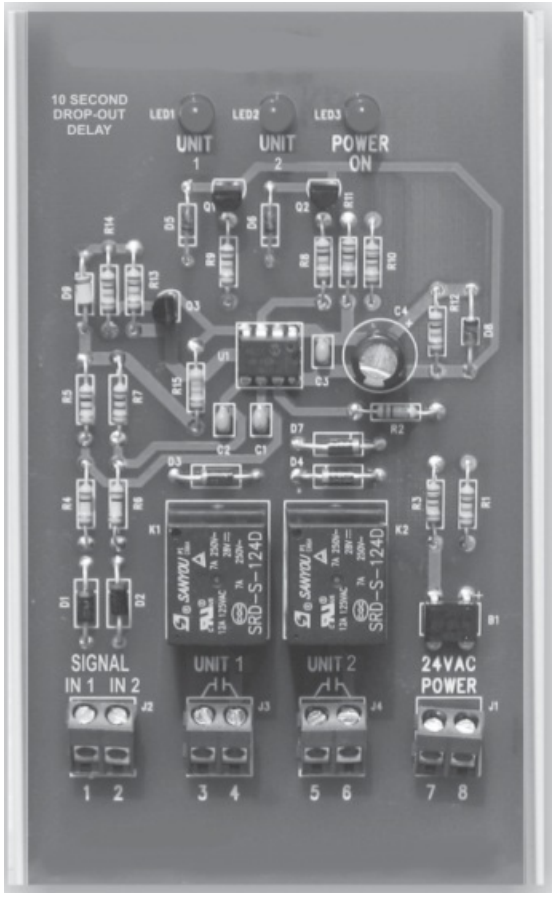
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER WITH SINGLESTAGE COOLING UNITS IN PARALLEL WITH UPSTAGING



WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER FOR 2 PUMP SYSTEM WITH A RELAY TO TRIGGER LEAD/LAG

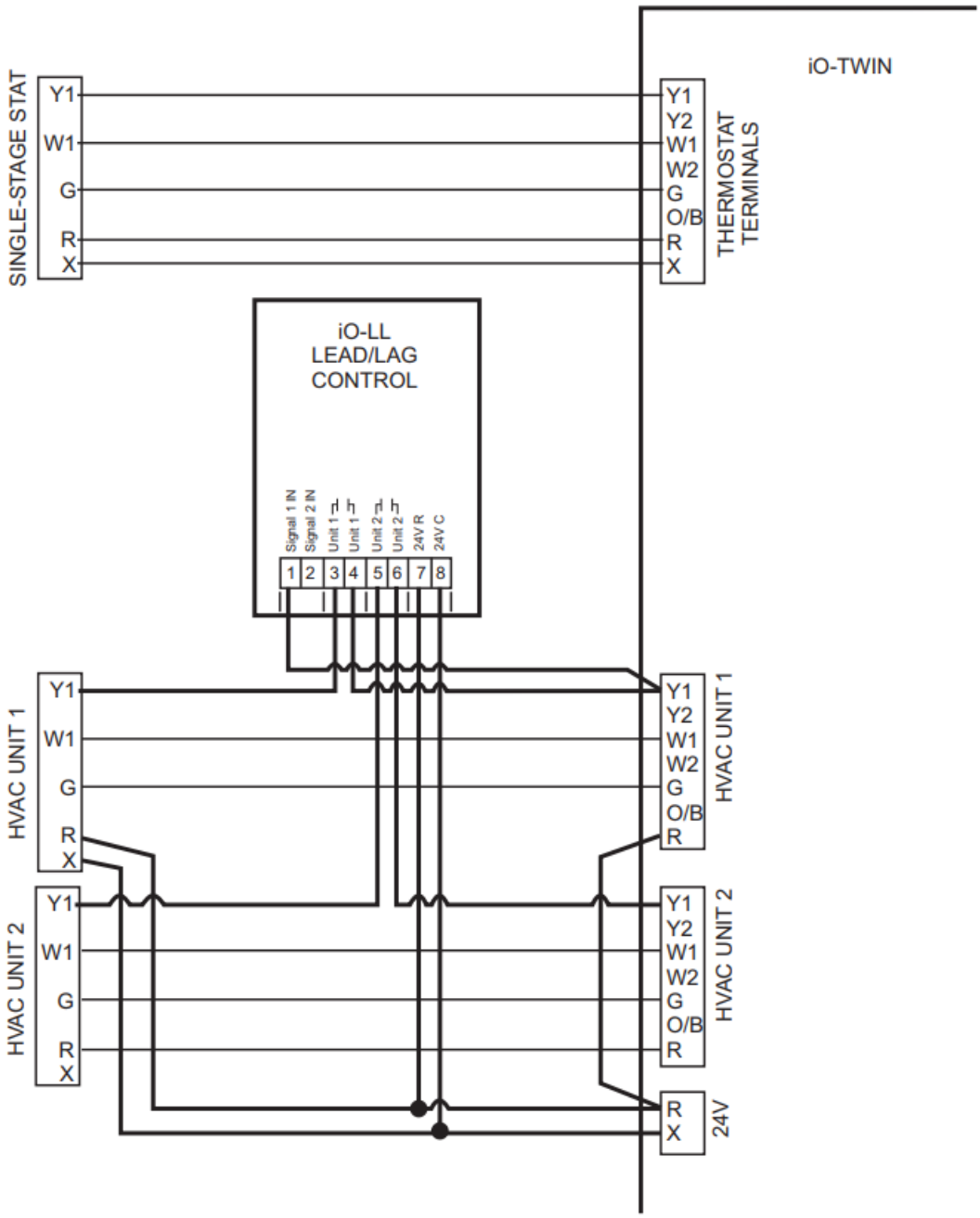


USED WITH iO-TWIN TWINNING AND PARALLELING KIT

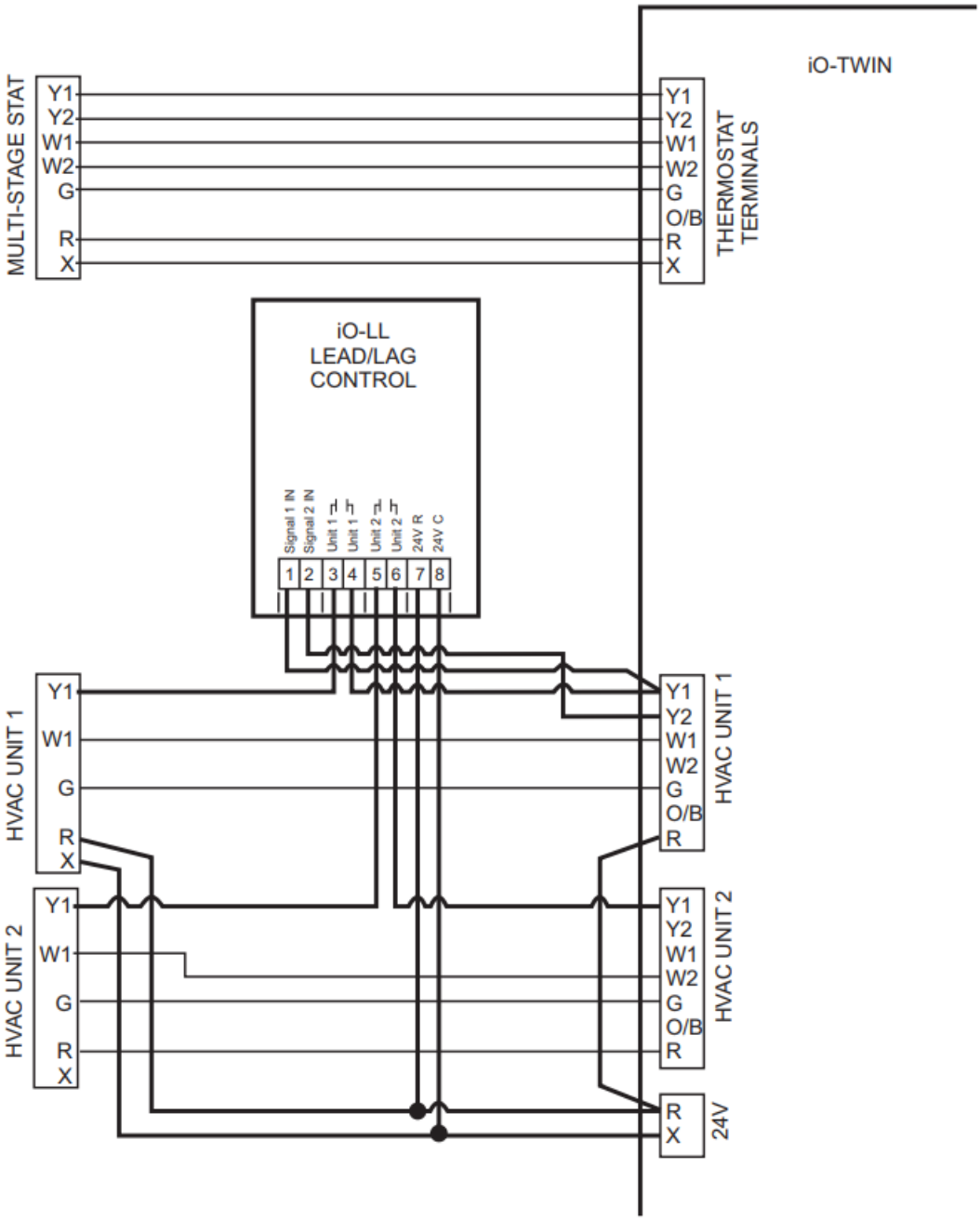


TYPICAL WIRING DIAGRAMS

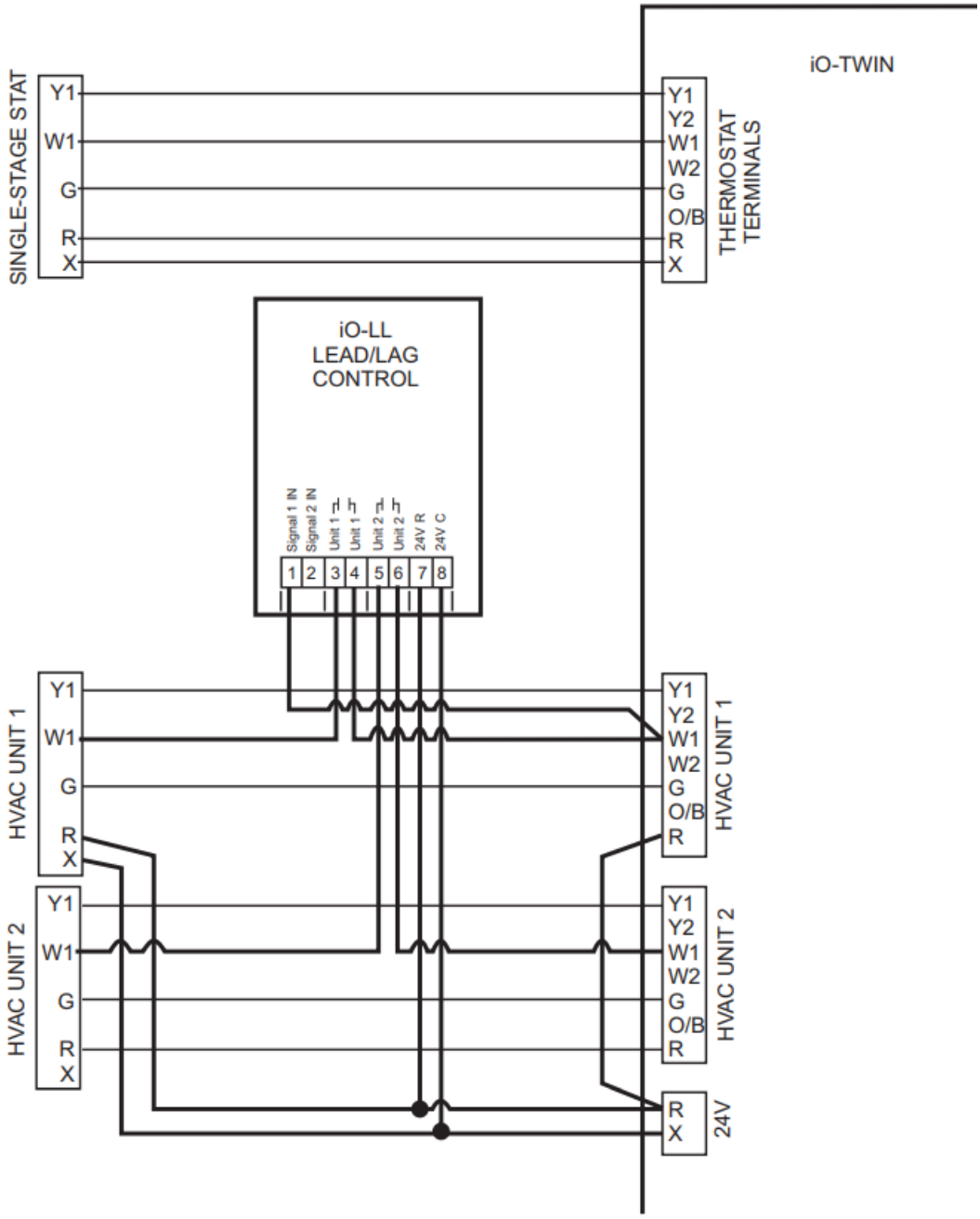
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER AND iO-TWIN TWINNING KIT FOR COOLING LEAD/LAG



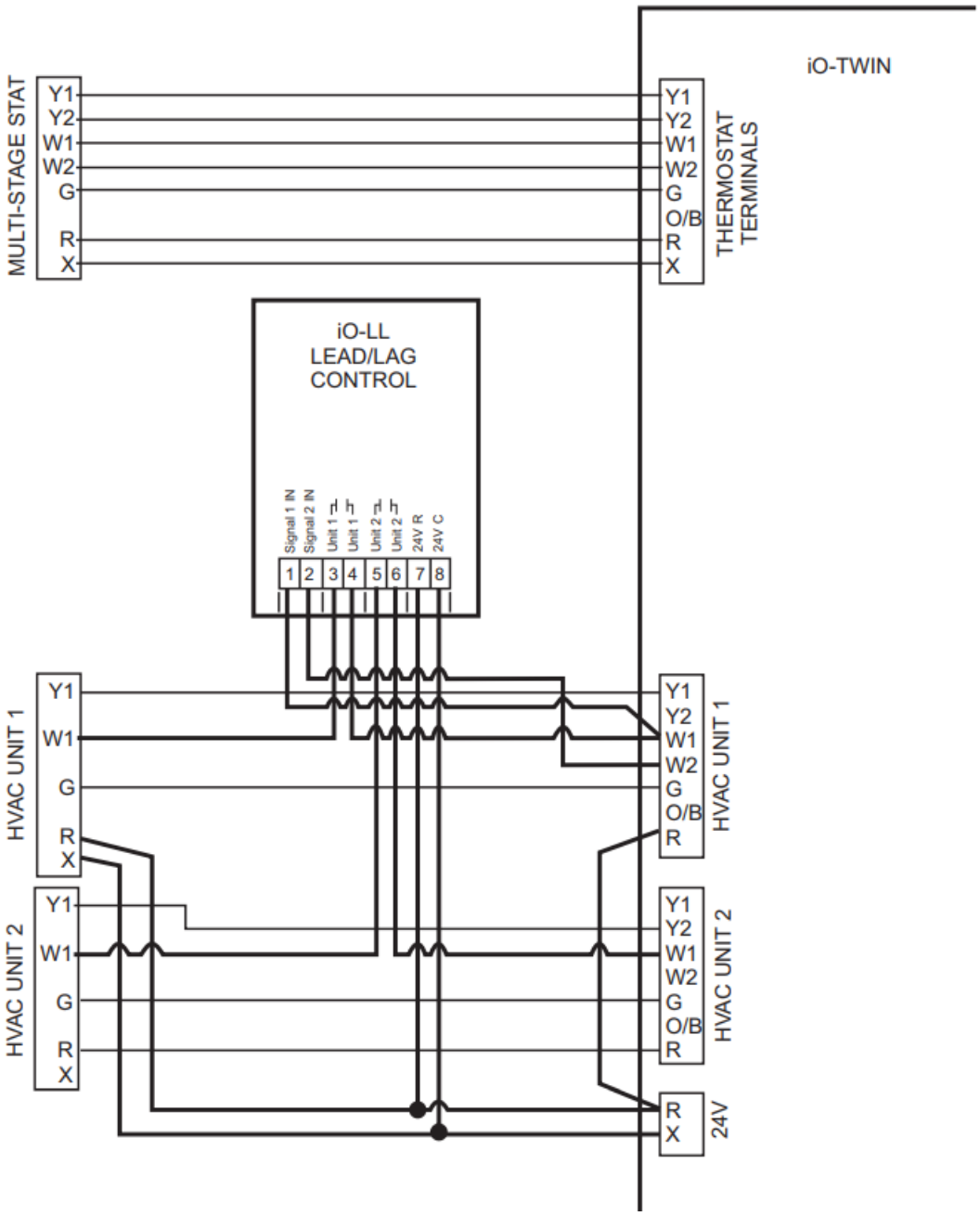
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER AND iO-TWIN TWINNING KIT FOR COOLING LEAD/LAG WITH UPSTAGING



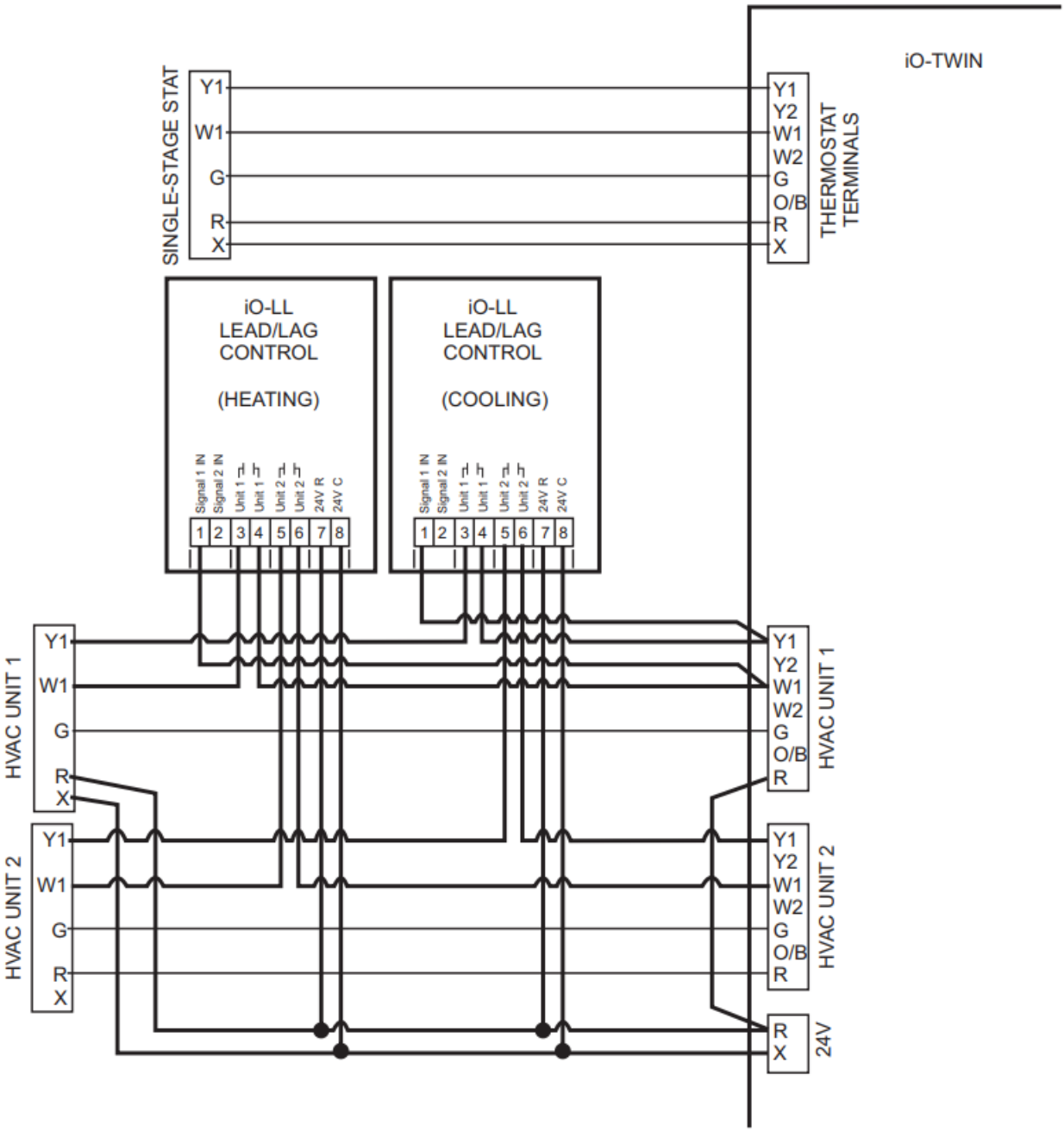
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER AND iO-TWIN TWINNING KIT FOR HEATING LEAD/LAG



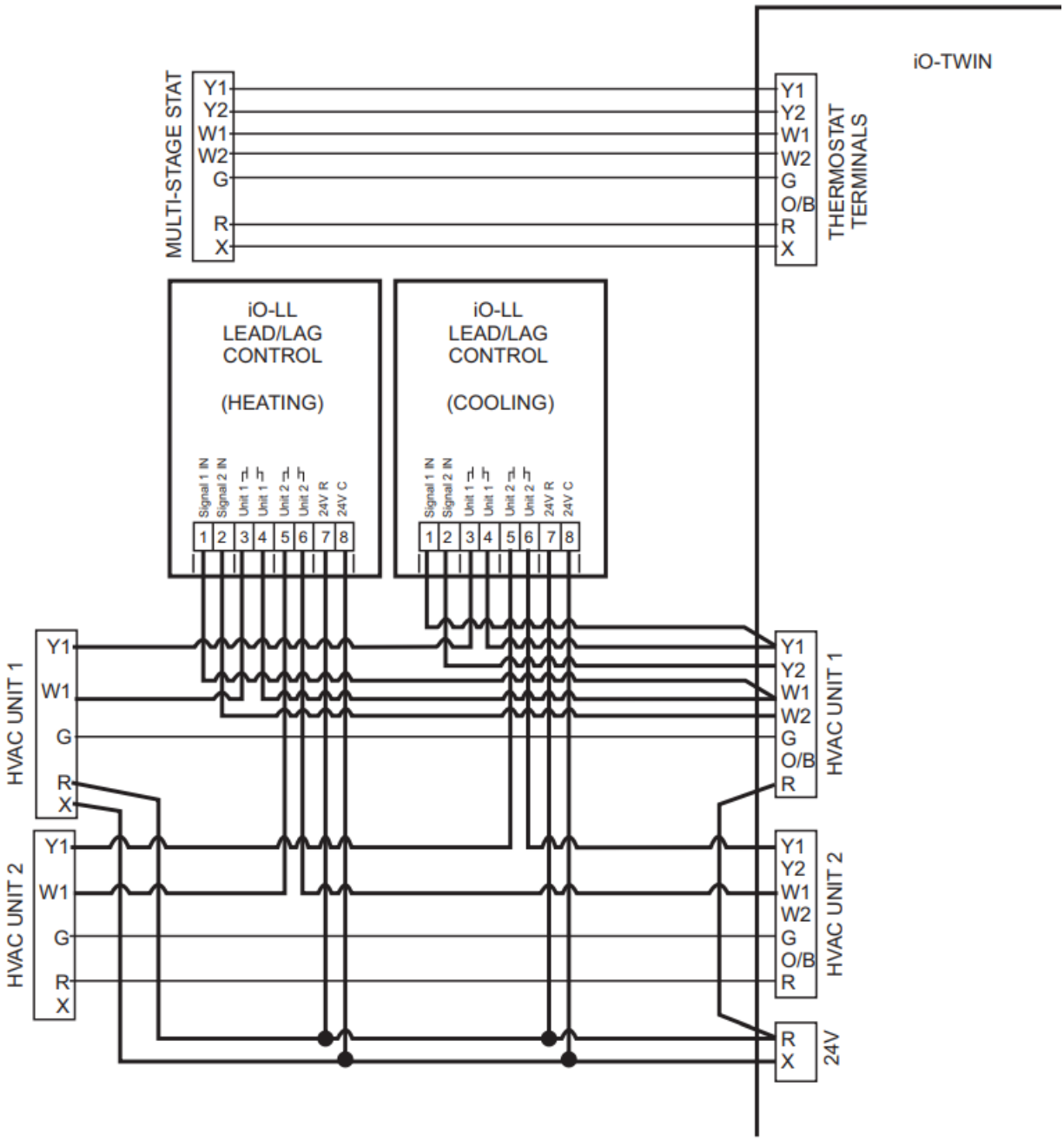
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLER AND iO-TWIN TWINNING KIT HEATING LEAD/LAG WITH UPSTAGING



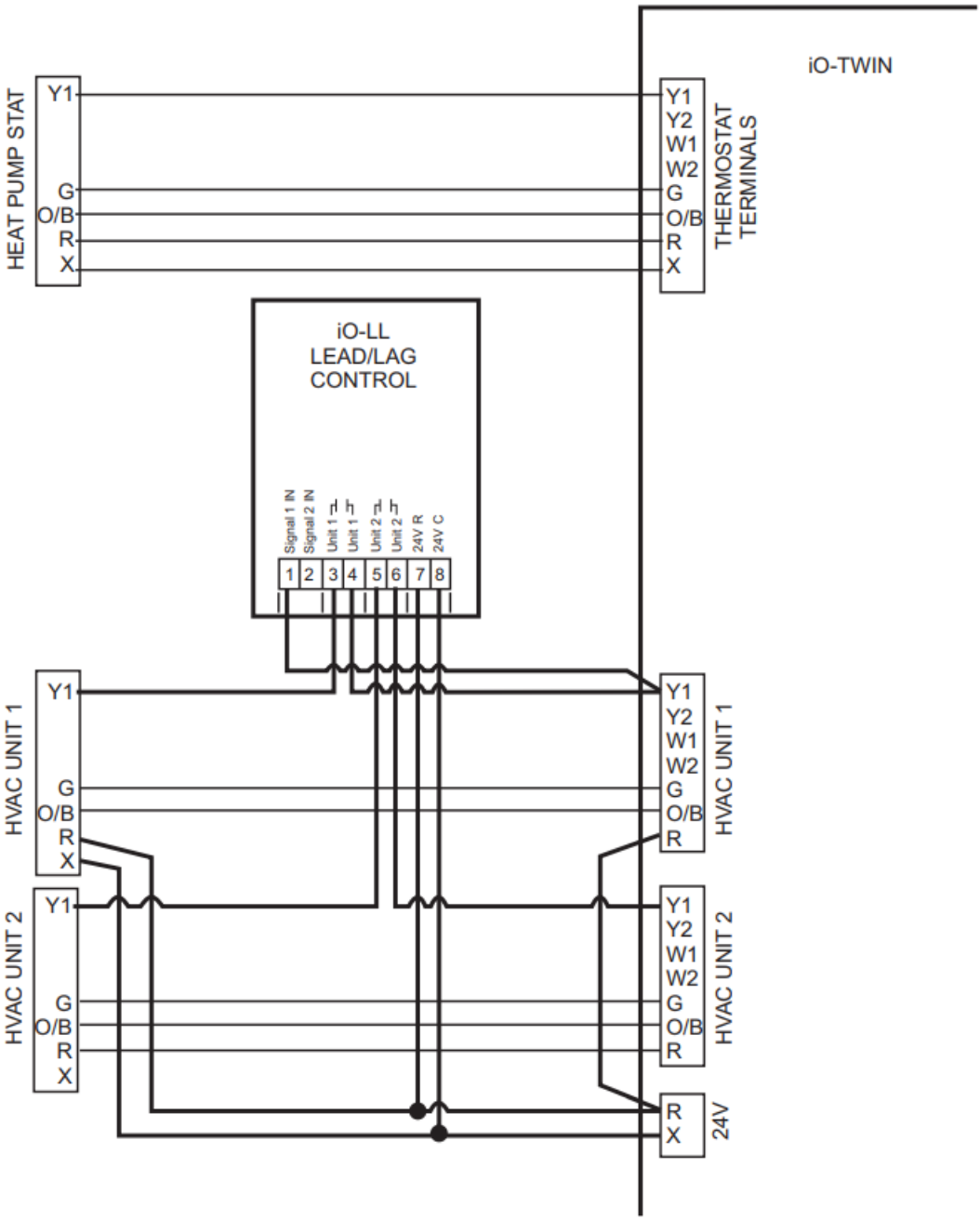
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT FOR HEATING AND COOLING LEAD/LAG



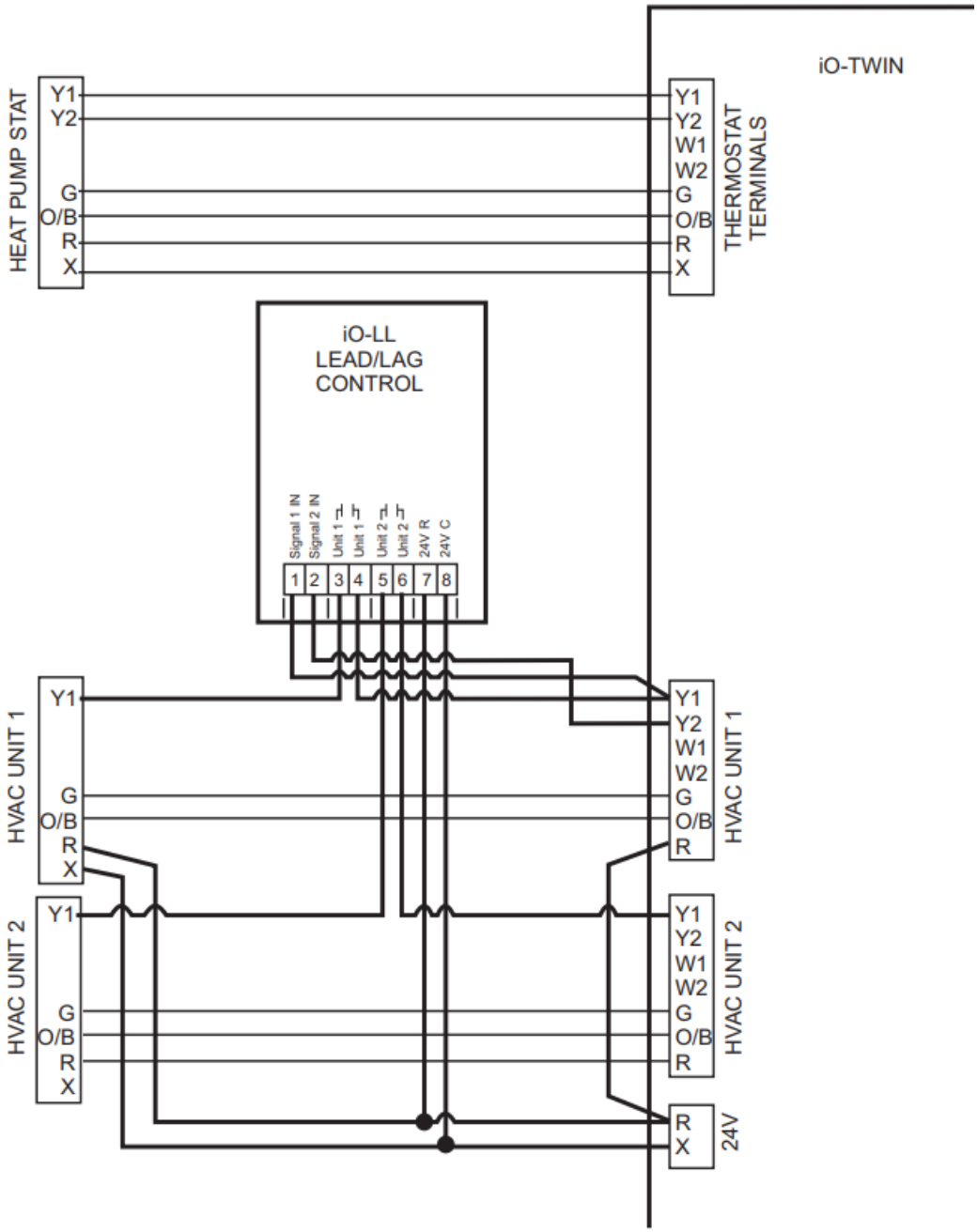
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT FOR HEATING AND COOLING LEAD/LAG WITH UPSTAGING



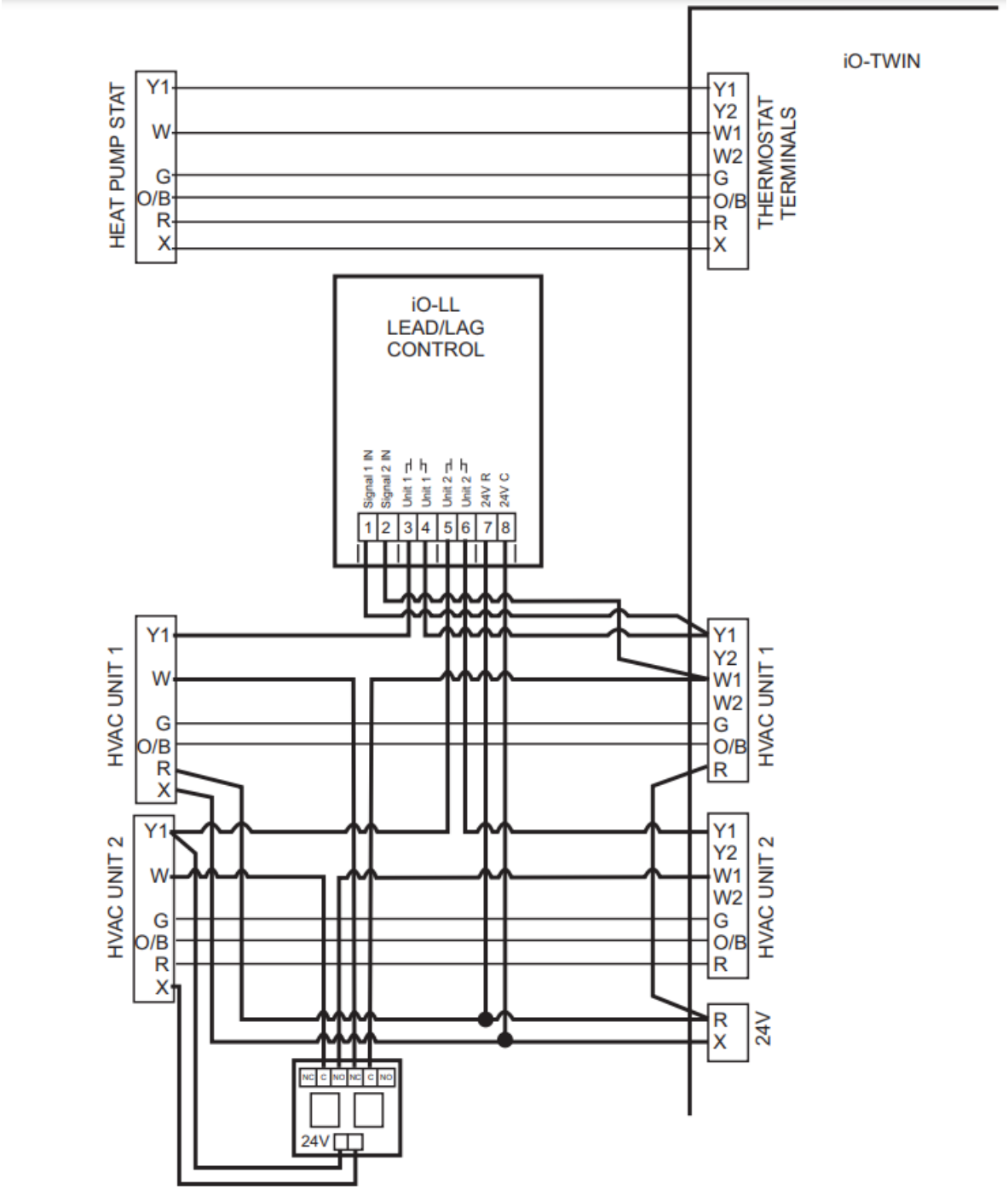
WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT FOR 1 HEAT / 1 COOL HEAT PUMP



WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT FOR 1 HEAT / 1 COOL HEAT PUMP WITH UPSTAGING

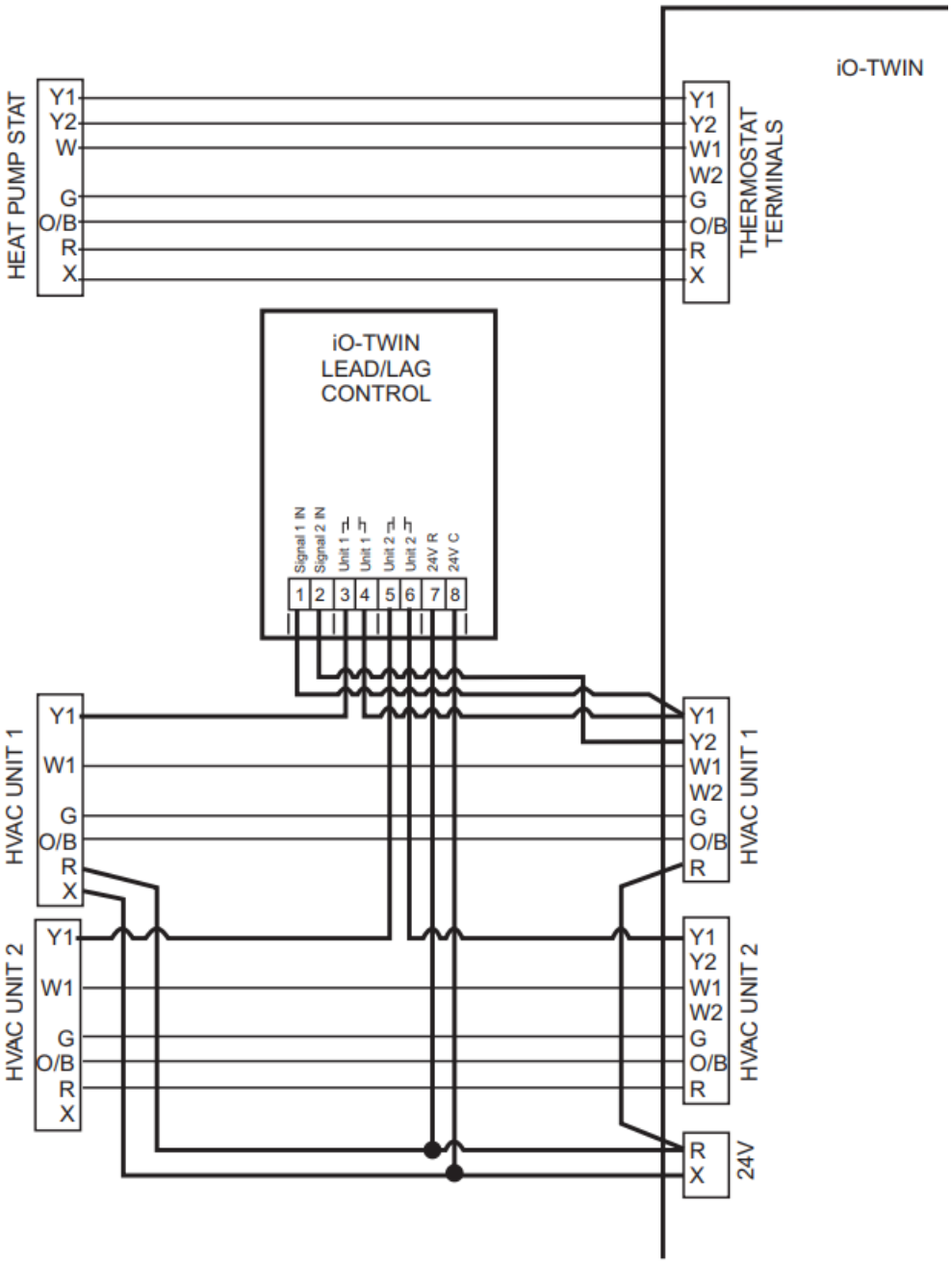


WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT AND RY-2 DPDT RELAY FOR 2 HEAT / 1 COOL HEAT PUMP



WIRING DIAGRAM USING iO-LL LEAD/LAG CONTROLLERS AND iO-TWIN TWINNING KIT FOR 2 HEAT / 1 COOL HEAT PUMP WITH UPSTAGING

(Auxiliary / EH Heat Work Together)



- www.iohvaccontrols.com
- For Technical Support Call Toll-Free: 866-225-5032

Documents / Resources

	iO HVAC Controls iO-LL Lag Controller [pdf] Installation Guide iO-LL, iO-LL Lag Controller, iO-LL, Lag Controller, Controller

References

- User Manual