iO-TWIN Universal Twinning and Paralleling Kit

GENERAL

The iO-TWIN Universal Twinning and Paralleling Kit™ is designed to allow a single thermostat to control two separate HVAC units. The iO-TWIN can also be expanded to control two additional HVAC units. The Universal Twinning and Paralleling Kit can be used with single stage (1 Heat / 1 Cool), multi-stage (2 Heat / 2 Cool) and heat pump (3 Heat / 2 Cool) equipment.

SEQUENCE OF OPERATION

The iO-TWIN is designed to control multiple HVAC units from a single thermostat. For example, if the thermostat calls for first stage cooling, Y1 and G on both HVAC units will be energized at the same time.

INSTALLATION

To install the panel, first slide the PC board out of its base and screw the base to a flat surface in a location that allows easy access to wiring. Reinstall the PC board by carefully centering it over the base and snapping it into the track grooves.

Connect a separate 24VAC, 40VA transformer to the twinning terminals marked H and X.

Only standard 18-gauge thermostat wire is required. The thermostat and HVAC units can be located up to 300 feet from the twinning kit.

The thermostat must be equipment compatible. (heat / cool stats for heat / cool equipment and heat pump stats for heat pumps)

Wire the thermostat to the terminals marked THERMOSTAT.
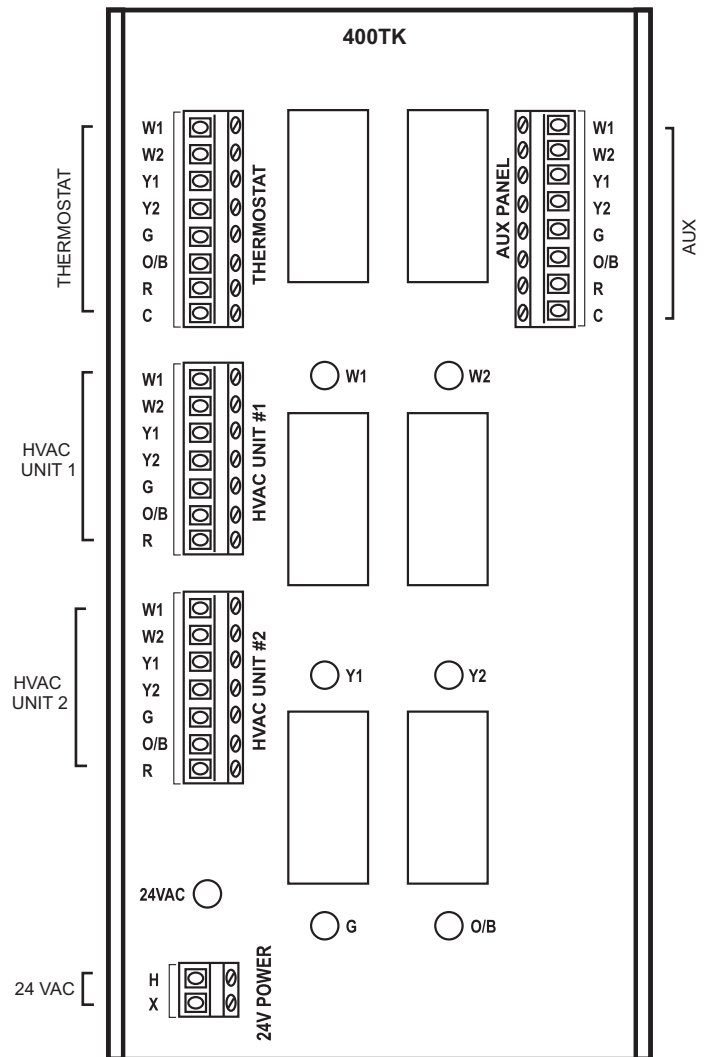
Wire appropriate HVAC unit to terminals marked HVAC UNIT #1 and HVAC UNIT #2.

Only identical furnaces should be twinned in order to help insure that both furnace fans start at the same time.

If furnaces are not identical, back draft dampers can be installed in either the supply or return duct.

Most furnaces with variable speed motors can be twinned. Contact Technical Support for additional information.

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SPECIFICATIONS

Panel Dimensions:
　　10" H x 5" W x 2" D

Mounting:
　　2 back plate screws

Operating Ambient Temperature:
　　-20° to 160° F

Power Supply:
　　24VAC 40VA transformer

TERMINAL DESIGNATIONS

STAT (Heat / Cool)
W1	First Stage Heat
W2	Second Stage Heat
Y1	First Stage Cool
Y2	Second Stage Cool
G	Fan
R	24VAC Hot
C	24VAC Common

STAT (Heat Pump)
W1	Auxiliary/Emergency Heat
Y1	First Stage Compressor
Y2	Second Stage Compressor
G	Fan
O/B	Reversing Valve
R	24VAC Hot
C	24VAC Common

HVAC UNIT (Heat / Cool)
W1	First Stage Heat
W2	Second Stage Heat
Y1	First Stage Cool
Y2	Second Stage Cool
G	Fan
R	24VAC Hot

HVAC UNIT (Heat Pump)
W1	Auxiliary/Emergency Heat
Y1	First Stage Compressor
Y2	Second Stage Compressor
G	Fan
OB	Reversing Valve
R	24VAC Hot

24 VAC POWER
H	24VAC Hot
X	24VACt Common

AUX PANEL
W1	To second panel THERMOSTAT W1
W2	To second panel THERMOSTAT W2
Y1	To second panel THERMOSTAT Y1
Y2	To second panel THERMOSTAT Y2
G	To second panel THERMOSTAT G
OB	To second panel THERMOSTAT OB
R	To second panel THERMOSTAT R
C	To second panel THERMOSTAT C

LED FUNCTIONS
W1	ON with call for first-stage heat or auxiliary/emergency heat
W2	ON with call for second-stage heat
Y1	On with call for first-stage cool or first-stage compressor
Y2	ON with call for second-stage cool or second-stage compressor
G	ON with call for fan
O/B	ON when reversing valve is energized

　　　　O = reversing valve energized on a call for cooling
　　　　B = reversing valve energized on a call for heating

AUXILIARY PANEL

Two iO-TWIN panels can be wired together to control up to four HVAC units. The auxiliary terminals on one panel wire to the thermostat terminals on the other. <u>The auxiliary terminals 'R' and 'C' also provide power to the second panel</u>. The sequence of operation remains the same whereby each HVAC unit's fan and stages of heating and cooling will be energized at the same time based on the thermostat input.