

# Fresh Air Ventilation Kit

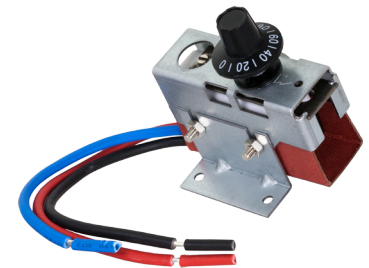
iO-FAV-o6  
iO-FAV-o8

The Fresh Air Ventilation system is designed to introduce fresh air into a home through an intake damper controlled by a micro-processor logic panel. The iO-FAV has single adjustment setup, exhaust fan control option, outdoor temperature and/or humidity limit option and damper override capabilities. It is easy to install and meets ASHRAE Standard 62.2. The iO-FAV kit comes with a control panel, 20VA transformer and 6" or 8" round damper. The control panel is available separately (iO-FAVPAN) and can be ordered with additional size dampers.

## Features and Benefits:

- Micro-controller logic panel
- Status LEDs
- Single adjustment setup
- "Damper Closed" override switch
- Meets ASHRAE Standard 62.2
- Exhaust fan control options
- Remote damper override options
- Outdoor temperature and humidity override option
- Optional On Demand CO<sub>2</sub> gas detection

**Warranty:** 5 years



*Outdoor Thermostat  
iO-ODT sold separately*

## Specifications:

<b>Mounting</b>	Aluminum back plate with mounting holes
<b>Panel Dimensions</b>	8.00" Height x 6.00" Width x 1.50" Depth
<b>Coverage</b>	1,500 – 4,000 ft <sup>2</sup>
<b>Adjustable Ventilation Schedule</b>	1 – 60 minutes
<b>Ventilation CFM Range</b>	40 – 150 CFM
<b>Power Requirement</b>	24VAC
<b>Damper Requirement</b>	24VAC, 10VA, power open/spring close actuator



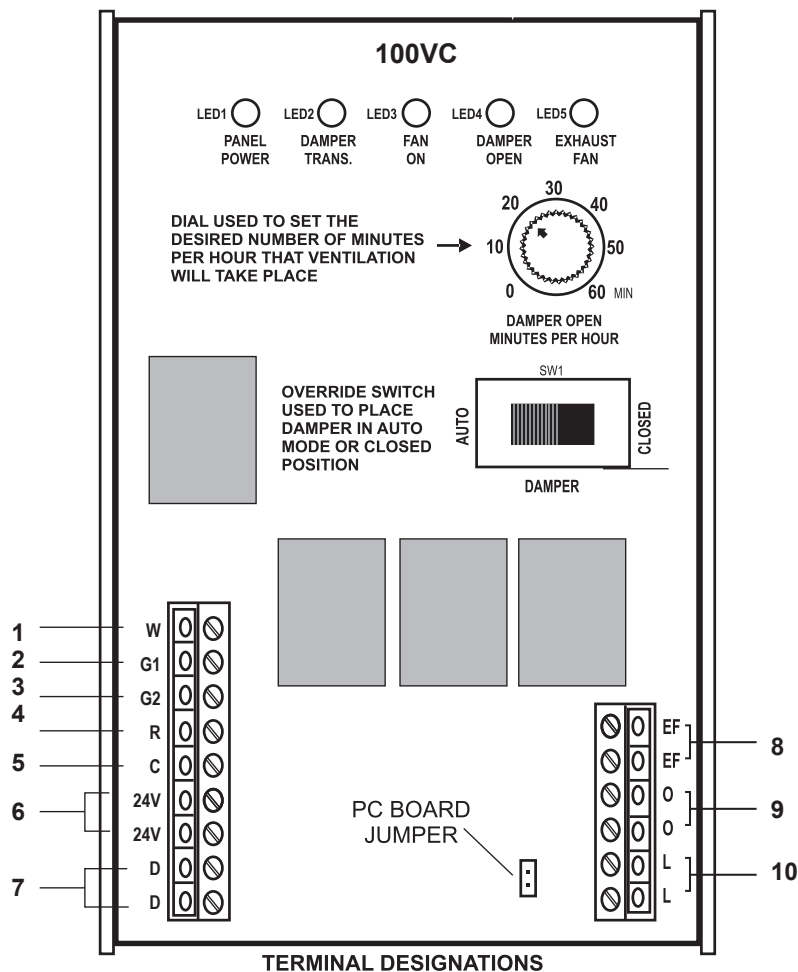
Sensors sold separately

Connecting the CO<sub>2</sub> sensor to the over-ride terminals on our Fresh Air Ventilation panel activates the On Demand Ventilation function to provide fresh air into areas or rooms with high concentrations of CO<sub>2</sub>. Contact iO HVAC Controls for engineering and installation instructions and schematics.

The ASENSE room and duct transmitters monitor the carbon dioxide (CO<sub>2</sub>) levels in industrial, school, and office type environments.

- Single beam non-dispersive infrared technology
- Relay energizes fresh air ventilation
- Combined output options of 0-5 VDC or 0-10 VDC and 0 to 20mA
- Measures the CO<sub>2</sub> concentration in the ambient air up to 2,000 ppm
- Limited 5 year manufacturer's warranty

FAV DIAGRAM



- 1 - WIRES TO 'W' ON THE HVAC UNIT OR 'Y' ON HEAT PUMP
- 2 - WIRES TO 'G' (FAN) ON THE THERMOSTAT
- 3 - WIRES TO 'G' (FAN) ON THE HVAC UNIT
- 4 - WIRES TO 'R' (24V HOT) ON THE HVAC UNIT
- 5 - WIRES TO 'C' (24V COMMON) ON THE HVAC UNIT
- 6 - SEPARATE 24V TO POWER DAMPER
- 7 - 24V TO DAMPER (POWER OPEN / SPRING CLOSED)
- 8 - DRY CONTACT EXHAUST FAN OPTION (N.O.)
- 9 - REMOTE DAMPER OVERRIDE OPTION (N.O.)
- 10 - OUTDOOR THERMOSTAT AND/OR HUMIDISTAT OVERRIDE OPTION (JUMPER MUST BE REMOVED)

# Wireless Relay Kit

iO-WR

**WIRELESS**  
PRODUCTS

The iO HVAC Controls Wireless Relay is the perfect solution when you can't run wire or existing wires have been cut or damaged. The Wireless Relay communicates wirelessly up to 100' between two devices via a 915MHz radio frequency. The Wireless Relay Kit contains 2 four-channel transceivers. The base module has 3 transmitting channels and 1 receiving channel. The satellite module has 3 receiving channels and 1 transmitting channel. The relays can be used to turn on and off, control or monitor heating and cooling equipment, condensing units, fans, pumps, lighting, and industrial equipment.



## Features and Benefits:

Can wirelessly control or monitor the following:

- Cooling equipment
- Heating equipment
- Condensing units
- Fans, pumps, lighting
- Industrial equipment
- Built-in signal strength indicator
- Satellite transceiver is equipped with weatherproof gasket so no separate enclosure needed to be outdoors

**Warranty:** 1 year

## Specifications: Base Module

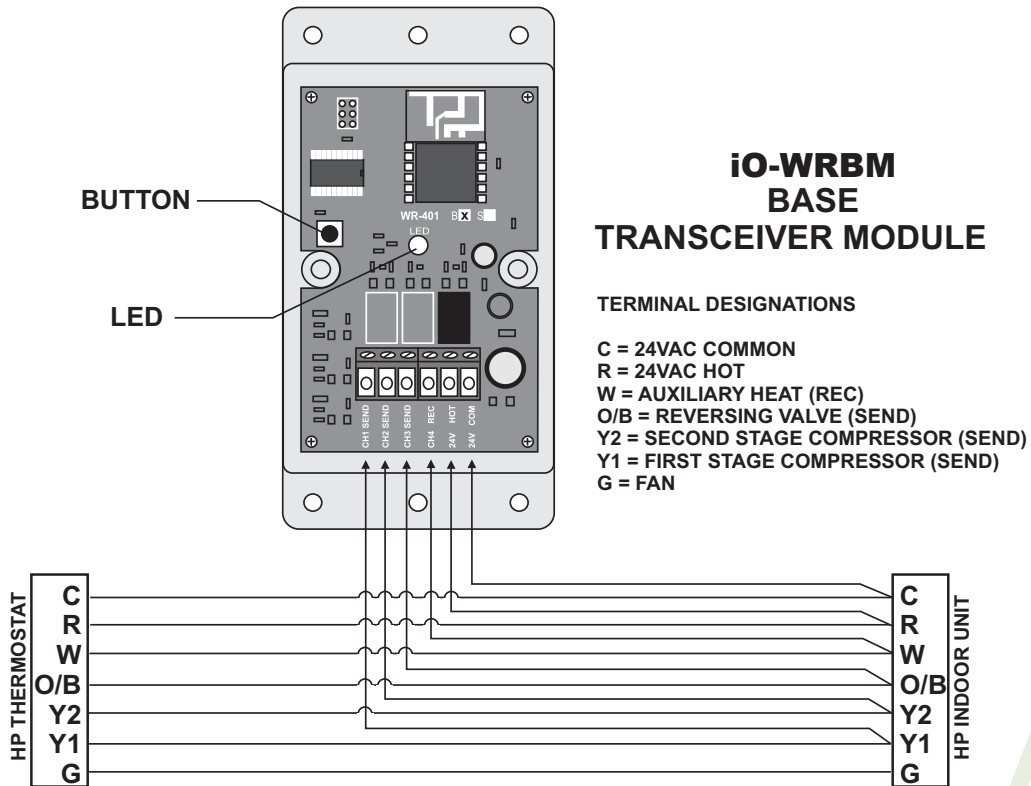
Dimensions	5.125" Height x 2.625" Width x 1.125" Depth
Input Voltage	24VAC
Channels	4 channels (3 send, 1 receive)
Contact Rating	1A per channel
Addresses	Unlimited kits can be installed in the same building
Frequency	915MHz proprietary protocol
Range	100' from satellite module depending on building type

## Specifications: Satellite Module

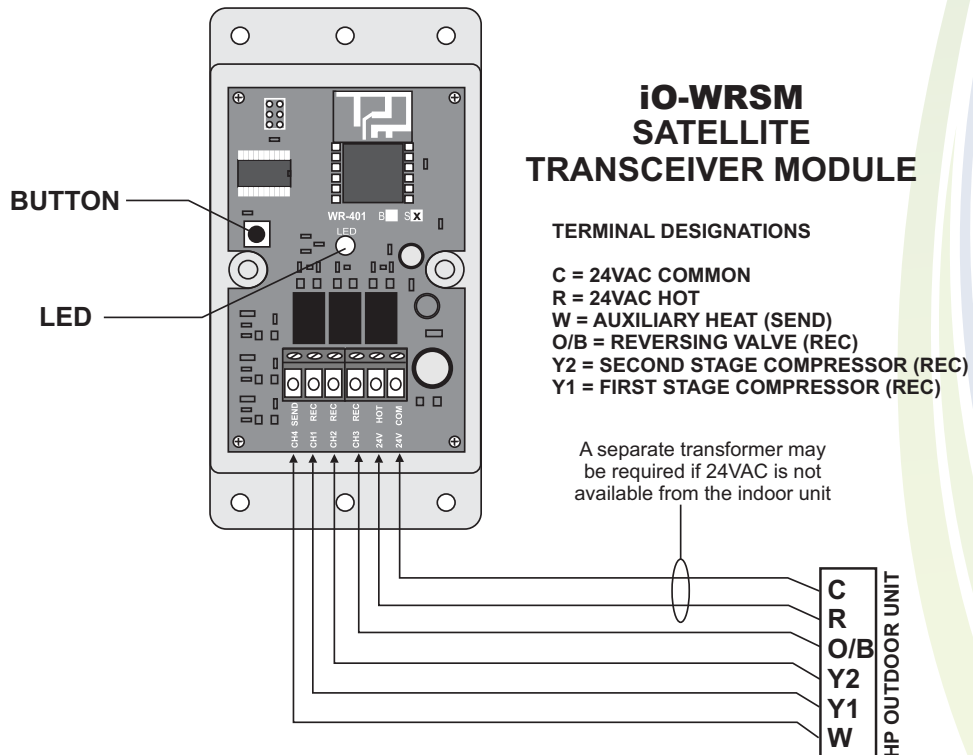
Dimensions	5.125" Height x 2.625" Width x 1.125" Depth
Input Voltage	24VAC
Channels	4 channels (1 send, 3 receive)
Contact Rating	1A per channel
Addresses	Unlimited kits can be installed in the same building
Frequency	915MHz proprietary protocol
Range	100' from base module depending on building type

# WIRELESS RELAY DIAGRAM

## TYPICAL WIRING FOR 3 HEAT / 2 COOL HEAT PUMP



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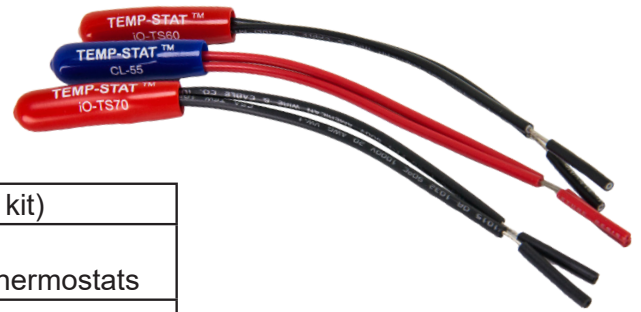
# Temp-Stat™

## Temporary Construction Thermostat

iO-TSXX

iO-CLXX

This temporary construction thermostat is preset to a non-adjustable temperature. Saves on energy costs during construction.



### Specifications:

<b>Input Voltage</b>	24VAC, 1A (line voltage control requires a relay kit)
<b>Heating Only</b>	41° F warehouse thermostat 55° F, 60° F, 65° F, 70° F, 75° F construction thermostats
<b>Cooling Only</b>	55° F compressor lockout thermostat 70° F, 75° F, 80° F construction thermostats

**Warranty:** 1 year

PART NUMBER	TEMPERATURE SETTING	DESCRIPTION
iO-TS60	60°	Heating application
iO-TS65	65°	Heating application
iO-TS70	70°	Heating application
iO-CL70	70°	Cooling application
iO-CL75	75°	Cooling application

### Special Application Thermostats

PART NUMBER	TEMPERATURE SETTING	DESCRIPTION
iO-TS41	41°	Heating application
iO-TS55	55°	Heating application
iO-CL55	55°	Compressor lock-out

# Conceal-A-Stat™

## Flush-Mounted, Tamper-Resistant Thermostats

iO-CSXXWP  
iO-CSACXXWP

This concealed thermostat is designed to control unit heaters, cabinet heaters, in-wall heaters, fan coils or air conditioning units. Common applications include locker rooms, entryways, warehouses and hallways.

### Specifications:

<b>Input Voltage</b>	24VAC, 1A (line voltage controls requires a relay kit)
<b>Heating Only</b>	41° F, 60° F, 65° F, 70° F
<b>Cooling Only</b>	70° F, 75° F

PART NUMBER	TEMPERATURE SETTING	DESCRIPTION
iO-CS41WP	41°	Heating application
iO-CS60WP	60°	Heating application
iO-CS65WP	65°	Heating application
iO-CS70WP	70°	Heating application
iO-CSAC70WP	70°	Cooling application
iO-CSAC75WP	75°	Cooling application

**Warranty:** 1 year



### Accessories

PART NUMBER	DESCRIPTION
iO-CSRY120	Relay kit for 120 volt control circuits
iO-CSRY240	Relay kit for 240 volt control circuits



iO-LW1  
iO-LW2  
iO-LW3  
iO-LW4

# Wireless Lodge Watch

## Wireless Energy Management System

The Lodge Watch is designed to reduce wasted energy by as much as 40%. The iO-LW detects when a door or window is left open for more than 2 minutes. The iO-LW then locks out the HVAC equipment until it detects the closure of the door or window. This saves on energy costs, but also reduces short cycling of the HVAC equipment, reducing equipment icing, condensate pan overflow and wear on the equipment. Kits available for 1 to 4 doors and/or windows. Additional doors and/or windows can be added. Call for specifications on systems requiring more than 4 transmitters.



### Features and Benefits:

- Locks out HVAC equipment when doors or windows are left open
- Restores HVAC operation when doors and windows are closed
- Prevents compressor short cycling
- Reduces energy consumption
- Reduces equipment maintenance
- Extends equipment life

**Warranty:** 5 years



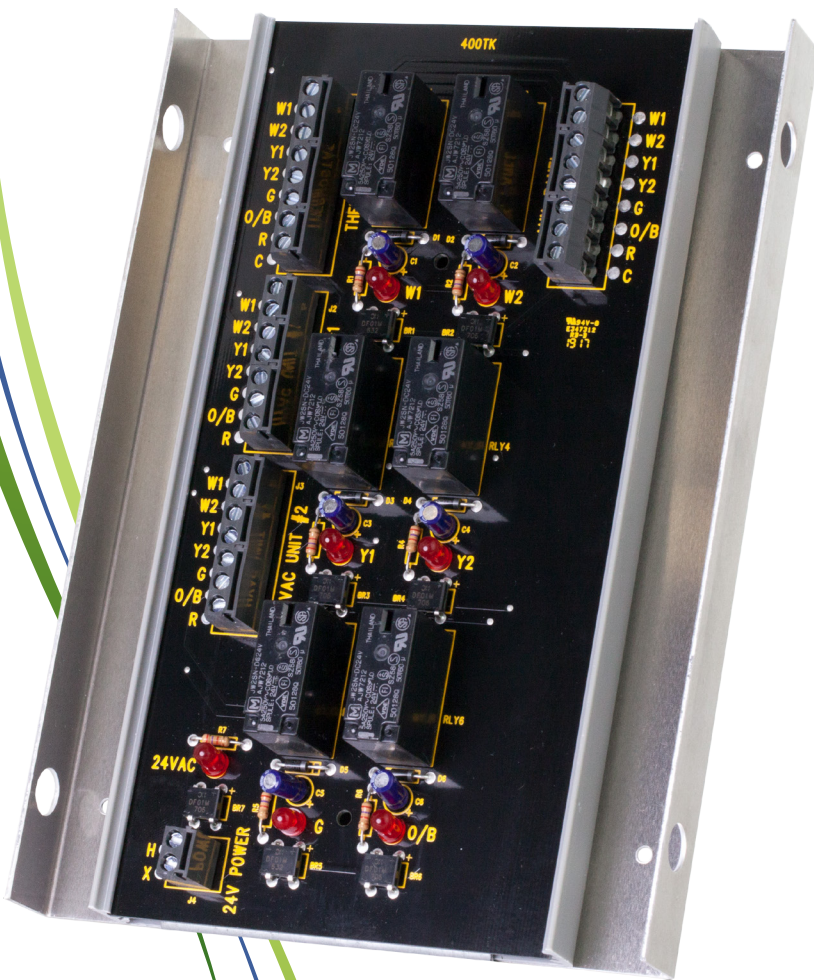
### Specifications:

<b>Transmitter Dimensions</b>	1.00" Height x 3.40" Width x 0.57" Depth
<b>Control Module Dimensions</b>	5.00" Height x 6.00" Width x 1.50" Depth
<b>Transmitter Power</b>	3V lithium battery (included)
<b>Control Module Power</b>	24VAC
<b>Operating Temperatures</b>	32° F to 120° F
<b>Encoding</b>	16 million combinations, pulse-width modulation
<b>Frequency</b>	315MHz
<b>Compliance</b>	FCC Part 15k, MPT 1340 and Directive 1999/5/EC

# Twinning Kit

iO-TWIN

The Twinning Kit is designed to allow a single thermostat to control two identical HVAC units. It can also be expanded to control a total of four HVAC units. The iO-TWIN can be used on common or separate ducted systems with single-stage, multi-stage or heat pump equipment. Only standard 18-gauge thermostat wire is required. Thermostats and HVAC units can be located up to 300' from the twinning kit panel.



## Features and Benefits:

- Easy to install and setup
- Uses standard 18-gauge thermostat wire
- Optional control of up to four units
- Reduces installation time and cost
- Can be used with the Lead/Lag Controller

**Warranty:** 5 years

## Specifications:

Mounting	Aluminum back plate with mounting holes
Dimensions	8.00" Height x 6.00" Width x 1.50" Depth
Input Voltage	24VAC

This versatile 24 volt Lead/Lag Controller offers balanced operating time between 2 redundant devices. The iO-LL is microprocessor controlled. Status LEDs indicate the controller is powered and which piece of equipment is currently being energized. The iO-LL can be used on HVAC equipment, industrial equipment, heating equipment, cooling equipment, fans, pumps and motors.

## Features and Benefits:

- Microprocessor controlled
- Compact design
- Isolated inputs and outputs
- Status LEDs
- Reduces equipment maintenance and wear
- Can be used with the Twinning Kit

**Warranty:** 5 years



## Specifications:

<b>Mounting</b>	Aluminum back plate with mounting holes
<b>Dimensions</b>	8.00" Height x 6.00" Width x 1.50" Depth
<b>Input Voltage</b>	24VAC



# Geothermal Interface Panel

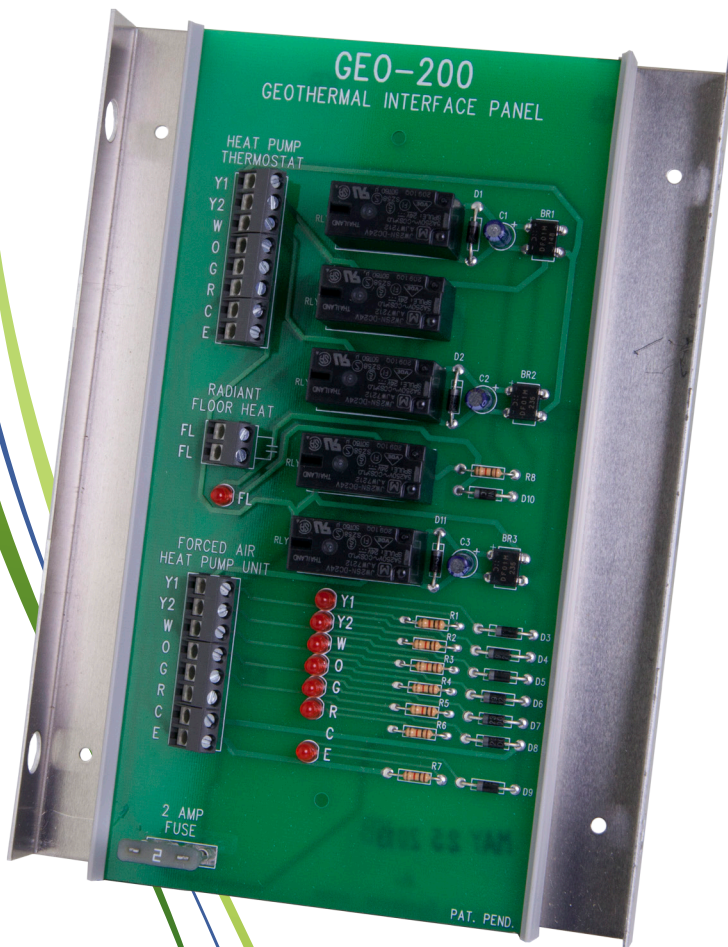
iO-GEO

The Geothermal Interface Panel is designed to control a geothermal radiant floor heating system and a forced air geothermal system from a single room thermostat. The iO-GEO panel eliminates the hassle of installing a second thermostat because it integrates the radiant floor heat as Stage 1 and then the geothermal forced air heat pump for Stage 2.

## Features and Benefits:

- Stages the radiant floor heat with the geothermal forced air heat pump
- Can be used with any 3H/2C thermostat
- Uses standard 18-gauge thermostat wire
- Saves hours of installation time
- Reduces installation cost
- Simplifies servicing the system
- Provides a clean, professional installation

**Warranty:** 5 years



## Specifications:

<b>Mounting</b>	Aluminum back plate with mounting holes
<b>Enclosure Dimensions</b>	8.00" Height x 6.00" Width x 1.50" Depth
<b>Input Voltage</b>	24VAC, powered by equipment transformer

# Warning Watchdog™

## Condensing Unit Alarm System



### iO-WWX

The Warning Watchdog is a condensing unit alarm system that sounds a loud siren and can also trigger a central alarm, phone dialer or other device. It can monitor up to 4 condensing units with one panel. This easy-to-install condensing unit alarm system can be used with packaged or split systems. It will alarm if refrigerant loss is detected, the disconnect is pulled or wiring is cut.



**Warranty:** 1 year

### Warning Watchdog Packaged Hardwired Kits

ITEM	DESCRIPTION
iO-WW1	Logic panel with key lock, siren cut-off timer and siren silence switch Kit includes (1) iO-WWLP, (1) iO-WWPS, (1) iO-WWS, (1) iO-WWR240, (1) iO-WWPC
iO-WW2	Logic panel with key lock, siren cut-off timer and siren silence switch Kit includes (1) iO-WWLP, (1) iO-WWPS, (1) iO-WWS, (2) iO-WWR240, (2) iO-WWPC
iO-WW3	Logic panel with key lock, siren cut-off timer and siren silence switch Kit includes (1) iO-WWLP, (1) iO-WWPS, (1) iO-WWS, (3) iO-WWR240, (3) iO-WWPC
iO-WW4	Logic panel with key lock, siren cut-off timer and siren silence switch Kit includes (1) iO-WWLP, (1) iO-WWPS, (1) iO-WWS, (4) iO-WWR240, (4) iO-WWPC

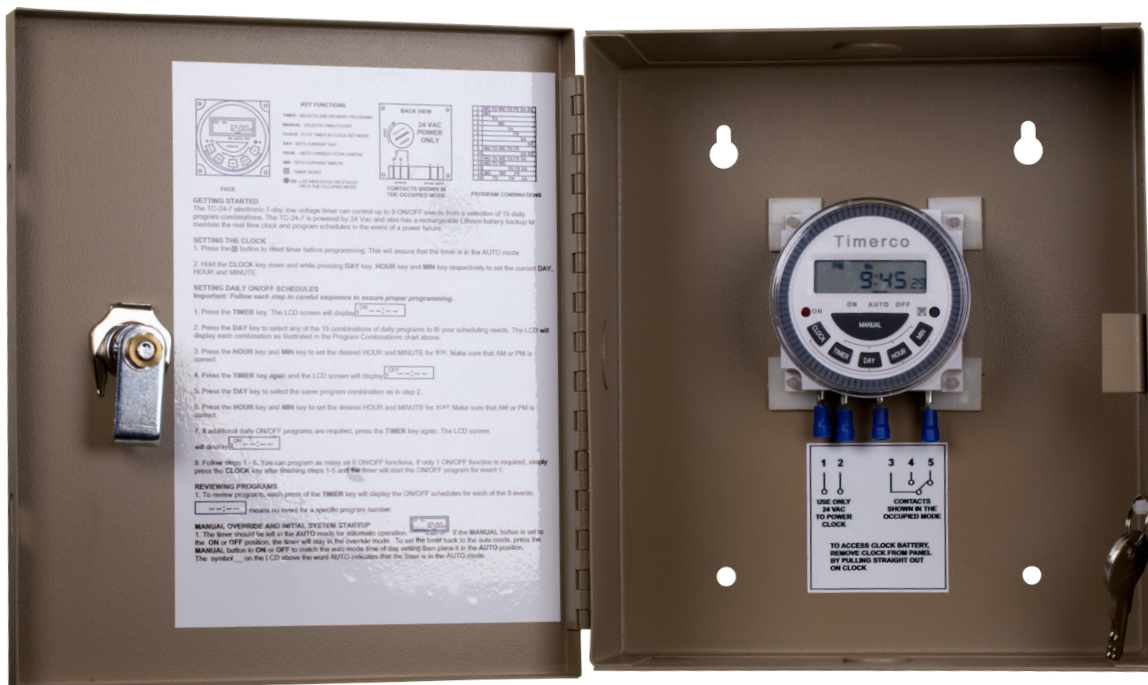
### Warning Watchdog Components and Optional Items

iO-WWLP	Logic panel with key lock, siren cut-off timer and siren silence switch LEDs confirm alarm status
iO-WWPS	Power supply for iO-WWLP logic panel 12 volts DC - 1500mA
iO-WWPC	Encapsulated pressure control (mounts on liquid line schrader valve service port) Working pressure up to 600 PSI - 3500 PSI burst strength - opens in fall below 10 PSI
iO-WWR12	Optional relay for additional siren. SPDT 12 volt DC relay
iO-WWR240	Voltage monitoring relay - 240/208 volts Can be used with 240/208 single-phase or 3-phase
iO-WWR480	Optional voltage monitoring relay - 440/480 volts Can be used with 440/480 3-phase
iO-WWS	Outdoor/indoor siren 12VDC 118dB output
iO-WWTS	Optional encapsulated tamper switch Detects excessive vibration or movement of condensing unit
iO-WWTAM	Optional Warning Watchdog tamper alert. Visual confirmation of open circuit

# Time Clock

iO-TC

This 7-day programmable Time Clock can be used to control up to 8 ON/OFF events per day from a selection of 15 daily program combinations. The iO-TC is powered by 24VAC and has a self-charging lithium battery to maintain the real-time clock schedules in the event of a power failure. The iO-TC comes in a metal enclosure with key lock and conduit knock-outs located on the top, bottom and sides for ease of installation.



## Specifications:

Mounting	Metal enclosure with mounting holes
Dimensions	8.25" Height x 7.25" Width x 3.50" Depth
Input Voltage	24VAC

## Features and Benefits:

- 8 ON/OFF daily events
- 15 program combinations
- Lithium battery backup
- Easy to program
- LED ON/OFF status
- Spade connectors included
- Protective clear timer cover
- All metal, keyed lock enclosure with conduit knockouts

**Warranty:** 1 year

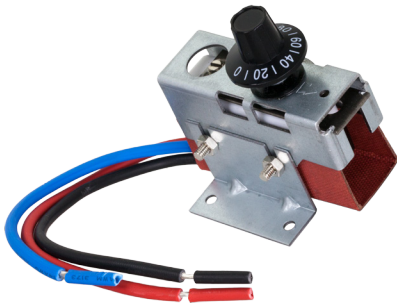


This easy-to-install Dual Fuel Kit can be used with heat pumps and fossil fuel furnaces having up to 4 stages of heating and 2 stages of cooling. They work by turning the heat pump off at a pre-determined outdoor temperature permitting the fossil fuel furnace to run in order to reach the room thermostat setpoint. Includes snap track mounting and outdoor balance point thermostat.

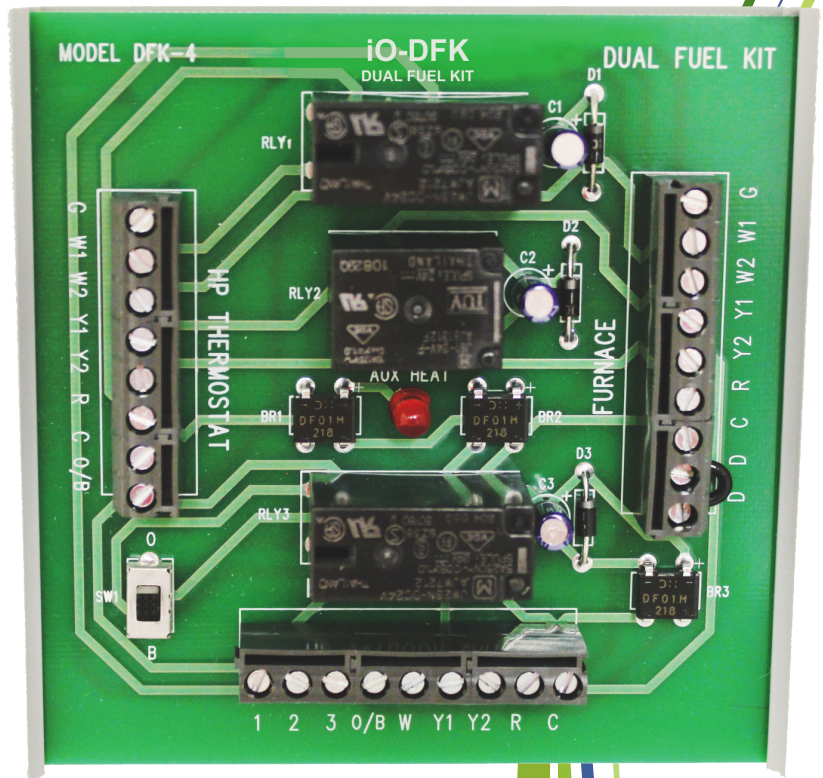
## Features and Benefits:

- Snap track mounting
- LED auxiliary heat indication
- Easy to read screw terminals
- 'O' and 'B' reversing valve selection switch
- Outdoor balance point thermostat included
- Provides professional looking installation

**Warranty:** 5 years



*iO-DFK-ODT included in kit*



## Specifications:

<b>Mounting</b>	Snap track
<b>Dimensions</b>	4.00" Height x 4.00" Width x 1.00" Depth
<b>Input Voltage</b>	24VAC
<b>Balance Point Range</b>	0° to 100° F



# WireONE™

## Add-A-Wire

iO-W1-100

Today's programmable and communicating thermostats often need a "common wire" to power the radio modules and other electronics. On average, 30% of all homes do not have a common wire at the thermostat. The iO-W1-100 uses multiplexing technology to allow an additional signal to be passed through the common wire.

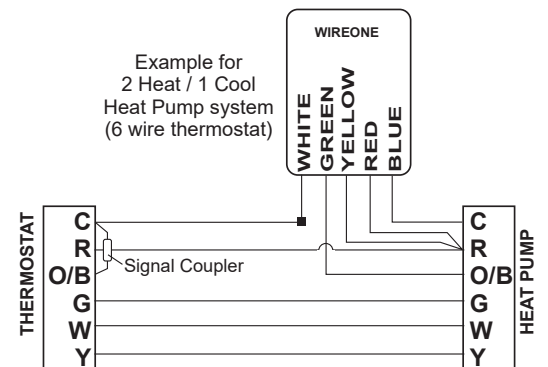
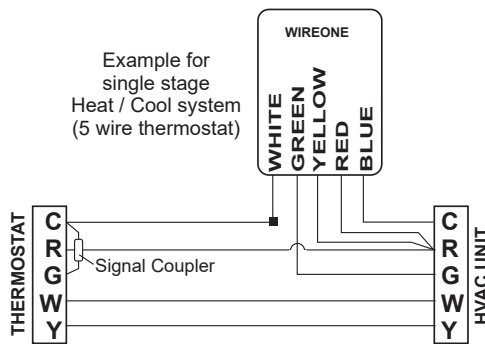


US Patents 7,922,100; 7,737,762;  
other patents pending

### Features and Benefits:

- Reduces installation time and cost
- Eliminates the need to run additional wiring
- Allows a single signal (W, Y or G) to be multiplexed over a common wire
- Supports single and dual transformer installations
- Supports both heat pump and conventional systems
- Provides short circuit protection through a self-resetting thermal fuse
- Includes a signal coupler and 5 splice wire caps
- Compatible with virtually all major thermostat brands

**Warranty:** 1 year



### Specifications:

Dimensions	0.83" Height x 3.00" Width x 1.38" Depth
Maximum Output Current	.5A
Maximum Output Current	30VAC