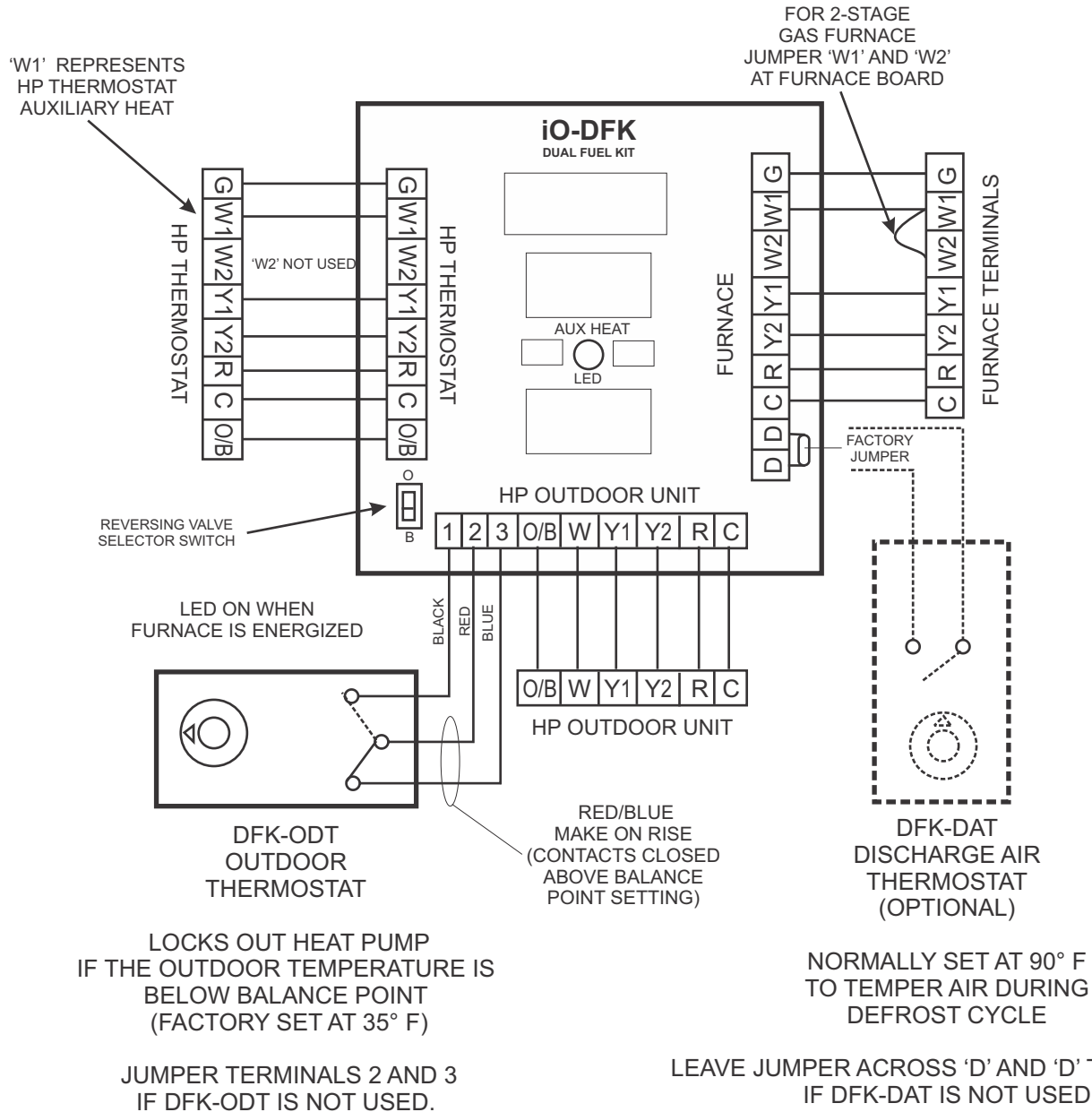


# iO-DFK

## Dual Fuel Kit Wiring Diagram



**SEQUENCE OF OPERATION ON BACK**

# iO-DFK

## Dual Fuel Kit Sequence of Operation

### Outdoor temperature above outdoor thermostat setpoint (High Balance Point)

#### 2 Heat / 1 Cool

When the space thermostat calls for heating and the outside temperature is above the setpoint (High Balance Point) of the outdoor thermostat (iO-DFK-ODT), the heat pump will operate as first stage heat. If there is a call for second stage heat, or if the thermostat is placed in the emergency heat mode, the iO-DFK will automatically de-energize 'Y1' and energize 'W1'. The furnace will then be brought on and will remain on until the thermostat call is satisfied.

#### 3 Heat / 2 Cool

When the space thermostat calls for heating and the outside temperature is above the setpoint (High Balance Point) of the outdoor thermostat (iO-DFK-ODT), the heat pump will operate as first stage heat. If there is a call for second stage heat, the second stage compressor will be energized. If there is a call for auxiliary heat, or if the thermostat is placed in the emergency heat mode, the iO-DFK will automatically de-energize 'Y1' and 'Y2' to the heat pump outdoor unit and energize 'W1'. The furnace will then be brought on and will remain on until the thermostat call is satisfied.

### Outdoor temperature below outdoor thermostat setpoint (Low Balance Point)

When the space thermostat calls for heating and the outside temperature falls below the setpoint (Low Balance Point) of the outdoor thermostat, the heat pump will be locked out and the furnace will become first stage heat. The furnace will remain energized until the thermostat call is satisfied.

### Cooling Mode

When the space thermostat calls for cooling, the outdoor balance point is bypassed regardless of the outdoor temperature and only the heat pump will be energized.

### Reversing Valve

It is important that the reversing valve selector switch located on the iO-DFK be set in the proper position. For heat pumps that energize the reversing valve in the cooling mode, set the selector switch to 'O'. For heat pumps that energize the reversing valve in the heating mode, set the selector switch to 'B'. Heat pump thermostats should also be configured in the same manner.

### Blower control

The iO-DFK will stop the blower anytime it switches between heat pump and furnace operation and the blower will restart at the proper speed.

### iO-DFK-DAT Discharge Air Thermostat

An optional iO-DFK-DAT discharge air thermostat can be connected to the 'D' and 'D' terminals on the iO-DFK board to limit the discharge air temperature during defrost cycle. (Typically used with an oil furnace) The sensor setpoint should be set at 90° F.

### iO-DFK-ODT Outdoor Thermostat Specifications

The iO-DFK-ODT Outdoor Thermostat is a SPDT bi-metal outdoor rated thermostat. Temperature range is 0° F - 100° F with a 2° F heating and 3° F cooling differential. The device is UL Listed and CSA Certified.

## WIRING DIAGRAM ON FRONT