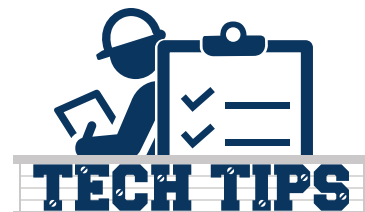




S-SERIES TWINNING OPTIONS FOR NON-VARIABLE FURNACE MODELS

You may have noticed there is not a “twin” terminal on the new S-Series furnace. To accommodate jobs where putting two furnaces together to run as one, there is a solution. Non-variable models can easily be twinned—the lineup includes the S9X, S9B, S8X and S8B with one or more relays and the diagrams below.



To twin two furnaces together there are few things that are required:

1. Two identical furnace models must be used. If one furnace has a higher HP motor, it will affect the other and cause possible windmilling or premature motor failure.
2. Both units must be on the same leg of power. This does not mean the same breaker but the same phase from the panel which is on the same “bus” of the panel.
3. The furnace transformers must be in phase with one another. This can easily be checked by measuring from the R terminal of furnace #1 to the R terminal on furnace #2. You should read 0 VAC as it would be same line voltage.
4. The return air must be common to both furnaces and should enter through the bottom only. If the bottom return is not an option or you have pre-existing ductwork, you must try to achieve the same amount of airflow to the return of both furnaces for optimal performance.
5. Heating and cooling airflow must be the same for both furnaces. For example, all airflow settings need to be identical on both units.
6. *Remember, variable speed furnaces cannot be twinned!*

A relay is suggested for twinning. We need to be sure we aren't pulling too many amps through the control boards, relays, thermostats, etc. It will need to be a 24v coil relay that has at least one normally open contact.

Examples of relays that would work for this application are:

1. 90-291Q Product: 63611
2. 90-293Q Product: 10521
3. 90-340 Product: 7117

Example of a W1 relay: Showing a closed contact with W1 call

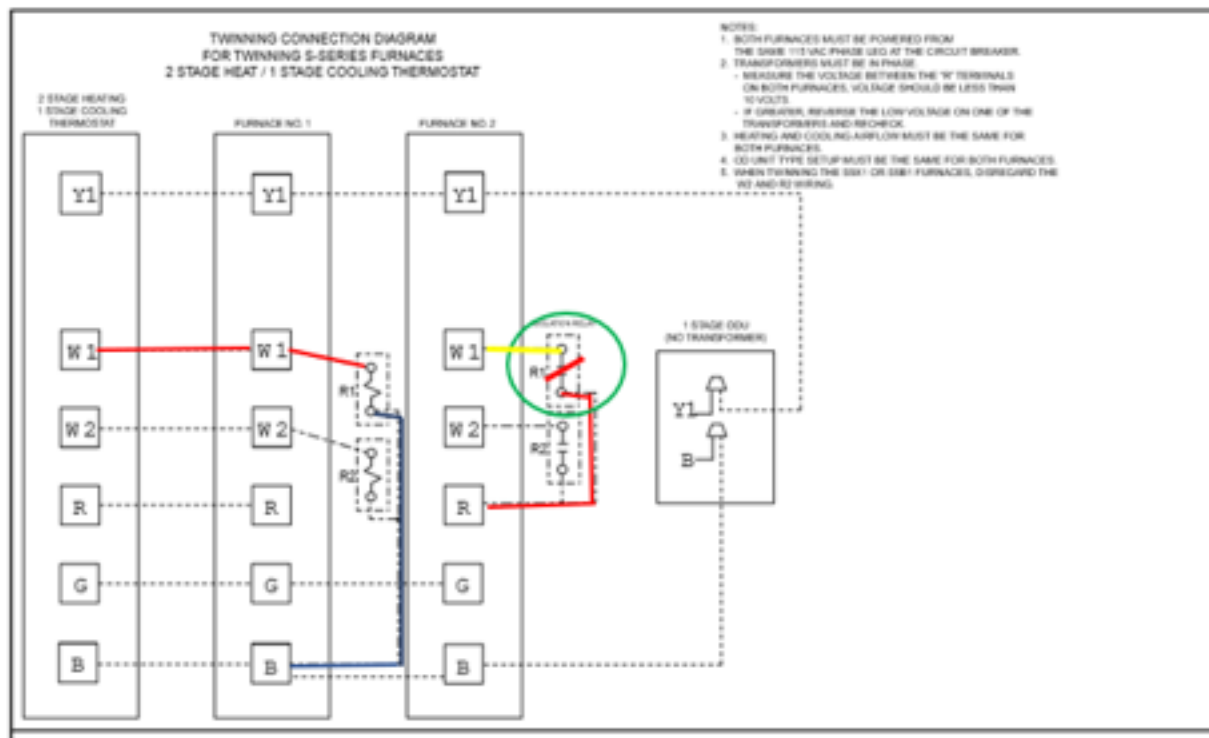
In the diagram on the next page, you can see there are two relays installed. One is for W1 (first stage heating), the other is for W2 (second stage heating). The normally open contact is wired in on the furnace #2 circuit and will connect “R” to “W1” with a call for heat. The source for the call of heat is from the thermostat and furnace #1. You can see that “W1” and “B” on furnace #1 are powering the relay associated with the contacts on furnace #2.

Call comes from thermostat. This in turn, powers the coil of the relay through a pigtail. When the relay is energized, the contacts will close and allow “R” to power “W1” on furnace #2.

The red indicates 24v hot and the blue indicates 24v common. The yellow indicates the voltage traveling after the contacts close – providing a call for furnace #2.

You would repeat these steps for W2 along the second relay installation.

Twinning



There are quite a few different applications for twinning. Whether you have two split outdoor systems installed or one large outdoor unit utilizing both furnaces, reference the installation guide and take note of the wiring diagrams and side notes. And as always, you can call Munch's Supply Technical Support at 815-215-5020 for further questions.