



Resideo Easy Ventilation Wiring

ADDENDUM



APPLICATION

Fresh Air Demand: ASHRAE 2010/2013

Lockouts: Wi-Fi (Internet present)

PRODUCT

1. Resideo **TH6320WF** (T6 Wi-Fi) Ventilation capable thermostat w/ lockouts.
2. Resideo **EARD6TZ** (6") or **EARD8TZ** (8") Fresh air Damper.

Optional: Resideo Outdoor Air Temperature Sensor.
(*Not needed with Wi-Fi connection.)

NOTE: EARD dampers draw approx. 8 VA. Verify the system transformer is sized to handle this additional load.

INSTALLATION

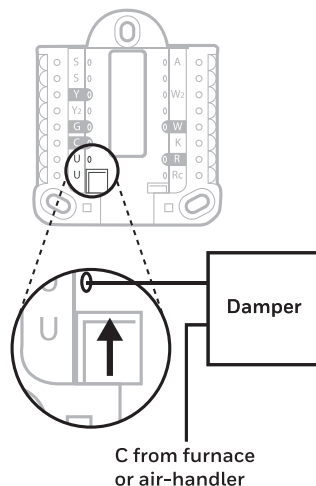


Fig. 1. Wired to an EARD Fresh Air Damper.

1. Install fresh air damper (either EARD6TZ or EARD8TZ) per Mechanical Code.
2. Install thermostat:
 - a. Wire HVAC equipment like normal (Power, Heat, Cool, Fan, Common).
 - b. Slide "U" terminal tab up on UWP (see image).
 - c. Connect other "U" terminal to the fresh air damper (see image).
 - d. Connect second wire from the fresh air damper to common (see image).
3. Setup thermostat in "Device Setup" using "Edit" and arrows (be sure to select "Done" if a change is made).
 - a. At ISU#: 130 "Outdoor Temp" change to "Internet."
 - b. At ISU#: 1000 "Vent Type" change to "Air Damper."
 - c. At ISU#: 1005 "Vent Method" change to _____ (ASHRAE 2010 or 2013).
 - d. At ISU#: 1007 Enter number of "Bedrooms."
 - e. At ISU#: 1008 Enter Square feet of home in "Home Size."
 - f. At ISU# 1009 Enter CFM of fresh air intake in "Vent Rate."
 - g. At ISU#: 1012 "Vent Priority" options are Ashrae or lockouts. If "lockouts" is selected, you may not meet Ashrae standards under the lockout conditions selected under H-J below, or if it is set to lockout during sleep period under the menu-ventilation.
 - h. At ISU#: 1013 "Low Outdoor Temp Lockout" change to _____ (Low temperature to lockout fresh air).
 - i. At ISU#: 1014 "High Outdoor Temp Lockout" change to _____ (High temperature to lockout fresh air).
 - j. At ISU#: 1015 "High Outdoor Dewpoint Lockout" change to _____ (High Dewpoint to lockout fresh air).

BENEFITS

1. Easy wiring, one extra wire to thermostat.
2. Wi-Fi Thermostat controls Heating, Air Conditioning AND Ventilation – no need for extra controller. Ventilation can be run with Air Conditioning or Heating to condition the outside air. (Helps with uncomfortable temperature and humidity issues.)
3. Wi-Fi allows you to set lockout parameters based on Outdoor temp and Dewpoint.
4. Can use any size fresh air damper to achieve proper CFM.





APPLICATION

Fresh Air Demand: Percentage of time

Lockouts: Wi-Fi (Internet present)

PRODUCT

1. Resideo **TH6320WF** Ventilation capable thermostat w/ lockouts.
2. Resideo **EARD6TZ** (6") or **EARD8TZ** (8") Fresh air Damper.

Optional: Resideo Outdoor air temperature sensor.
(*Not needed with Wi-Fi connection.)

NOTE: EARD dampers draw approx. 8 VA. Verify the system transformer is sized to handle this additional load.

INSTALLATION

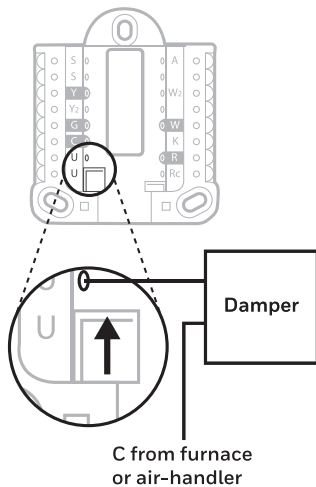


Fig. 2. Wired to an EARD Fresh Air Damper.

1. Install fresh air damper (either EARD6TZ or EARD8TZ) per Mechanical Code.
2. Install thermostat:
 - a. Wire HVAC equipment like normal (Power, Heat, Cool, Fan, Common).
 - b. Slide "U" terminal tab up on UWP (See image)
 - c. Connect other "U" terminal to the fresh air damper (see image).
 - d. Connect second wire from the fresh air damper to common (see image).
3. Setup thermostat in "Device Setup" using "Edit" and arrows (be sure to select "Done" if a change is made).
 - a. At ISU#: 130 "Outdoor Temp" change to "Internet."
 - b. At ISU#: 1000 "Vent Type" change to "Air Damper."
 - c. At ISU#: 1005 "Vent Method" change to "Percent."
 - d. At ISU#: 1011 Enter Percentage of time for fresh air to stay open.
 - e. At ISU#: 1013 "Low Outdoor Temp Lockout" change to _____ (Low temperature to lockout fresh air).
 - f. At ISU#: 1014 "High Outdoor Temp Lockout" change to _____ (High temperature to lockout fresh air).
 - g. At ISU#: 1015 "High Outdoor Dewpoint Lockout" change to _____ (High Dewpoint to lockout fresh air).

BENEFITS

1. Easy wiring, one extra wire to thermostat
2. Wi-Fi Thermostat controls Heating, Air Conditioning AND Ventilation – no need for extra controller. Ventilation can be run with Air Conditioning or Heating to condition the outside air. (Helps with uncomfortable temperature and humidity issues.)
3. Wi-Fi allows you to set lockout parameters based on Outdoor temp and Dewpoint.
4. Can use any size fresh air damper to achieve proper CFM.



APPLICATION

Fresh Air Demand: ASHRAE 2010/2013

Lockouts:
 Outdoor Temp Sensor
 (Internet Lockout when Wi-Fi is setup)

PRODUCT

1. Resideo **TH6320WF2003** Ventilation capable thermostat w/ lockouts.
2. Resideo **EARD6TZ** (6") or **EARD8TZ** (8") Fresh air Damper.
3. Resideo **C7089U1006** Outdoor air temperature sensor. (*Not needed with Wi-Fi connection.)

NOTE: EARD dampers draw approx. 8 VA. Verify the system transformer is sized to handle this additional load.

INSTALLATION

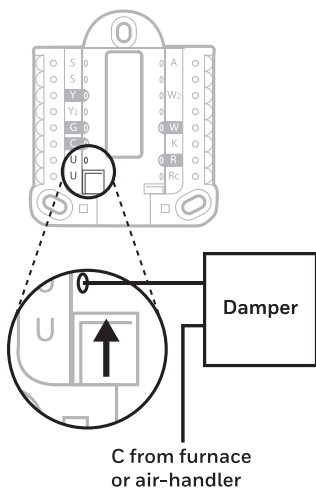


Fig. 3. Wired to an EARD Fresh Air Damper.

1. Install fresh air damper (either EARD6TZ or EARD8TZ) per Mechanical Code.
2. Install Outdoor Temperature Sensor.
3. Install thermostat:
 - a. Wire HVAC equipment like normal (Power, Heat, Cool, Fan, Common).
 - b. Wire Outdoor Temperature Sensor to "S" terminals.
 - c. Slide "U" terminal tab up on UWP (See image).
 - d. Connect other "U" terminal to the fresh air damper (see image).
 - e. Connect second wire from the fresh air damper to common (see image).
4. Setup thermostat in "Device Setup" using "Edit" and arrows (be sure to select "Done" if a change is made).
 - a. At ISU#: 130 "Outdoor Temp" change to "Wired."
 - b. At ISU#: 1000 "Vent Type" change to "Air Damper."
 - c. At ISU#: 1005 "Vent Method" change to _____ (ASHRAE 2010 or 2013).
 - d. At ISU#: 1007 Enter number of "Bedrooms."
 - e. At ISU#: 1008 Enter Square feet of home in "Home Size."
 - f. At ISU# 1009 Enter CFM of fresh air intake in "Vent Rate."
 - g. At ISU#: 1012 "Vent Priority" options are Ashrae or lockouts. If "lockouts" is selected, you may not meet Ashrae standards under the lockout conditions selected under H-J below, or if it is set to lockout during sleep period under the menu-ventilation.
 - h. At ISU#: 1013 "Low Outdoor Temp Lockout" change to _____ (Low temperature to lockout fresh air).
 - i. At ISU#: 1014 "High Outdoor Temp Lockout" change to _____ (High temperature to lockout fresh air).

BENEFITS

1. Easy wiring, one extra wire to thermostat.
2. Wi-Fi Thermostat controls Heating, Air Conditioning AND Ventilation – no need for extra controller. Ventilation can be run with Air Conditioning or Heating to condition the outside air. (Helps with uncomfortable temperature and humidity issues.)
3. Use outdoor sensor to setup high and low lockouts.
4. Wi-Fi can always be connected once customer has internet present.
 - a. Wi-Fi allows you to set lockout parameters based on Outdoor temp and Dewpoint.
 - b. Wi-Fi can also be used for heat pump lockout.
5. Can use any size fresh air damper to achieve proper CFM.



APPLICATION

Fresh Air Demand: Percentage of time

Lockouts:

Outdoor Temp Sensor
(Internet Lockout when Wi-Fi is setup)

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NOTE: EARD dampers draw approx. 8 VA. Verify the system transformer is sized to handle this additional load.

INSTALLATION

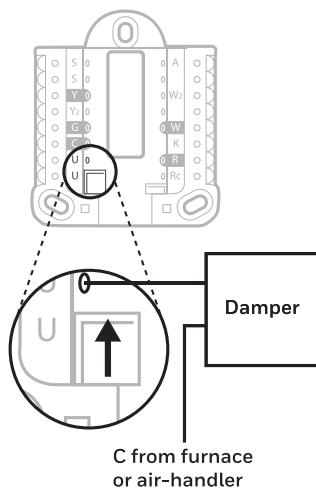


Fig. 4. Wired to an EARD Fresh Air Damper.

1. Install fresh air damper (either EARD6TZ or EARD8TZ) per Mechanical Code.
2. Install Outdoor Temperature Sensor.
3. Install thermostat:
 - a. Wire HVAC equipment like normal (Power, Heat, Cool, Fan, Common).
 - b. Wire Outdoor Temperature Sensor to "S" terminals.
 - c. Slide "U" terminal tab up on UWP (See image).
 - d. Connect other "U" terminal to the fresh air damper (see image).
 - e. Connect second wire from the fresh air damper to common (see image).
4. Setup thermostat in "Device Setup" using "Edit" and arrows (be sure to select "Done" if a change is made).
 - a. At ISU#: 130 "Outdoor Temp" change to "Wired."
 - b. At ISU#: 1000 "Vent Type" change to "Air Damper."
 - c. At ISU#: 1005 "Vent Method" change to "Percent."
 - d. At ISU#: 1011 Enter Percentage of time fresh air to stay open.
 - e. At ISU#: 1012 "Vent Priority" change to "Lockouts."
 - f. At ISU#: 1013 "Low Outdoor Temp Lockout" change to _____ (Low temperature to lockout fresh air).
 - g. At ISU#: 1014 "High Outdoor Temp Lockout" change to _____ (High temperature to lockout fresh air).

BENEFITS

1. Easy wiring, one extra wire to thermostat.
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5. Can use any size fresh air damper to achieve proper CFM.

ASHRAE 62.2-2016 CALCULATIONS

Total Ventilation Rate. The total required ventilation rate (Q_{tot}) shall be as specified in Table 1 or, alternatively, calculated using Equation 4.1a.

$$Q_{tot} = 0.03A_{floor} + 7.5 (N_{br} + 1) \leftarrow \text{(Equation 4.1a)}$$

Q_{tot} = total required ventilation rate (CFM)

A_{floor} = dwelling-unit floor area (ft²)

N_{br} = number of bedrooms (not to be less than 1)

Table 1. Ventilation Air Requirements (CFM)

Floor Area, ft ²	Bedrooms				
	1	2	3	4	5
<500	30	38	45	53	60
501-1000	45	53	60	60	75
1001-1500	60	68	75	75	90
1501-2000	75	83	90	90	105
2001-2500	90	98	105	105	120
2501-3000	105	113	120	120	135
3001-3500	120	128	135	135	150
3501-4000	135	143	150	150	165
4001-4500	150	158	165	165	180
4501-5000	165	173	180	180	195

Examples

** CFM Calculations based on Return friction rate .05, using wire helix flex duct **

6" Fresh air duct = 55 CFM
8" Fresh air duct = 115 CFM

Home 1

5 Bedroom, 2700 FT² = 135 CFM

Run time % per hour:

6" Fresh Air Duct = **NA**

8" Fresh Air Duct = **NA**

Home 2

4 Bedroom, 2350 FT² = 105 CFM

Run time % per hour:

6" Fresh Air Duct = **NA**

8" Fresh Air Duct = 91.3% (54 Minutes per Hour)

Home 3

3 Bedroom, 1600 FT² = 90 CFM

Run time % per hour:

6" Fresh Air Duct = **NA**

8" Fresh Air Duct = 78.3% (47 Minutes per Hour)

Source: https://ashrae.iwrapper.com/ViewOnline/Standard_62.2-2016

RESIDEO EASY VENTILATION WIRING

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