

Percentage Timer Control with Furnace Interlock (FM)

Installation and Operation Manual: Aeri™/EV/EV Premium/SL/HE Series



OPERATION

The Percentage Timer Control with indicator lights and furnace interlock (FM) is the primary control for RenewAir Energy Recovery Ventilator (ERV) models Aeri™, EV, EVP, SL, and HE series when Furnace Interlock is needed and no Push Button Lighted (PBL) controls are used. This proportional runtime control will operate your ERV an adjustable amount of time each hour as well as tell your furnace or air-conditioner to circulate air throughout your home at the same time, if not already doing so. When the “Runtime %” light is on, the FM control is telling your ERV and furnace/air-conditioning blower to operate. Additionally, the FM can be set to turn your ERV off or to operate constantly. ERV operation time will vary from application to application as well as time of year, lifestyle, indoor air quality concerns, and other factors. Discuss any questions with your HVAC professional or contact RenewAir directly.

Constant Operation:

Press the RenewAir logo until the light next to “100” is lit.

Operation Each Hour:

Run time of your ERV and furnace/air-conditioning blower can be adjusted from 10%, or 6 minutes each hour, up to 100% operation in 10% increments. Simply press the RenewAir logo until the light next to the desired percentage amount is lit. You can increase or decrease the run time based upon daily, weekly, or monthly variations in occupancy levels, indoor odors, cold weather winter humidity, or other indoor air quality concerns as needed.

No Operation:

Press the logo until all lights are off. The control is off. When set to off, your furnace/air-conditioning blower will run based upon your thermostat or other controls.

NOTE:
Aeri™/EV Premium/SL models
Low-Speed is set to off and operate at High-Speed only when activated by signal when used with a FM controller.

INSTALLATION

1. Install control in a standard 2" x 4" electrical box, with a minimum depth of 1.5", with the two screws provided.
2. Wire Size: 18–22 gauge, no more than 500 feet. Wiring is non-polar.
3. See the wiring schematics for your specific installation.
4. Use Lutron Decora™ cover plate to complete installation (single cover plate included).

PERCENTAGE RUN TIME TABLES

RUNTIME % SETTING	MINUTES OF OPERATION (PER HOUR)	EQUIVALENT CONTINUOUS OPERATION CFM*								
		AERI™	SL75	EV90	EV130	EV200	EVPS	EVPM	EVPL	EV PX
10	6	26	13	9	13	18	13	21	24	39
20	12	51	26	18	26	36	26	42	48	78
30	18	77	39	27	39	54	39	63	72	117
40	24	102	52	36	52	72	52	84	96	156
50	30	128	65	45	65	91	65	105	120	195
60	36	153	78	54	78	109	78	126	144	234
70	42	179	91	63	91	127	91	147	168	273
80	48	204	104	72	104	145	104	168	192	312
90	54	230	117	81	117	163	117	189	216	351
100	60	255	130	90	130	181	130	210	240	390

*EV Premium and SL models running at max speed.

ASHRAE 62.2 2013/16 RESIDENTIAL VENTILATION AIR REQUIREMENTS CONTINUOUS CFM					
FLOOR AREA (FT ²)	BEDROOMS				
	1	2	3	4	5
<500	30	38	45	53	60
501–1000	45	53	60	68	75
1001–1500	60	68	75	83	90
1501–2000	75	83	90	98	105
2001–2500	90	98	105	113	120
2501–3000	105	113	120	128	135
3001–3500	120	128	135	143	150
3501–4000	135	143	150	158	165
4001–4500	150	158	165	173	180
4501–5000	165	173	180	188	195

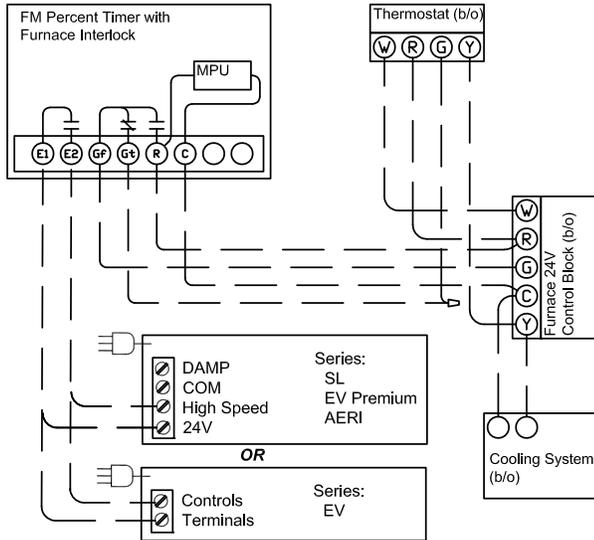
WIRING OPTIONS 1 and 2:

In most Furnace/Thermostat systems, if a circuit is made between R and G on the furnace, in an attempt to make the furnace blower operate, the Y contacts are also energized, because the thermostat has an internal connection between its G and Y terminals. This will cause the air conditioning unit to operate as well. The Furnace Interlock in the FM takes the thermostat’s G terminal out of the circuit whenever there is a call for the Energy Recovery Ventilator to operate.

WIRING OPTIONS 3 and 4:

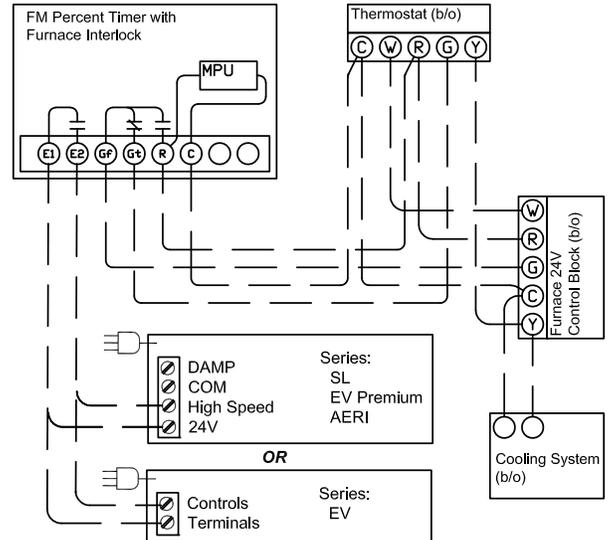
The FM requires 24 VAC power to operate. This is usually provided by the furnace control. If there is no furnace connection, it is possible to power the FM with an external transformer; in this case, make no connections to any appliance other than the ERV. Use Option 3 or 4 when connecting a larger commercial ERV unit.

OPTION 1: Wire FM to Furnace and to Energy Recovery Ventilator.



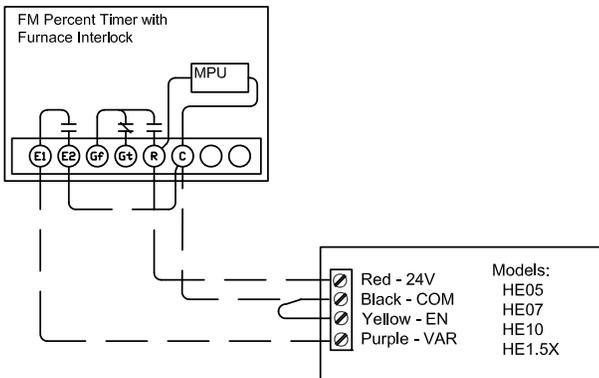
This schematic applies to Residential models.

OPTION 2: Wire FM to Thermostat and to Energy Recovery Ventilator.



This schematic applies to Residential models.

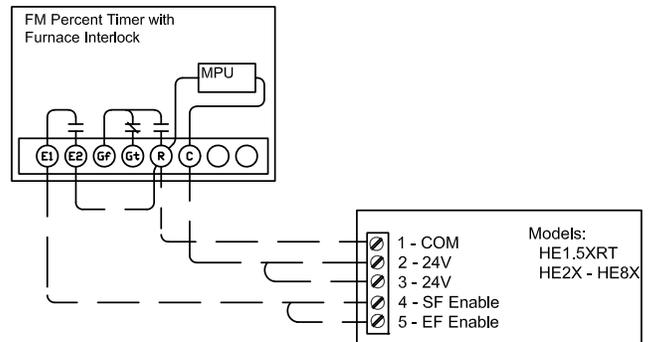
OPTION 3: FM controls RenewAire HE-series commercial ERV with on-board 24VAC power (Pigtail connections).



The Normally Open contacts of one or more additional Low Voltage Controls may be connected to ERV unit in parallel with the FM. Do not apply power to these leads.

This schematic applies to all HE05, HE07, HE10 models, and HE1.5X models with EC motorized impellers (excludes VFD models).

OPTION 4: FM controls RenewAire HE-series commercial ERV with on-board 24VAC power (Terminal strip connections).



The Normally Open contacts of one or more additional Low Voltage Controls may be connected to ERV unit's Terminals 1 & 4. Do not apply power to these terminals.

This schematic applies to HE1XRT models and to all HE2X through HE8X models with isolation relay control (excludes ECM and VFD models).