



Vertical Class 1A Leakage dampers, Belimo ZIP Controller single dry bulb changeover for Carrier/Bryant 3 to 6 Ton & select 7.5 to 12.5 Ton units

(Class 1A per AMCA 511, <3cfm/1ft² @ 1 in. wg.)

Safety Considerations:

All installation should be performed only by trained/qualified service technicians.

Make sure Lockout/Tagout processes are followed.

All standard PPE should be worn during installation (safety glasses, eye protection and ear protection to name a few).

All HVAC equipment warnings, labels and precautions should be followed.

Economizer to unit cross reference (*=Revision)

CDI Economizer Part Number	Model Number(s)
ECV-4000-BCBAAD-*	48FC/50FC/50FCQ 04-07
	48GC/50GC/50GCQ 04-06
	582K/559K/547K 04-07
	581K/551K/549K 04-06
	RGV/RAV/RHV 036-072
	RGW/RAW/RHW 036-060

CDI Economizer Part Number	Model Number(s)
ECV-4009-BCBAAD-*	48FC/50FC/08-14
	50FCQ08-12
	48GC/50GC 07-12
	50GCQ 07-09
	582K/559K 08-14
	547K 08-12
	581K/551K 07-12
	549K 0-09
	RAV/RGV 090-150
	RHV 090-120
	RAW/RGW 072-120
	RHW 072-102

Economizer package contains:

ECONOMIZER P/N	QTY	DESCRIPTION
ECV-4000-BCBAAD-*	1	Low Leak economizer, vertical, ACTB-1000 actuator, WIRB-1000 wiring harness, Econo
	1	OA hood assembly, contains CDI-1010 filter
		CNTB-1001 CONTROL-SENSOR PACKAGE, BELIMO
	1	CNTB-1000 ZIP controller,
	1	WIRB-1001 Return/Actuator wiring harness
	2	SENB-1000 temperature sensor

ECONOMIZER P/N	QTY	DESCRIPTION
ECV-4009-BCBAAD-*	1	Low Leak economizer, vertical, ACTB-1000 actuator, WIRB-1000 wiring harness, Econo
	1	OA hood assembly, contains 1 each CDI-1011 & CDI-1012 filters
		CNTB-1001 CONTROL-SENSOR PACKAGE, BELIMO
	1	CNTB-1000 ZIP controller,
	1	WIRB-1001 Return/Actuator wiring harness
	2	SENB-1000 temperature sensor

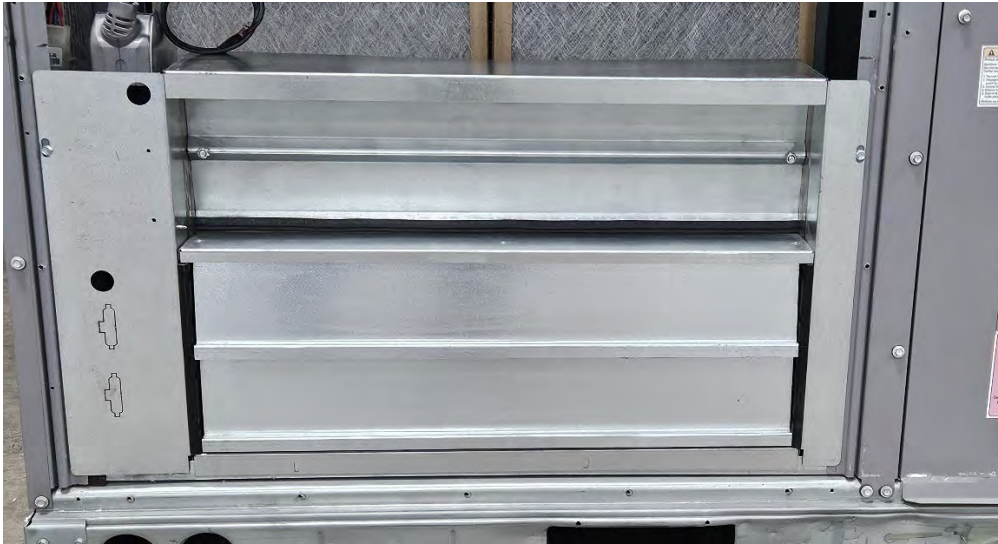
Economizer Installation

- 1) As stated above, ensure the power to the unit has been shut off and lock out/tagout process has been followed.
- 2) Remove Filter Access Panel (save) and the Indoor Coil Access Panel



- 3) Once the panels have been removed, insert the Economizer housing into the Return section. Insert the actuator side in first making sure to clear the corner post then rotate the right side into place. Make sure the rear flange slides under the tabs on the floor of the RTU

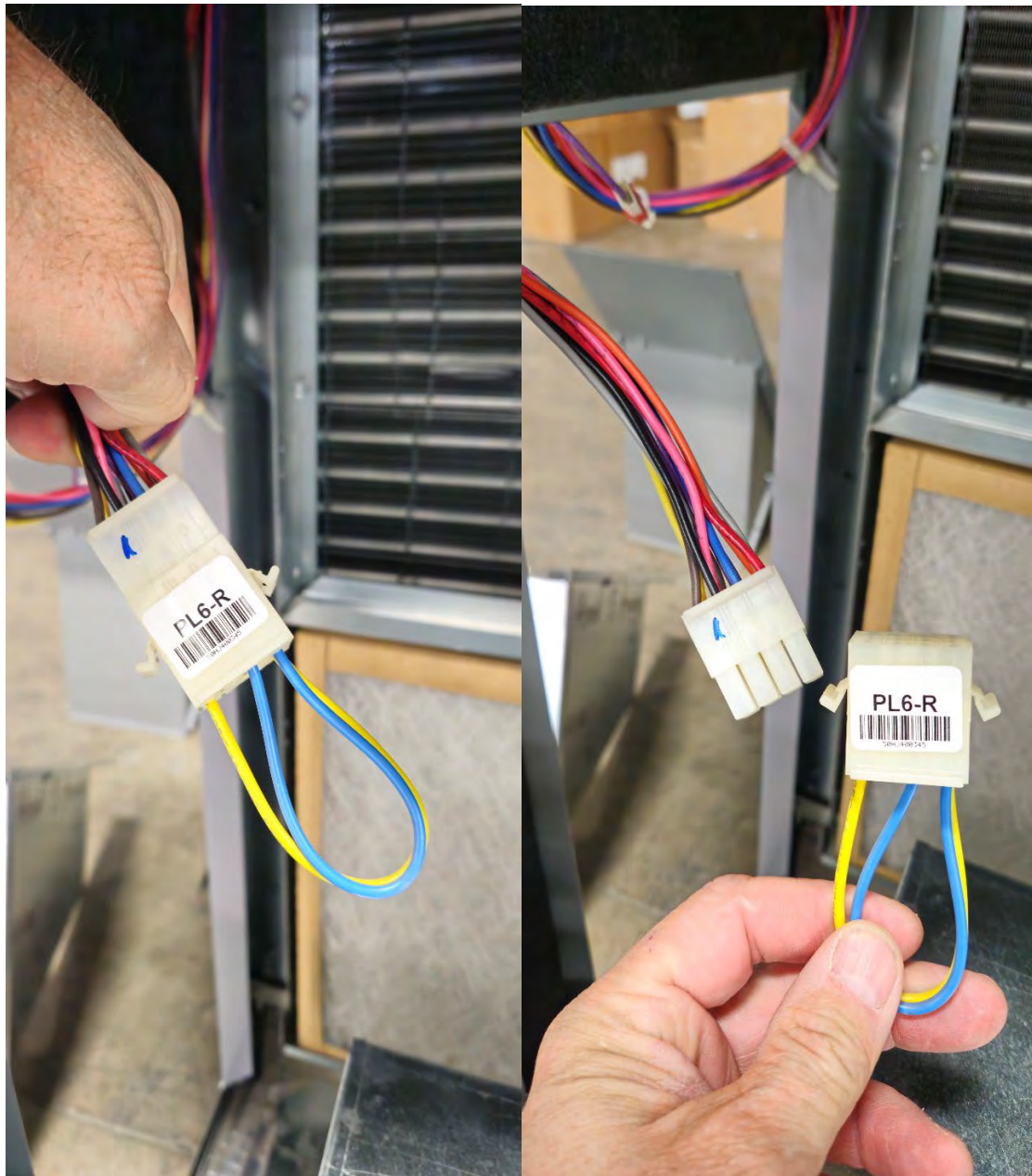
- 4) Screw the Economizer housing to the RTU frame. Check to make sure it is square and the blades do not bind.



- 5) Install the OA temperature sensor to the front of the Economizer using the provided self-drilling screws in the sensor package. If the economizer will be using an enthalpy sensor (SENB-1001) in place of a temperature sensor, use the same screws and mount it to the front of the economizer in the same place. Refer to the wiring schematics on pages 11-13.



- 6) In the Return Plenum, upper left corner, find & remove the 12 pin (square) jumper plug from the unit. Set this aside, do not throw away, if economizer is ever removed, this will be required.



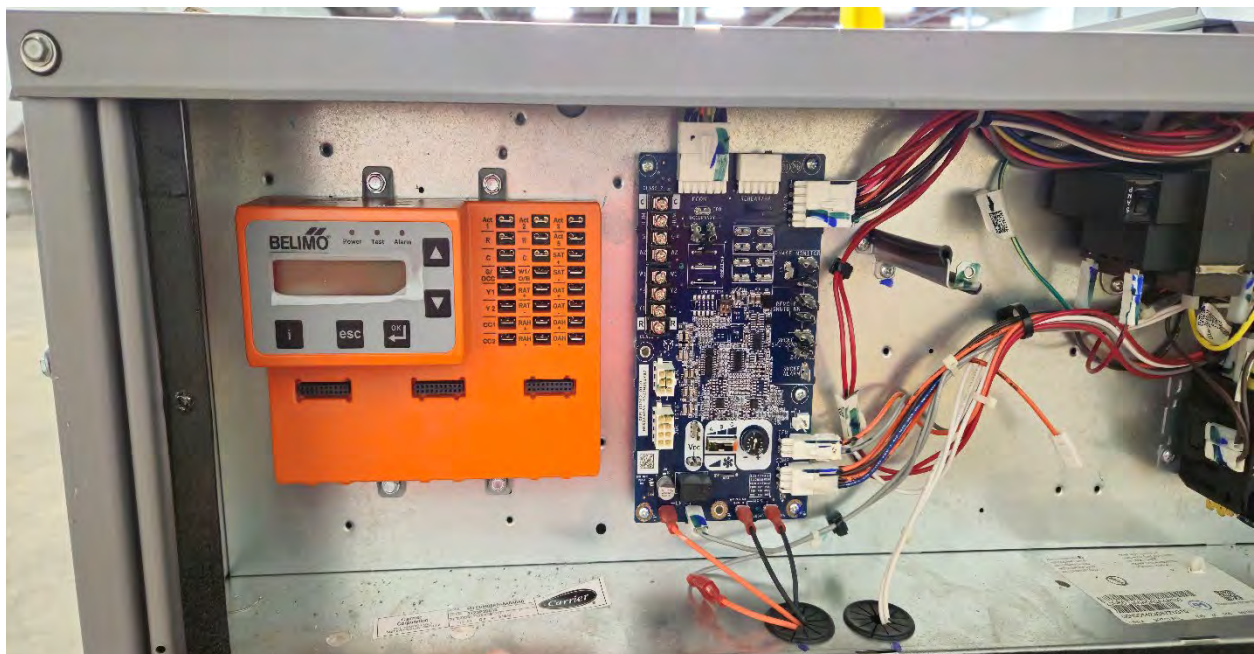
- 7) Install the 12-pin connector from the wiring harness (WIRB-1001) and connect the sensor(s) and actuator. Refer to the wiring schematics on pages 11-13.

Controller Installation

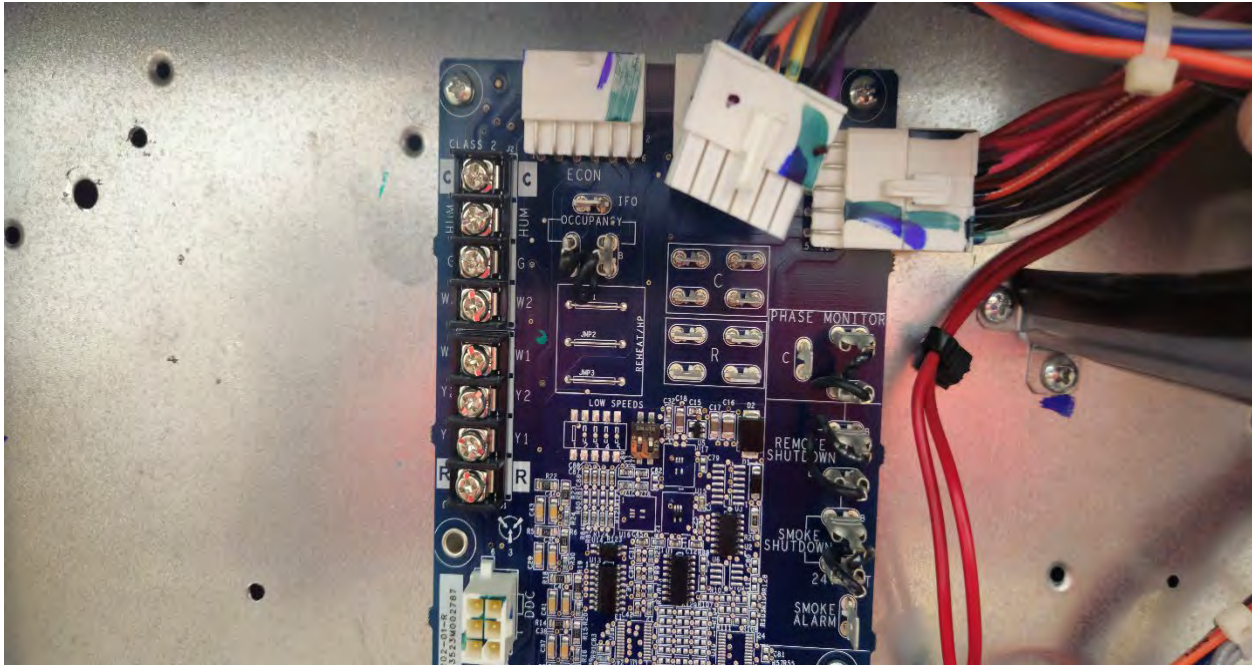
- 8) Remove the Indoor blower access panel, Control Box Panel and the internal UCB Panel



- 9) In the Economizer packaging, remove the pre-wired Economizer Controller (CNTB-1000). Mount the controller to the left of UCB using the pre-punched holes (wiring harness not shown for clarity).



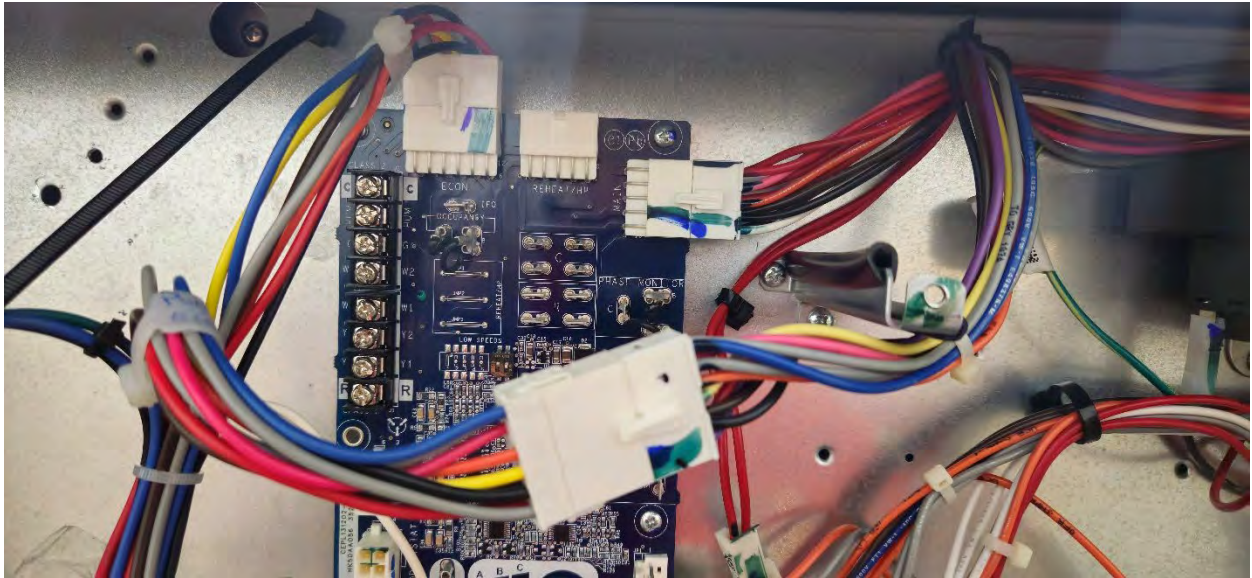
10) Unplug the 12-pin connector (female) that is connected to the UCB



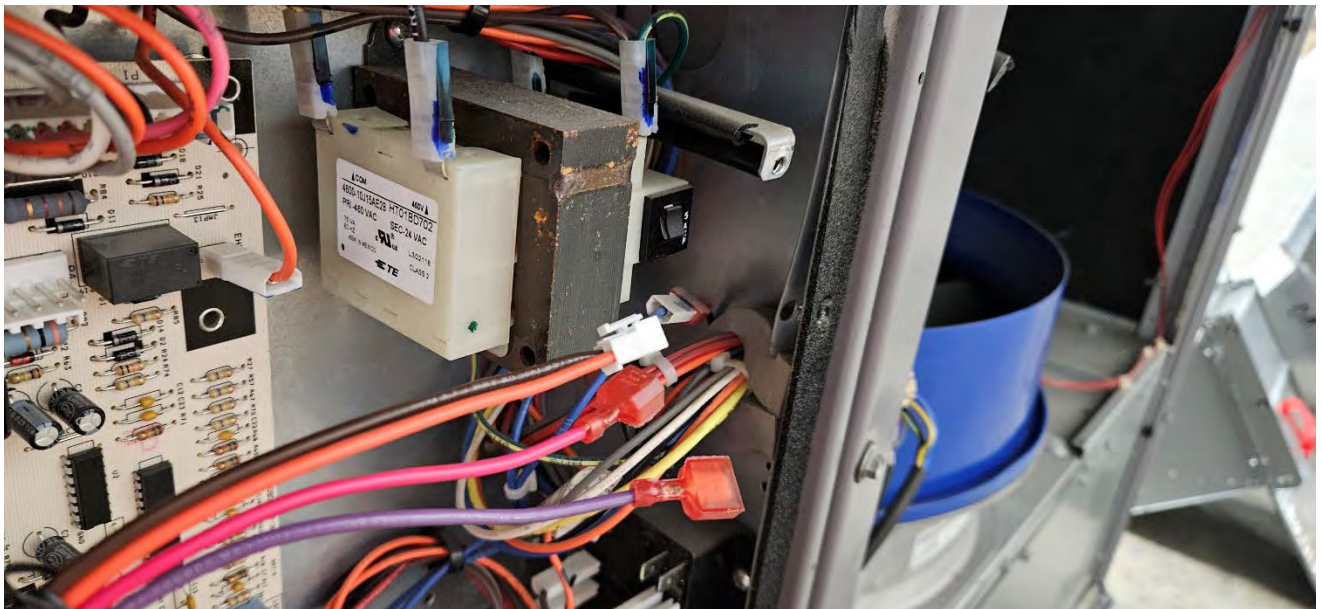
11) Install the 12-pin plug (female) from the provided Economizer wiring harness into the UCB board.



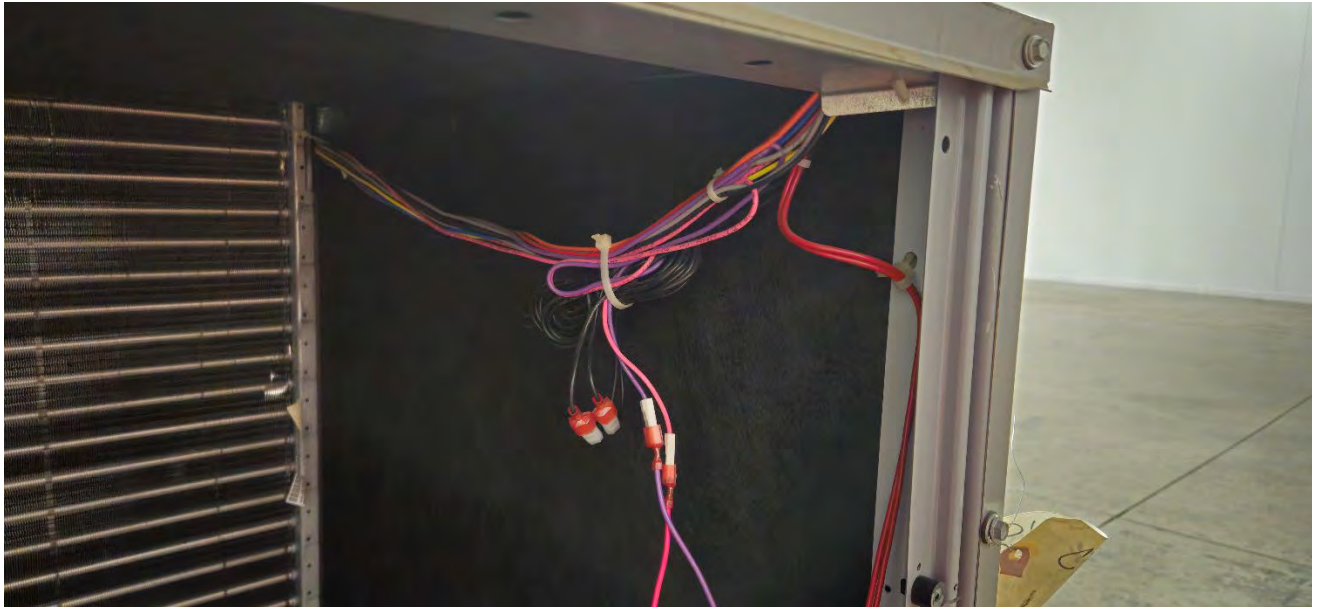
12) Insert the 12-pin connector you removed from the UCB and connect it to the 12-pin male connector on the supplied wiring harness.



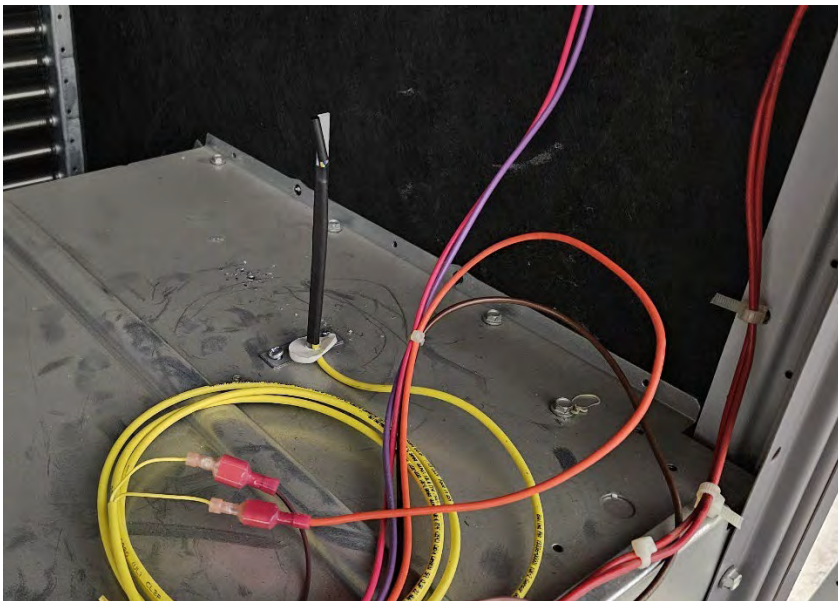
13) Route the 4 wires for the OAT (pink/purple)/MAT (brown/orange) that are connected to the controller through the divider panel between the control box and into the indoor blower section. Exact location of hole may differ from what's shown.



- 14) In the indoor blower section, connect the pink & violet wires to the wires bundled in the top right corner, this is the connection to the return plenum harness.



- 15) Next mount the MAT sensor to the fan deck using the supplied self-drilling screws through the pre punched holes (if available) and connect the orange and brown wires to the sensor.



- 16) Reinstall the indoor blower access panel removed in step 8.
- 17) Once all the sensors, actuator and UCB connections have been made, program the ZIP Controller.
- 18) After the controller is setup and all settings have been entered, you can now reinstall the UCB cover and Control Box Panel.
- 19) For assembly of the OA hood, remove the shipping tape holding the center panel



- 20) carefully rotated into place making sure not to scratch the hood, add the final 2 provided screws.



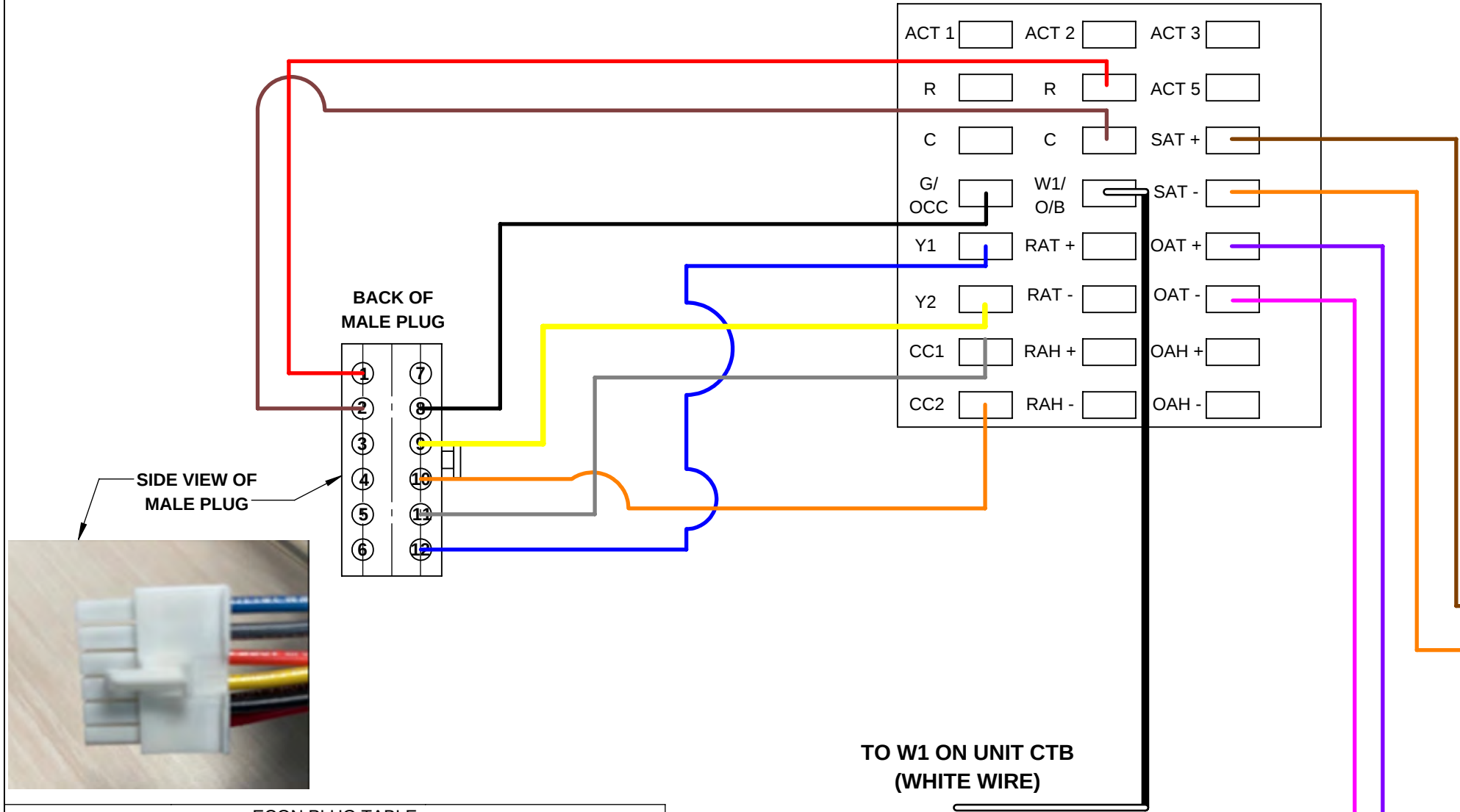
- 21) With the sensor(s) and actuator are connected, the outside air hood can be installed using the screws and holes from the Indoor Coil Access Panel.
- 22) Once in place, the filter access panel can be reinstalled.
- 23) Install the filters by opening the clips on the inside of the OA hood and insert them into the bottom channel, rotate them into position and snap the clips shut.



REVISIONS				
REV.	ECO #	DESCRIPTION	DATE	APPROVED
3		ADDED ACTUATOR CONNECTIONS	12/9/2025	MWG

REMOVE FACTORY
SUPPLIED PLUG FROM
ECON SLOT ON UNIT
CTB AND REPLACE
WITH THIS PLUG

BELIMO ECON-ZIP CONTROLLER



SAT +
SAT -
**PLUG INTO SUPPLY AIR
SENSOR MOUNTED IN
FAN HOUSING**

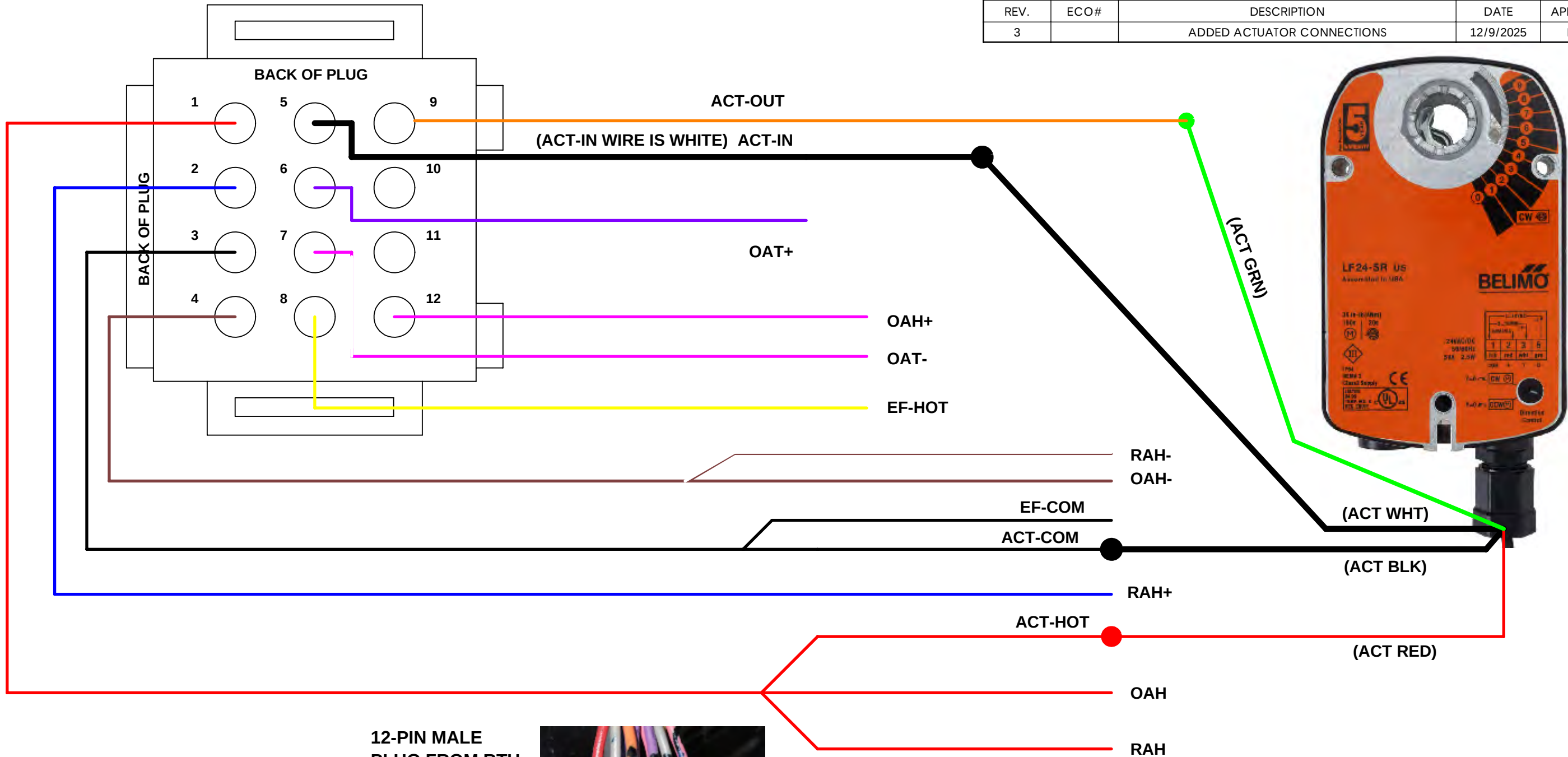
OAT +
OAT -
**PLUG INTO OUTSIDE AIR
SENSOR WIRES SUPPLIED ON
FACTORY HARNESS IN UNIT
FAN COMPARTMENT**

ECON PLUG TABLE		
PIN	COLOR	LABEL
ECON CTB	WHITE	W1/OB
1	RED	R
2	BROWN	C
3		
4		
5		
6		
7		
8	BLACK	G/OCC
9	YELLOW	Y2
10	ORANGE	CC2
11	GREY	CC1
12	BLUE	Y1

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		DRAWN: mgreenwood		12/9/2025					
		CHECKED:							
				DIMENSIONS ARE AS FOLLOWS: 1.00 in [25.40 mm]			APPROXIMATE CURB WEIGHT (LBS.)	ECO #:	
		 Contact us @ www.cdicurbs.com or 1-888-234-7001				SCALE: 1:12		SHEET: 1	OF 3

DIMENSIONED AND TOLERENCED PER ANSI Y14.5M-1982

REVISIONS				
REV.	ECO#	DESCRIPTION	DATE	APPROVED
3		ADDED ACTUATOR CONNECTIONS	12/9/2025	MWG



WIRING ACC PLUG TABLE		
PLUG PIN	WIRE COLOR	LABEL
1	RED	RAH/OAH/ACT-HOT
2	BLUE	RAH+
3	BLACK	EF-COM/ACT-COM
4	BROWN W WHT STRIPE/BROWN	RAH-/OAH-
5	WHITE	ACT IN
6	PURPLE	OAT+
7	PINK W WHT STRIPE	OAT-
8	YELLOW	EF-HOT
9	ORANGE	ACT-OUT
10	NA	
11	NA	
12	PINK	OAH+

12-PIN MALE
PLUG FROM RTU

12-PIN MALE
PLUG FROM
WIRE HARNESS



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				SCALE: 1:12	SHEET: 3 OF 3