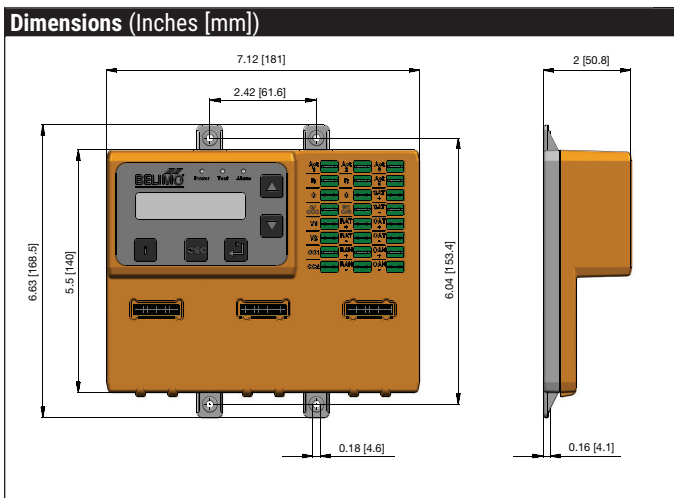


5-year warranty

Technical Data	
Power supply	AC 24 V ± 20%, 50/60 Hz; Class 2 power source
Power consumption rating*	4 VA base control (ECON-ZIP-BASE)
	5.5 VA base control with Energy Module (ECON-ZIP-BASE + ECON-ZIP-EM)
	5 VA base control with Communication Module (ECON-ZIP-BASE + ECON-ZIP-COM)
	6.5 VA base with Energy Module and Communication Module. (ECON-ZIP-BASE + ECON-ZIP-EM + ECON-ZIP-COM)
Rated impulse voltage	330 V
Connectors	¼" male spade connectors
Environmental	RoHS, conformally coated
Software class	A
Control pollution degree	3
Temperature input signal	NTC 10k Ω, Type II
Humidity	5 to 95% RH non-condensing
Humidity input signal	DC 0...10 V; corresponds to 0...100%
Housing	NEMA 1
Housing material	UL94-5VA
Ambient temperature range	-40...+158°F [-40...+70°C]
Storage temperature range	-40...+176°F [-40...+80°C]
Display	2x16 character LCD; LED backlight; transreflective
Display op. range**	-22...+176°F [-30...+80°C]
Agency listing	cULus acc. to UL873, CAN/CSA C22.2, No. 24-93
Energy code compliant	ASHRAE 90.1, CA Title 24, NECB



Installation

You can mount the ZIP Economizer in any orientation; it is recommended that you mount it in a position that will allow full utilization of the LCD and key pad and proper clearance for installation, servicing, wiring, and removal.

Take the overall dimensions of 6.63" [168.5] x 7.12" [181] x 2" [50.8] and mount in the interior of the RTU in a convenient location that you can access. Secure the ZIP utilizing #8 self-tapping screws (included). A minimum of two tabs need to be secured, one which is a top tab. Ideally secure all four tabs. Wire the electrical connection using ¼" female insulated spade connectors to prevent corrosion.

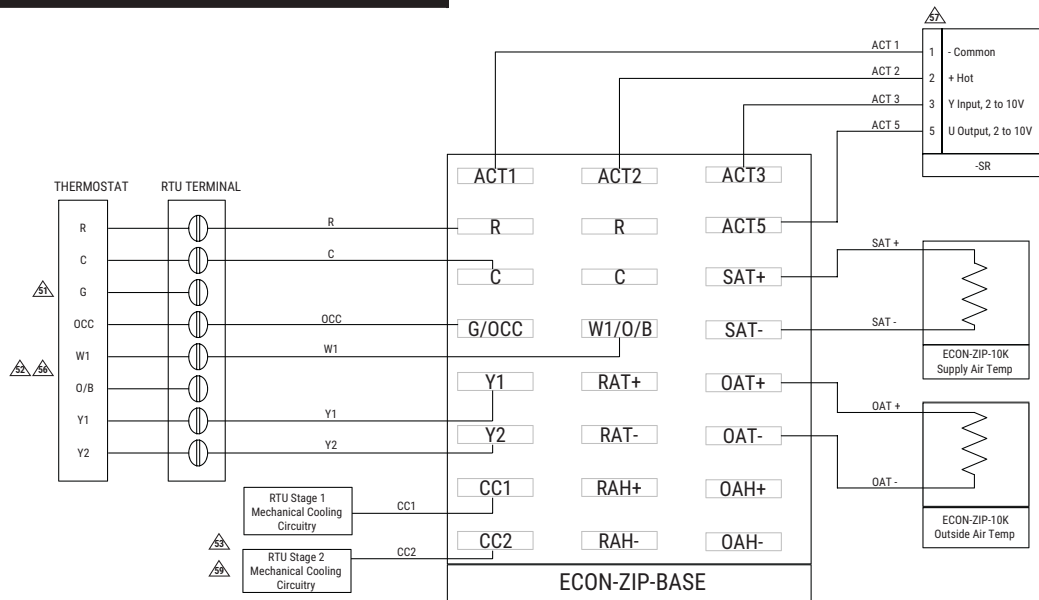
Input/Output Specifications

Type	Name	Description	Electrical Specification
Input	R	Supply Hot	AC 24 V, ± 20%, 50/60Hz
Input	G/ OCC	Fan Signal (occupied)	On/Off, AC 24 V, ± 20%, 50/60Hz
Input	C	Supply Common	Common
Input	Y1	Cooling requirement Stage 1	On/Off, AC 24 V, ± 20%, 50/60Hz
Input	Y2	Cooling requirement Stage 2	On/Off, AC 24 V, ± 20%, 50/60Hz
Input	W1/ O/B	Heating requirement Stage 1	On/Off, AC 24 V, ± 20%, 50/60Hz
Input	SAT ±	Supply Air Temperature Sensor	Type: 10K NTC (Type II thermistor)
Input	OAT ±	Outdoor Air Temperature	Type: 10K NTC (Type II thermistor)
Input	OAH ±	Outdoor Air Humidity	DC 0...10 V Auto Detection: Sensor present if voltage 0.5...10 V
Input	RAT ±	Return Air Temperature	Type: 10K NTC (Type II thermistor)
Input	RAH ±	Return Air Humidity	DC 0...10 V Auto Detection: Sensor present if voltage 0.5...10V
Output	CC1	Compressor 1 RTU Stage 1 Mechanical Cooling Circuitry	100'000 cycles @ inrush current of 3A, normal current 1.5A Impedance for Auto detection @ 24 V: <600 Ω @ 60Hz <800 Ω @ 50Hz
Output	CC2	Compressor 2 RTU Stage 2 Mechanical Cooling Circuitry	100'000 cycles @ inrush current of 3A, normal current 1.5A Impedance for Auto detection @ 24 V: <600 Ω @ 60Hz <800 Ω @ 50Hz
Output	Act 1	Actuator supply common	Common
Output	Act 2	Actuator supply hot	AC 24 V, 50/60Hz
Output	Act 3	Actuator control output	DC 2...10 V
Input	Act 5	Actuator feedback signal	DC 2...10 V

* The power consumption is for the control only and does not include connected loads such as actuator, compressors, fans, and sensors. For transformer sizing, the power consumption of these attached components must be included.

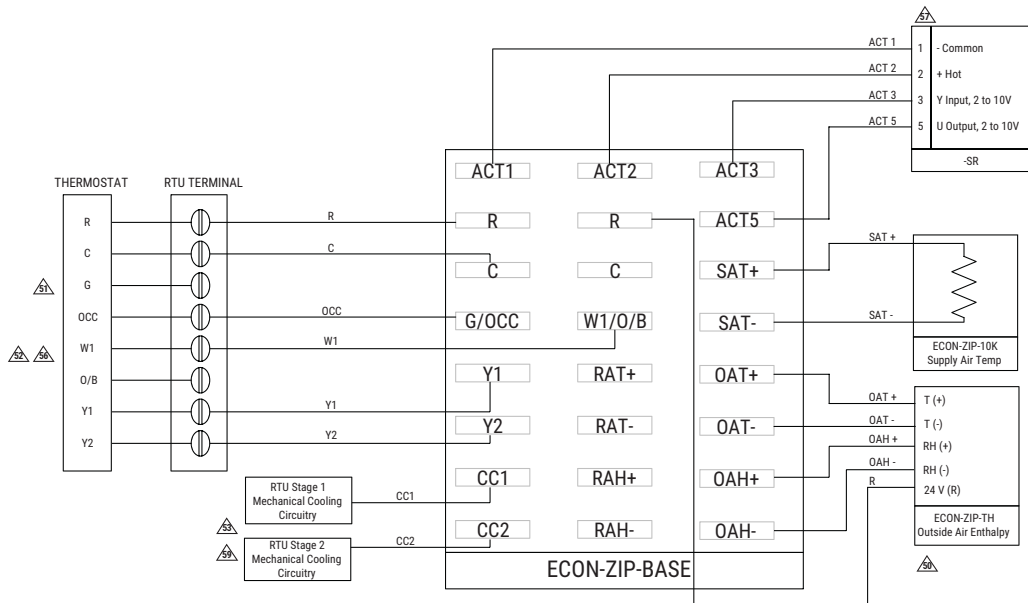
** At low temperature the display has decreased response time. Below -22°F [-30°C] it will not function.

Single Dry Bulb



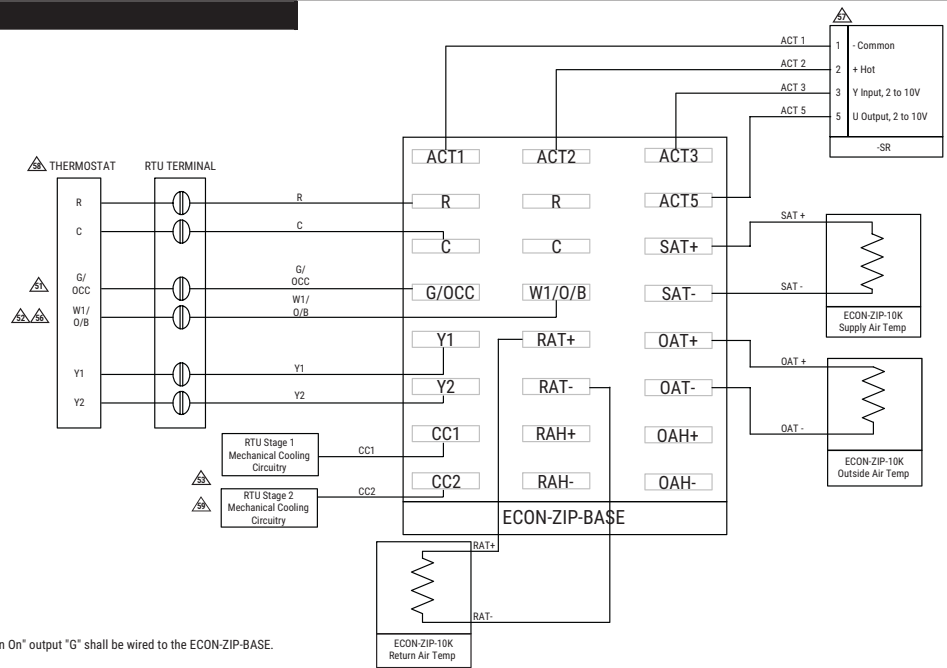
- ⚠ When the thermostat is not equipped with occupancy control, "Fan On" output "G" shall be wired to the ECON-ZIP-BASE.
- ⚠ W1 must be wired for Heat Pump operation if conventional thermostat is used in conjunction with Defrost Board. If Thermostat and RTU use O/B control reversing valve position, O/B must be wired to W1 on ECON-ZIP-BASE.
- ⚠ Existing refrigeration safety devices may exist, consult RTU wiring diagram
- ⚠ If RTU is not a Heat Pump using a conventional thermostat and it is desired to record heating operation hours, connect W1 to ECON-ZIP-BASE.
- ⚠ Actuators can be mounted in parallel with the ACT3 output from the ZIP Economizer. The ACT5 feedback input should be wired to the Outside Air damper actuator feedback wire.
- ⚠ Iso relay may be required with certain RTU manufacturers.

Single Enthalpy



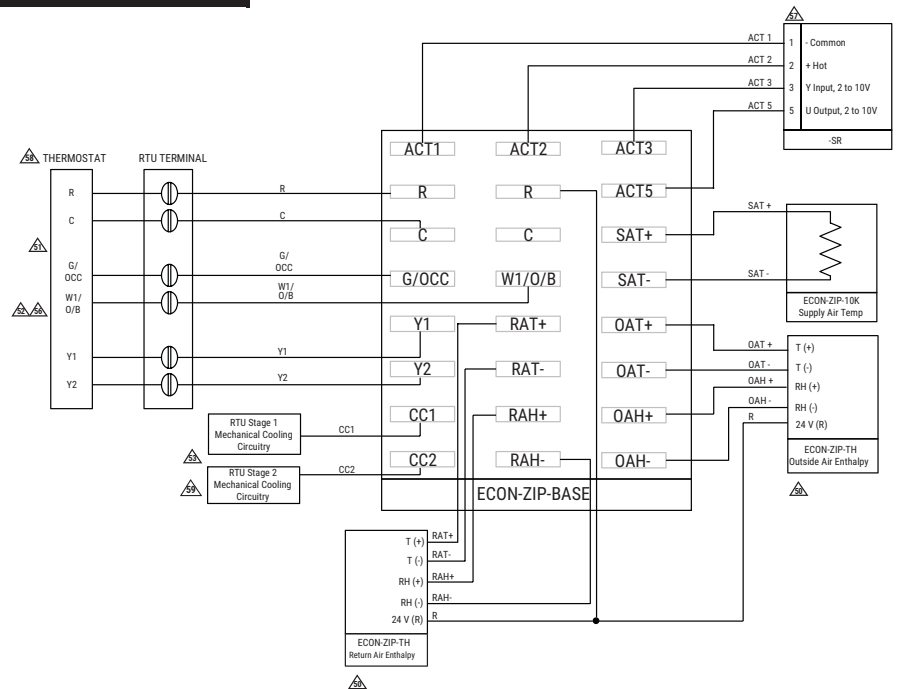
- ⚠ Power source should be the same as ECON-ZIP-BASE.
- ⚠ When the thermostat is not equipped with occupancy control, "Fan On" output "G" shall be wired to the ECON-ZIP-BASE.
- ⚠ W1 must be wired for Heat Pump operation if conventional thermostat is used in conjunction with Defrost Board. If Thermostat and RTU use O/B control reversing valve position, O/B must be wired to W1 on ECON-ZIP-BASE.
- ⚠ Existing refrigeration safety devices may exist, consult RTU wiring diagram
- ⚠ If RTU is not a Heat Pump using a conventional thermostat and it is desired to record heating operation hours, connect W1 to ECON-ZIP-BASE.
- ⚠ Actuators can be mounted in parallel with the ACT3 output from the ZIP Economizer. The ACT5 feedback input should be wired to the Outside Air damper actuator feedback wire.
- ⚠ Thermostat with two (2) stages of cooling required. Thermostats with mercury switches are not compatible with the ZIP Economizer.
- ⚠ Iso relay may be required with certain RTU manufacturers.

Differential Dry Bulb



- ⚠ Power source should be the same as ECON-ZIP-BASE.
- ⚠ When the thermostat is not equipped with occupancy control, "Fan On" output "G" shall be wired to the ECON-ZIP-BASE.
- ⚠ W1 must be wired for Heat Pump operation if conventional thermostat is used in conjunction with Defrost Board. If Thermostat and RTU use O/B control reversing valve position, O/B must be wired to W1 on ECON-ZIP-BASE.
- ⚠ Existing refrigeration safety devices may exist, consult RTU wiring diagram
- ⚠ If RTU is not a Heat Pump using a conventional thermostat and it is desired to record heating operation hours, connect W1 to ECON-ZIP-BASE.
- ⚠ Actuators can be mounted in parallel with the ACT3 output from the ZIP Economizer. The ACT5 feedback input should be wired to the Outside Air damper actuator feedback wire.
- ⚠ Thermostat with two (2) stages of cooling required. Thermostats with mercury switches are not compatible with the ZIP Economizer.
- ⚠ Iso relay may be required with certain RTU manufacturers.

Differential Enthalpy



- ⚠ Power source should be the same as ECON-ZIP-BASE.
- ⚠ When the thermostat is not equipped with occupancy control, "Fan On" output "G" shall be wired to the ECON-ZIP-BASE.
- ⚠ W1 must be wired for Heat Pump operation if conventional thermostat is used in conjunction with Defrost Board. If Thermostat and RTU use O/B control reversing valve position, O/B must be wired to W1 on ECON-ZIP-BASE.
- ⚠ Existing refrigeration safety devices may exist, consult RTU wiring diagram
- ⚠ If RTU is not a Heat Pump using a conventional thermostat and it is desired to record heating operation hours, connect W1 to ECON-ZIP-BASE.
- ⚠ Actuators can be mounted in parallel with the ACT3 output from the ZIP Economizer. The ACT5 feedback input should be wired to the Outside Air damper actuator feedback wire.
- ⚠ Thermostat with two (2) stages of cooling required. Thermostats with mercury switches are not compatible with the ZIP Economizer.
- ⚠ Iso relay may be required with certain RTU manufacturers.