# ZIP Economizer™ Base Module

## Setup



**▲** Moves one menu entry up on the same layer.
Increment an adjustable value by once increment.

**▼** Moves one menu entry down on the same layer.
Decrement an adjustable value by once decrement.

**↵** Enter sub menu. Confirm an entry.

**esc** Escape sub menu. Cancel current procedure.

**i** Show additional information on the current menu entry.
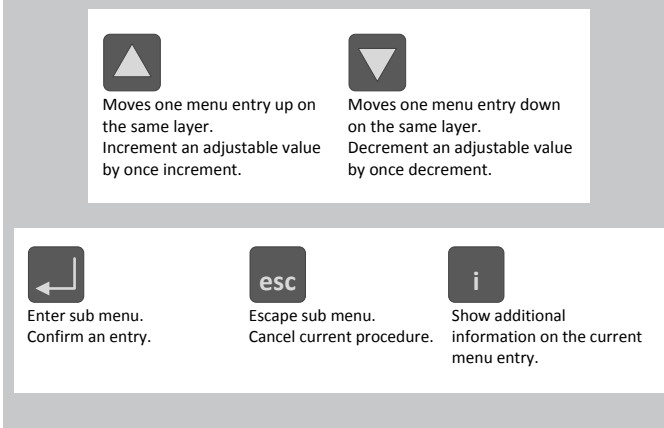
"Settings" is the menu displayed when the ZIP Economizer is first powered. Press "OK" to parameterize required settings. Reference above Keypad Key definition instructions and navigate as needed.

## Functions

1. "Monitor Live Conditions" is used to display settings and live values.
2. "Settings" is used to parameterize the ZIP Economizer. Unless otherwise prompted; default entry is "Auto" or "Off".  (Note: Devices 1 is for CC1, CC2, EF, IF; Devices 2 is for OAH, RAH)
3. "Present Devices" is used to verify that the ZIP's Auto Detected connections are terminated properly.  If established I/O is not shown, verify wiring. If wiring has continuity and device is verified operational re-enter "Settings" and enable missing device by changing from "Auto" to "Available" or "Installed".
4. "Alarms" is used to view current and historical alarms and delete inadvertently caused alarms.
5. "Service and Commissioning" submenu is used to operate the RTU in "Manual Mode" or to perform "Acceptance Test".  "Settings" must to be completed to access.
6.  "Status" is a display of the current operating mode.  It can be accessed by pressing "esc". The action of pressing any key will drop the user down from Status to the next level, so repeatedly pressing "esc" will toggle the display between Status and Monitor Live Conditions. **(Note: If status "Setup Incomplete" is displayed the RTU cooling functions will be disabled.)**

## Required "Settings" Parameters for All Configurations

1. ZIP Code /US or Canada (sets the free cooling changeover high limit and temperature scale F/C)
   a. When the Zip Code submenu is displayed enter "OK" to begin "US" Zip Code parameterization.  If "Canada" Postal Code is desired press the up/down arrow to access.
      i. Press OK to access digit 1 (flashing) then use the up/down arrow to parameterize; enter OK when complete.  Repeat until all digits are complete. If a mistake is made press "esc" and repeat from beginning
      ii. When all Zip Code or Postal Code digits are parameterized press "esc" to move up a level then press the up/down arrow to access next settings parameter.
2. Vent Min Pos (Outside Air Damper Ventilation Minimum Position)
   a. When the "Vent Min Pos" submenu is displayed press "OK" to parameterize (flashing).
   b. Use the up/down arrow to parameterize, press "OK" when complete. The actuator will immediately drive the damper to the minimum position.
3. Additional Parameters may require setting. The ZIP Economizer will auto-detect added Devices such as a CO2 sensor etc.  When the ZIP Economizer detects a new device, it will prompt the user in the Status level; navigate to Settings and parameterize blank fields. If the devices are connected upon first start up their settings will require parameterization then.
4. When all entries have been completed, the ZIP Economizer will switch to Status display and show "SetUp Complete" and will immediately begin a count down from 30 seconds, allowing the user time to be prepared in the case there is a call for cooling.

## Service and Commissioning (Acceptance Test & Manual Mode)

1. The ZIP Economizer has built in commissioning processes found in Acceptance Test. Use "Economizer Test" to verify RTU Integrated Economizer operation and also if it is known that the actuator stroke is mechanically limited to less than 90 degree rotation.  The test will re-scale the control signal range to maximum resolution over the calibrated (reduced) angle.
   a. Navigate to the "Service and Commissioning" menu, press "OK"; press the down arrow to access "Acceptance Test".  Press OK again when "Economizer Test" appears. Press "OK" again to confirm running test. Follow prompts during test.  This test will open damper to 100% (re-scale control signal if needed), enable power exhaust fan (if connected), enable 1st stage of Mechanical Cooling, reverse this process and then drive to Vent Min Position.  When used with a Belimo actuator, the actuator will speed up to reduce test time.  **(Note: failure to identify obstructions or improper setup of damper assembly may result in an improper scaling and operation of the damper.)**
   b. It is necessary to return back to automatic mode for the RTU to operate. Press "OK" when "Return to Automatic" is displayed.
2. Manual Mode is used to override outputs after entering a "Timeout" duration.  Navigate per above.