



# TEC40 Environmental Controller

The TEC40 is an electronic multi-stage controller for control of 3 or 4 air conditioners as 1 stage systems, or 2 air conditioners each operating as 2 stage systems. The latter is an excellent control method for dual air conditioners each with economizers, allowing maximum benefit of the economizer and switching to mechanical cooling based on building demand rather than a predetermined outdoor enthalpy condition.

## Engineered Features

### Unit Operation

LED's indicate the primary unit running and which stage(s) of cooling or heating are energized. The controller is powered (24VAC, 50/60 Hz) from any of the air conditioners controlled. In the event of a power loss to one or more air conditioners the controller will continue to operate from any other air conditioner still being powered. If all power is interrupted to the building the controller has a power loss memory and will remember the unit sequence when power is restored. An On/Off for controller activation is provided.

### Thermostat

The thermostat is an integrated 4-stage cool and 4-stage heat electronic control with a 2°F differential between each stage. Adjustable thermostat range is 55°F (13°C) to 90°F (32°C) and has a thermistor type sensor. The "dead band" between heating and cooling is adjustable between 4°F and 20°F.

### Staging Delay Periods

The following delays are built in for both cooling and heating: stage 1 - 0 seconds; stage 2 - 10 seconds; stage 3 - 15 seconds; stage 4 - 20 seconds.

### Fire Suppression

Dedicated terminals (F1 and F2) are provided for use with a field supplied fire suppression system, and will de-energize all air conditioners in the event of a fire.

### Compact size

The TEC40 controller is 7 inches wide, 11.5 inches high, and 3 inches deep. Twelve (12) .875 inch diameter knock-outs are provided for wiring connections.

### Isolation Circuitry

The TEC40 circuitry totally isolates the 24VAC power supplies of all connected air conditioners from each other to prevent feedback or phasing problems.



### Sequence Timer

The jumper selectable sequence timer can be set for 1, 3, 7, 14 or 24 days to rotate in sequence each connected air conditioner to the lead position and equalize run time. There is also a 0 day position available if necessary to halt rotation for test purposes or other reasons. There is a speed-up feature located inside controller to accelerate the timer switch over periods (approximately 1 second per day).

### Manual Sequence Advance

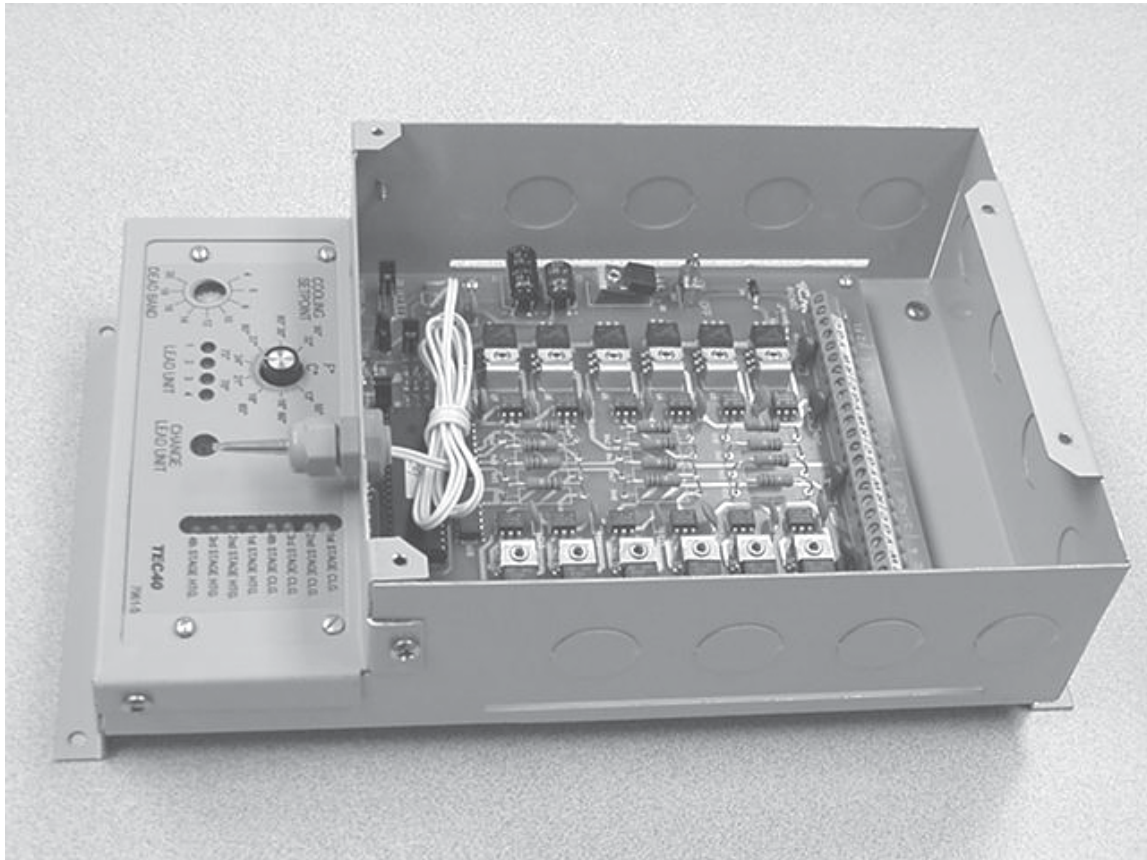
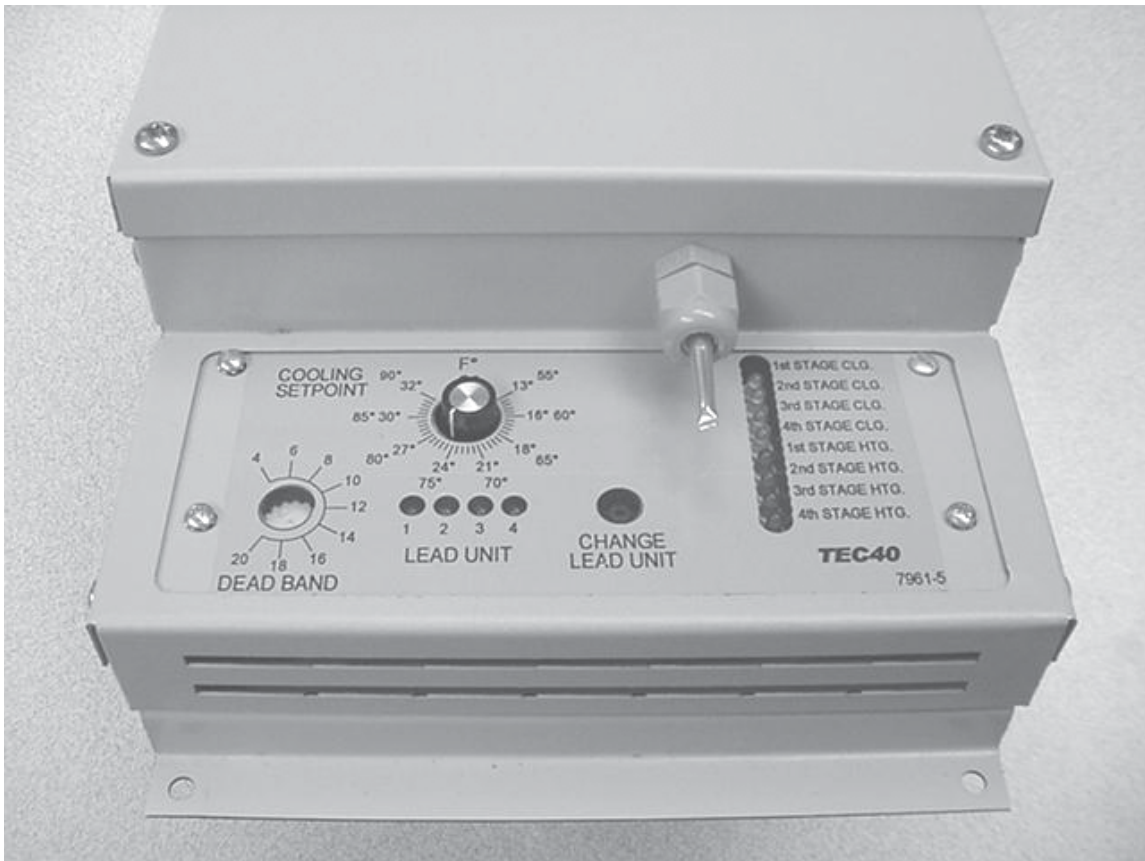
A recessed but externally accessible push-button advance button is provided for testing and service. This feature will force the lead unit to last place, and restart the selected sequence timer period.

### Lead Unit Continuous Blower Option

The blower on the air conditioner in the number 1 (lead unit) position can be forced to run continuously if desired by making a simple jumper selection.

### 2 Unit / 2-Stage Operating Sequences

Both alternating and non-alternating sequence option can be selected to control 2 air conditioners with economizers.



Bard Manufacturing Company, Inc.  
BRYAN, OH 43506

*Since 1914 ... Moving ahead,  
just as planned*

**Due to our continuous product  
improvement policy, all  
specifications subject to  
change without notice.**

**Form No.  
S3353  
May, 2001**

NEW