

# Bettis TEC2 Electric Actuator with Model 500 Quick-Start Guide

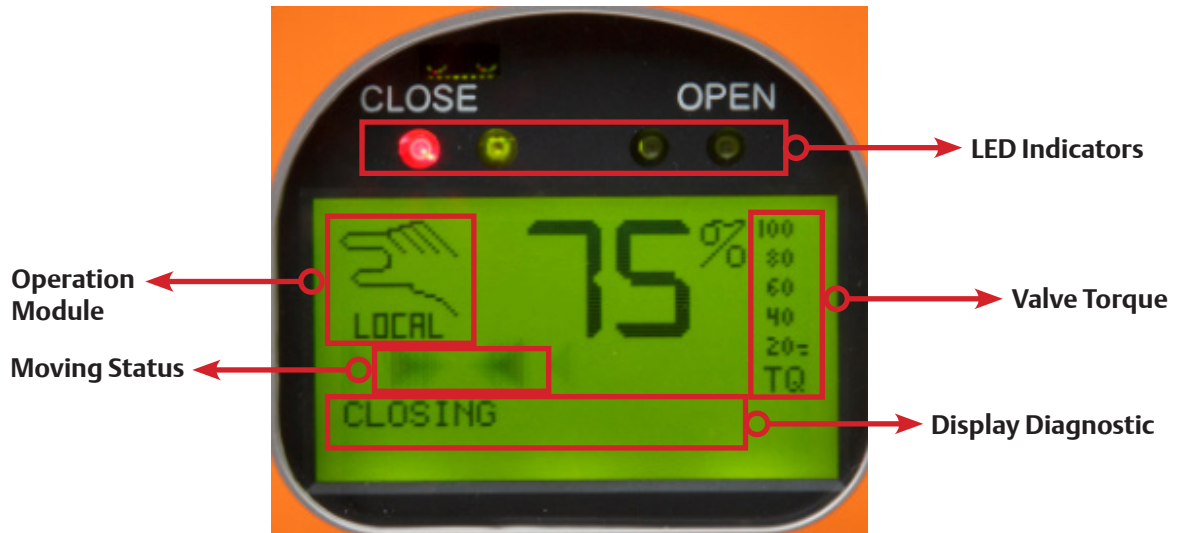




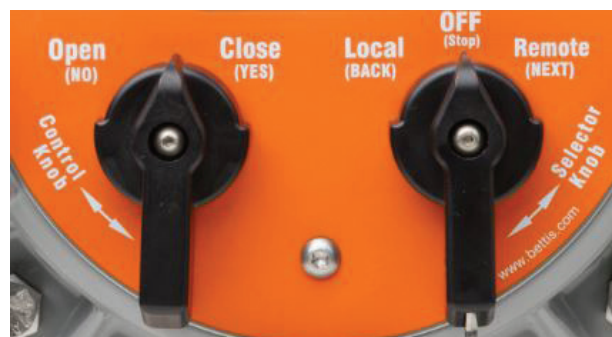
# Welcome to TEC2

The TEC2 actuator's Local Display Module (LDM) and Remote Display Module (RDM) provide easy-to-read actuator information.

The screen graphics will display the mode of operation, valve status, position, torque, and alarm symbols. The message center will display actuator setup options, data entry feedback, and alarm messages.



Once you follow the simple steps outlined in this guide, the actuator will be ready for normal operation. The bar graph, position digits, icons, and LEDs will indicate the valve status.



## Factory Settings

The actuator has been configured as specified in the order. No further changes should be necessary other than setting the position limits, and, if network controlled, setting a unique network address. If full data was not provided when ordering or if changes are needed, see the TEC2 Installation & Operation Manual (E2K-405-0117), which can be found at [www.emerson.com/bettis](http://www.emerson.com/bettis).

## Power Actuator

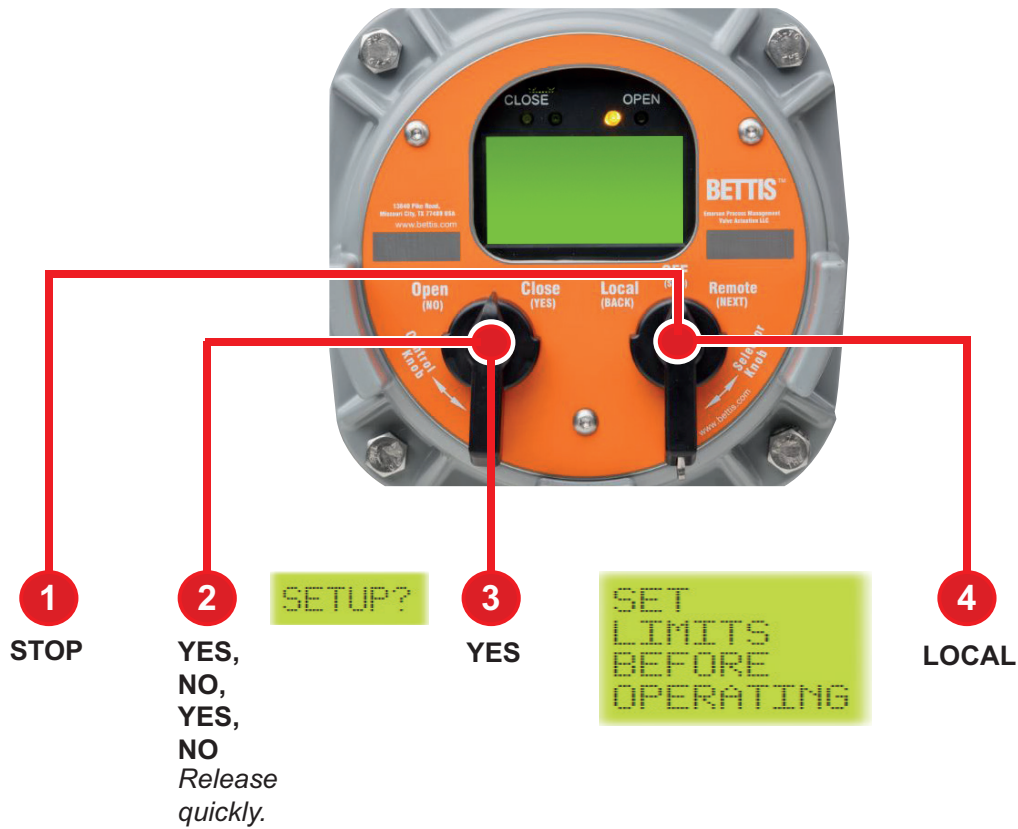
Verify the voltage rating on the unit nameplate. Connect power to the unit.

## Are Position Limits Set?

Does “SET LIMITS BEFORE OPERATING,” “EE%,” and the **alarm icon** appear, and is the **yellow LED** blinking? If so, then position limits **have not** been set.



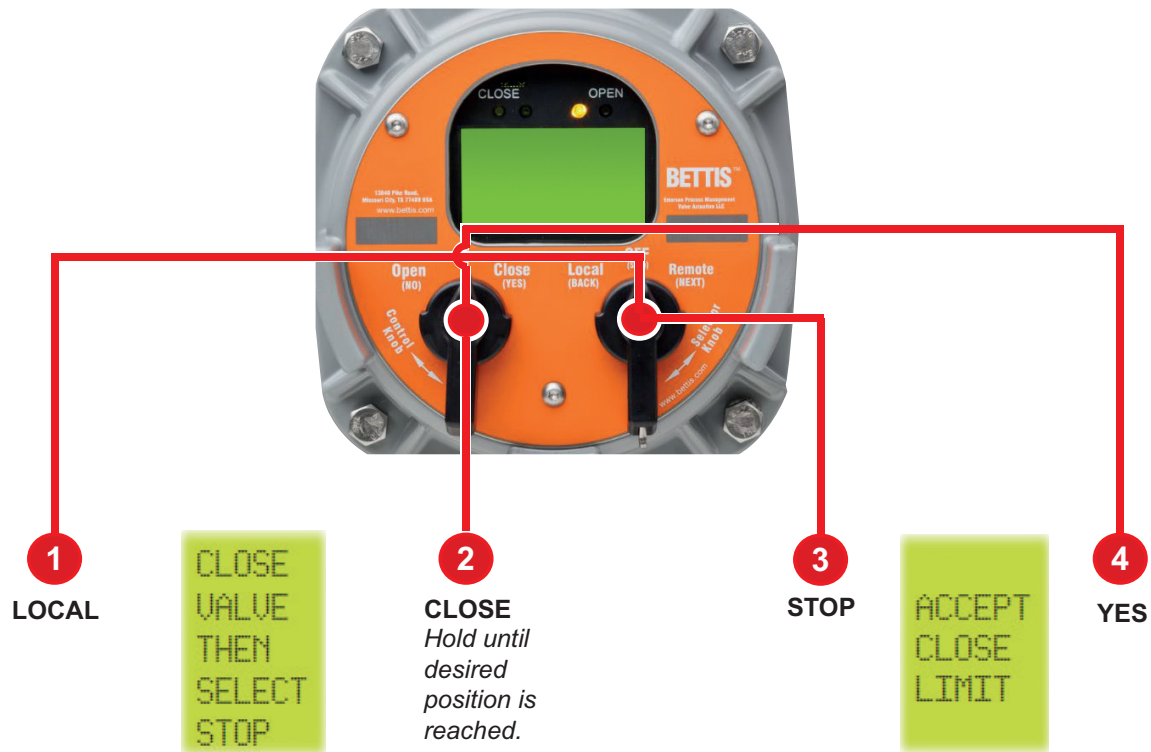
## Setting Valve Position Limits Initially



Place the selector knob in the **STOP** position. Then toggle the control knob in rapid succession to **YES**, then **NO**, then **YES**, then **NO** and release. The Setup icon will be displayed on the display module and “**SETUP?**” will be displayed on the message center. Rotate the control knob to “**YES.**” The message center will display “**SET LIMITS BEFORE OPERATING.**” Set position limits as described on the next pages.

## Setting Position Limits for Electrical Operation

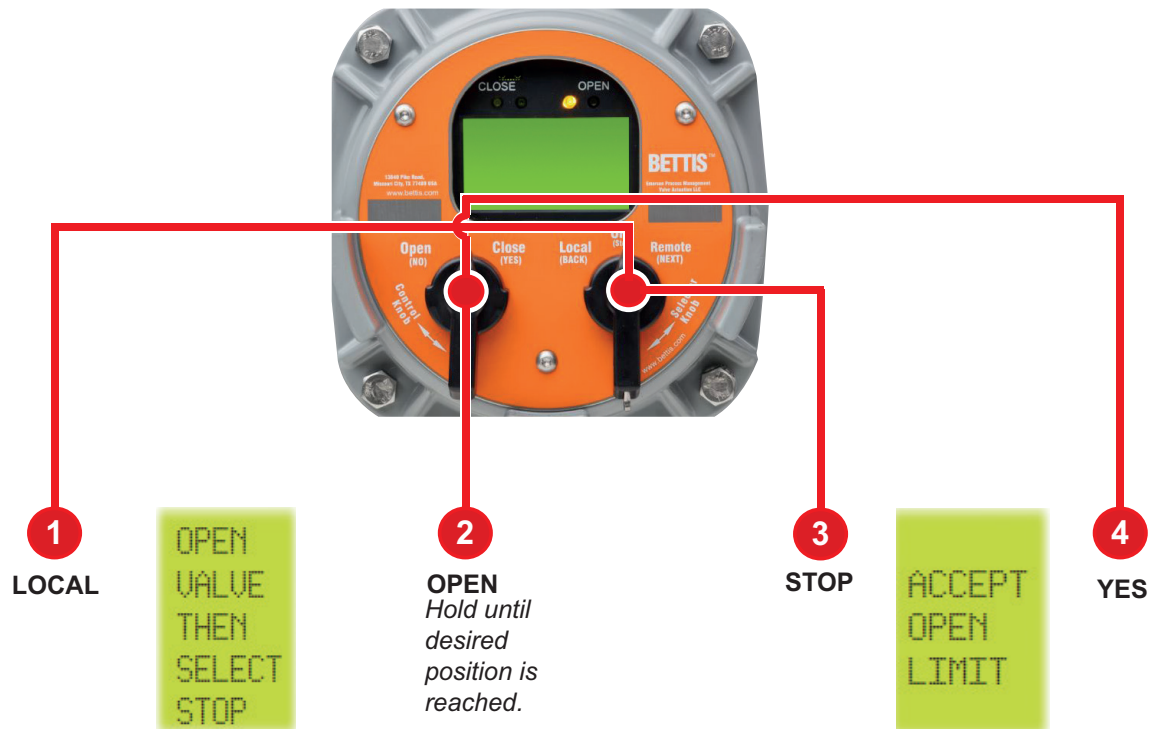
### STEP 1: CLOSED Valve Position



Turn the selector knob to the **LOCAL** position. At the “**CLOSE VALVE THEN SELECT STOP**” prompt, hold the control knob in the **CLOSE** position until the desired position is reached. Return the selector knob to the **STOP** position. At the “**ACCEPT CLOSE LIMIT**” prompt, select “**YES.**”

## Setting Position Limits for Electrical Operation

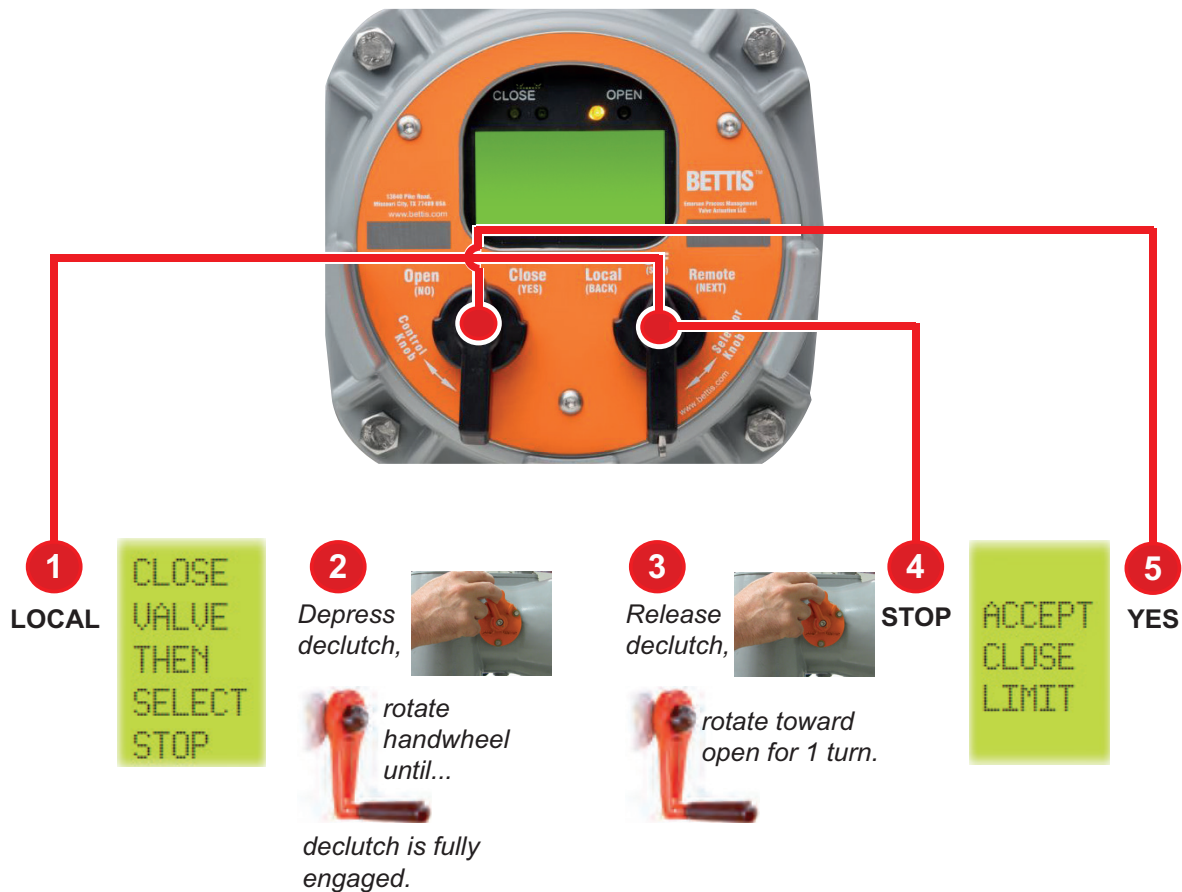
### STEP 2: OPEN Valve Position



Turn the selector knob to the **LOCAL** position. At the “**OPEN VALVE THEN SELECT STOP**” prompt, hold the control knob in the **OPEN** position until the desired position is reached. Return the selector knob to the **STOP** position. At the “**SAVE LIMITS**” prompt, select “**YES.**” Rotate selector knob to either next or back until “**EXIT**” is displayed, then select “**YES.**”

# Setting Position Limits for Manual Operation

## STEP 1: CLOSED Valve Position



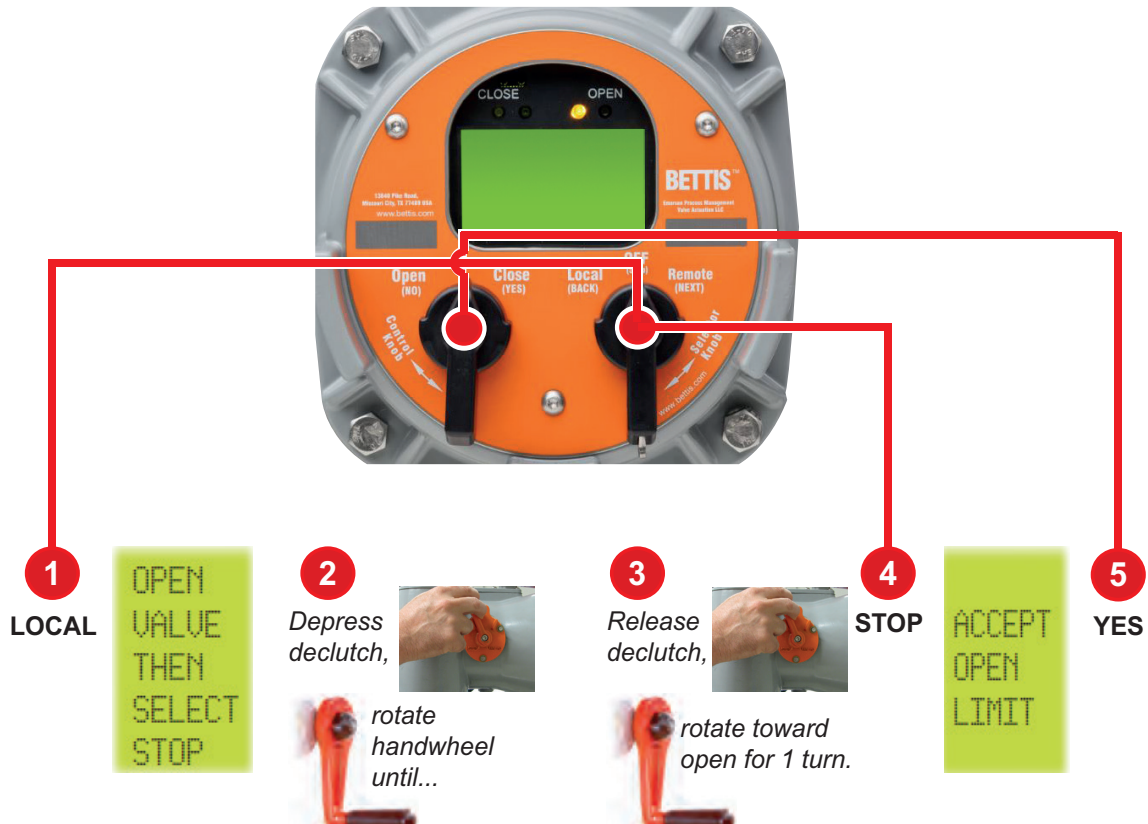
Turn the selector knob to the **LOCAL** position. At the “**CLOSE VALVE THEN SELECT STOP**” prompt, depress the **declutch lever** while rotating the **handwheel** until the clutch is fully engaged. Release the lever. When the valve is fully closed, move the valve in the open direction for one handwheel turn to allow for coasting of the motor. Return the selector knob to the **STOP** position. At the “**ACCEPT CLOSE LIMIT**” prompt, select “**YES.**”

Advance to the “**SAVE CHANGES?**” prompt and answer **YES** to save the changes.



## Setting Position Limits for Manual Operation

### STEP 2: OPEN Valve Position



Turn the selector knob to the **LOCAL** position. At the “**OPEN VALVE THEN SELECT STOP**” prompt, depress the **declutch lever** while rotating the **handwheel** until the clutch is fully engaged. Release the lever. When the valve is fully opened, move the valve in the close direction for one handwheel turn to allow for coasting of the motor. Return the selector knob to the **STOP** position. At the “**SAVE LIMITS**” prompt, select “**YES.**”

Advance to the “**SAVE CHANGES?**” prompt and answer **YES** to save the changes.

## Check the Open/Closed Settings

### Valve Closed

As you operate the valve in the close direction, verify that the **green LED** is blinking. When fully closed is reached, verify that the **green LED** stays **ON** and **0%** is displayed.



- 1 When turning to close, green LED blinks.
- 2 When fully closed, green LED remains lit.

0%

### Note

It is also configurable to have a **red LED** for **Valve Closed**.

### Valve Open

As you operate the valve in the open direction, verify that the **red LED** is blinking. When fully open is reached, verify that the **red LED** stays **ON** and **100%** is displayed.



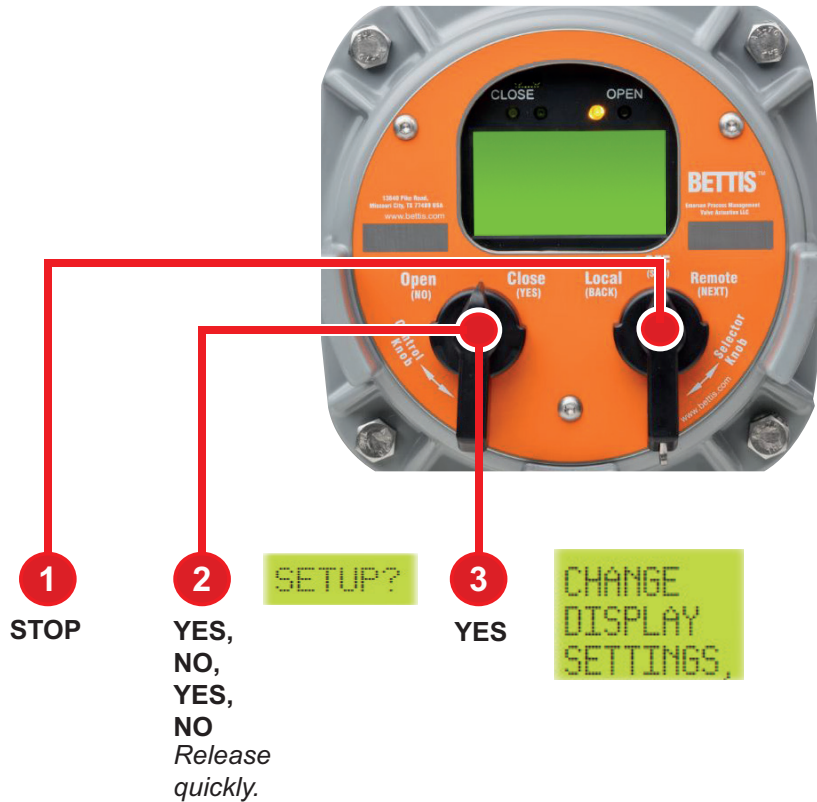
- 1 When turning to open, red LED blinks.
- 2 When fully open, red LED remains lit.

100%

### Note

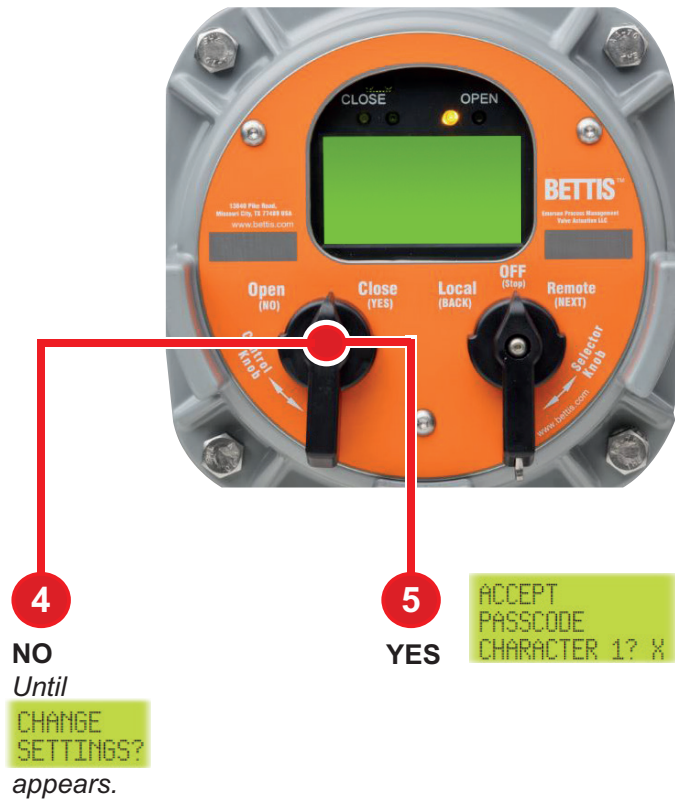
It is also configurable to have a **green LED** for **Valve Open**.

## Changing the Valve Settings



Turn the selector knob to the **STOP** position then toggle the control knob in rapid succession to **YES**, then **NO**, then **YES**, then **NO** and release. The setup icon will be displayed on the display module and “**SETUP?**” will be displayed on the message center. Rotate the control knob to **YES**. The message center will display “**CHANGE DISPLAY SETTINGS.**”.

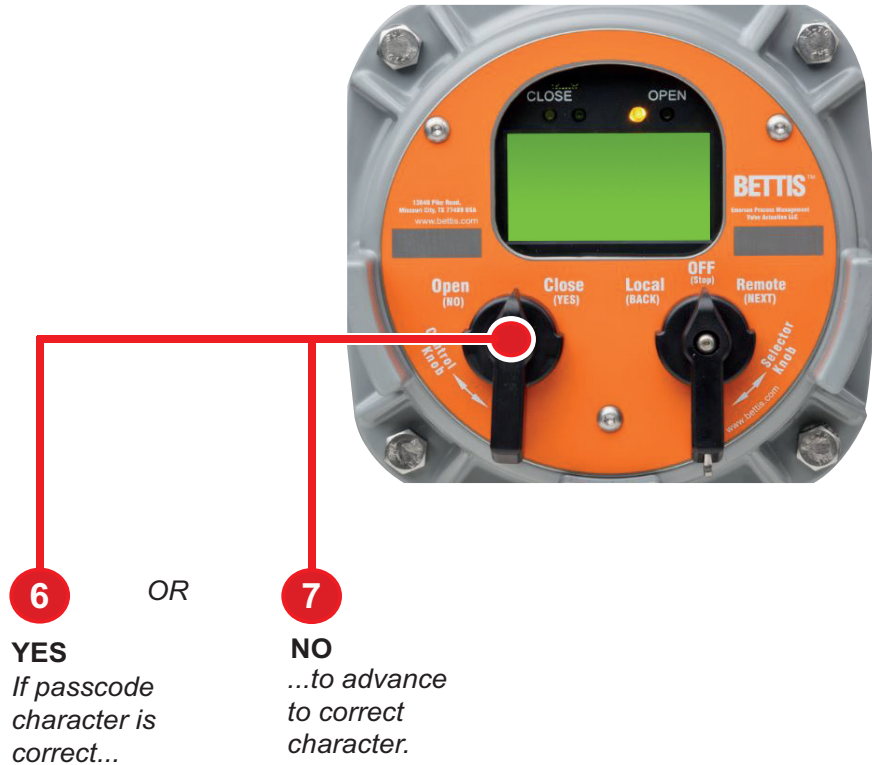
## Changing the Valve Settings



Answer **NO** to the Setup prompts until “**CHANGE SETTINGS?**” appears. Answer **YES**. “**ACCEPT PASSCODE CHARACTER 1?X**” appears. The factory default passcode is **000**. Do not change the password without recording the new password.

## Changing the Valve Settings

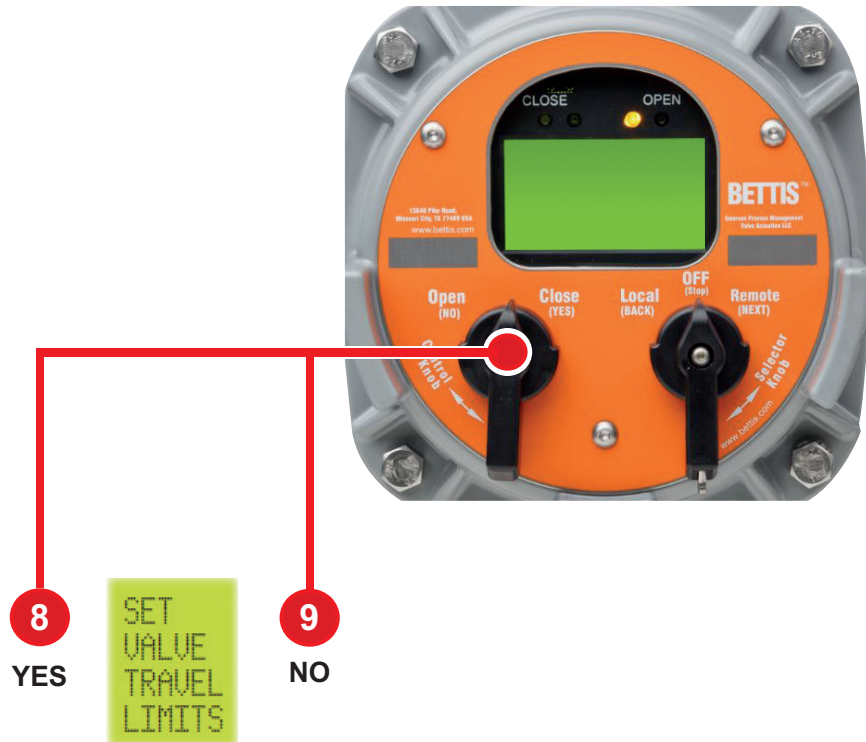
### Enter Passcode



Use the control knob and answer **YES** if the passcode character is correct. If not, use **NO** to advance incrementally to the correct character. Repeat this process until three passcode characters are entered.

## Changing the Valve Settings

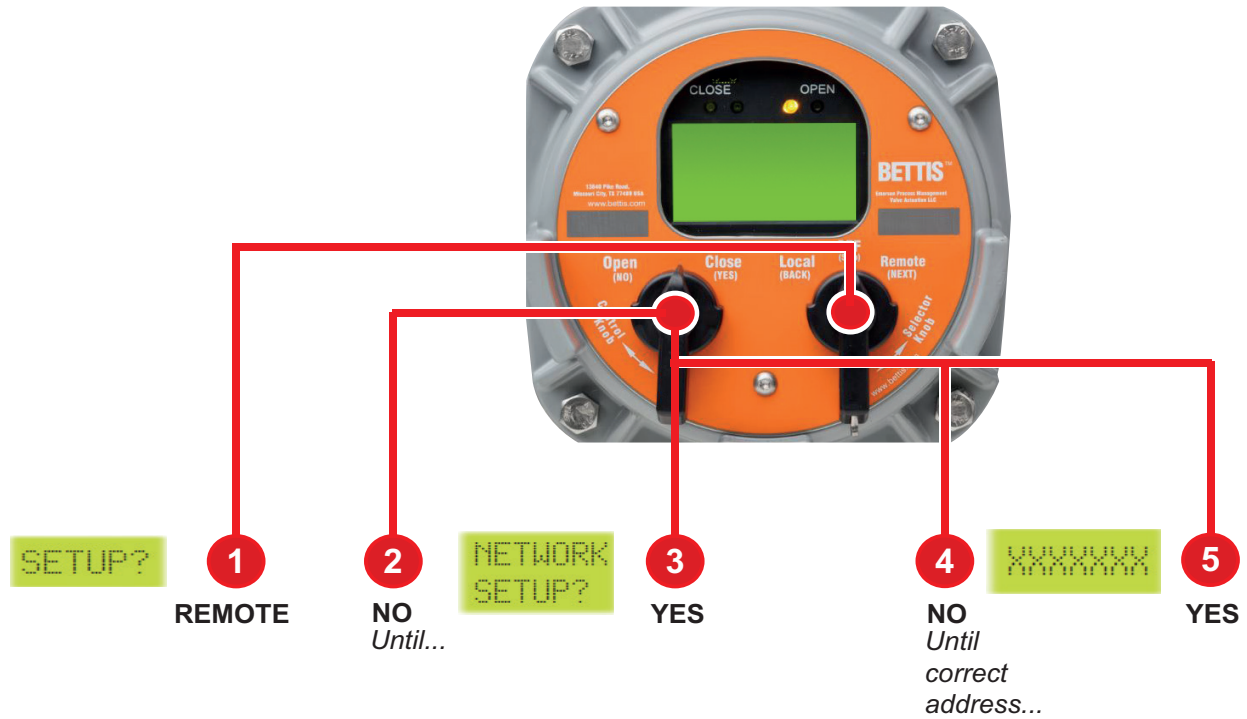
### Setting Limits



Advance to the “SET VALVE TRAVEL LIMITS” prompt and answer **YES**. Proceed to set limits.

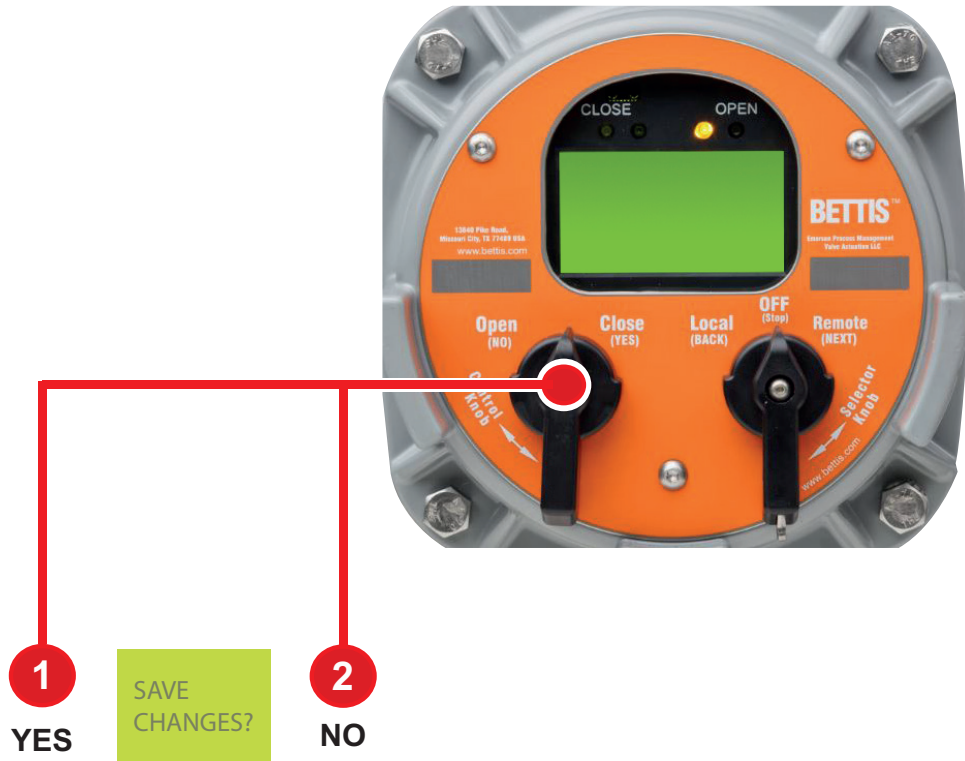
## Network Controlled

(CAM and Controlinc® option required)



In the “**SETUP**” mode advance to “**NETWORK SETUP?**” using the selector knob in the **REMOTE** position. Answer **YES**. Hold the control knob in the NO position until the correct address appears. Answer **YES**. Unit is now network controlled. If other configuration changes are needed, please see the TEC2 Installation & Operation Manual (E2K-405-0117), which can be found at [www.emerson.com/bettis](http://www.emerson.com/bettis).

## Saving the Changes



Advance to the “**SAVE CHANGES?**” prompt and answer **YES** to save the changes.





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