

U-Series

Electric Actuators



Quick Application Guide

End Point Calibration, Failsafe Setup,
Automatic Mode Selection, Keypad Reference



Contents

Standard End Point Calibration.....	2
Device Defaults	2
Automatic End Point Calibration.....	3
Failsafe Setup	5
Automatic Mode Selection and Wiring Examples.....	6
4-20mA	6
MB-RTU	6
MB-TCP	6
One-wire (OC1-WIRE)	7
Two-wire (OC2-WIRE).....	7
ON-OFF	7
Keypad Button Reference.....	8

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Device Defaults

- Movement Range: 0-90°
- 4-20mA Range: 20mA Set as OPEN and 4mA Set as CLOSED
- Rotation Speed: 70%
- Open Position is Counter-Clockwise

Standard End Point Calibration

(For Valves without End Stops)

1.

Press  +  together to see the following screen:

```
→PS→End Points 1/4 ↓  
Calibration Finished  
OPEN →  CCW    CLSD  
Set.    90.0°   Set.
```

2.

Use the   buttons to set the valve OPEN direction



Clockwise OPEN position



```
OPEN →  CW
```



Counter-Clockwise OPEN position



```
OPEN →  CCW
```

3.

Press  to clear the current setting of that end point.

The third line display arrows around the CLSD to show that's the end point being edited.

Edit CLOSED position



```
OPEN →  CW  «CLSD»
```

4. Press or hold  or  to move the valve in the direction of the CLOSED end point.

5. When in position, press  to save the position to memory.

Note: If setting a 90° Span, you can automatically add 90° to the current end point after it's set. To do this, repeat step 3 for the second end point and then press  to add 90°.

6. Repeat steps 3-5 for the OPEN end point.

Edit OPEN position



«OPEN»→ CW CLSD

Automatic End Point Calibration

(Compatible with Valves that Have End Stops)

1. Press  +  together to see the following screen:

→PS→End Points 1/4 ↓
Calibration Finished
OPEN → CCW CLSD
Set. 90.0° Set.

2. Use the   buttons to set the valve OPEN direction



Clockwise OPEN position



OPEN → CW



Counter-Clockwise OPEN position



OPEN → CCW

3.

Press  to clear the current setting of that end point.

The third line display arrows around the CLSD to show that's the end point being edited.

Edit CLOSED position



OPEN → CW «CLSD»

4.

Press and hold . The display will show as below and then a countdown will start.

Hold to AUTO cal, or
Release for 90 deg.
OPEN → CCW CLSD
Set. 90.0° Set.

Once the countdown has finished, it will automatically move the valve in the CLOSED position until it detects a stop. It will then back off 2° and store the end point.



, or



may be pressed to cancel the operation.

5.

Repeat steps 3-4 for the OPEN end point.

Edit OPEN position



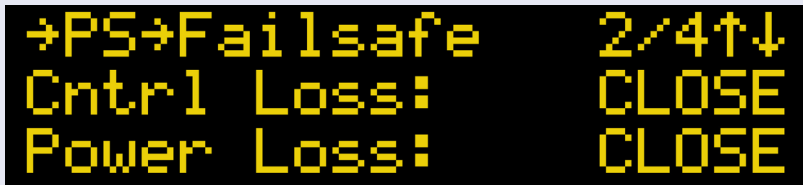
«OPEN» → CW CLSD

Failsafe Setup

(Compatible with Valves that have End Stops)

1.

From the PS EndPoints screen, press the  button to reach Failsafe setup.



→PS→Failsafe 2/4↑↓
Cntrl Loss: CLOSE
Power Loss: CLOSE

2.

Press  to edit Failsafe Options.

Both Control signal loss and Power signal loss options may be configured but have the same options:

- **CLOSE** - Valve moves to closed position
- **OPEN** - Valve moves to open position
- **PERCENT OPEN** - Valve moves to X percent of open position
- **STAYPUT** - Valve doesn't move at all

3.

Use   to change values.

Use  to move to the next field.

4.

Press  to store value.

Automatic Mode Selection and Wiring Examples

To change the current AUTO mode of the actuator:

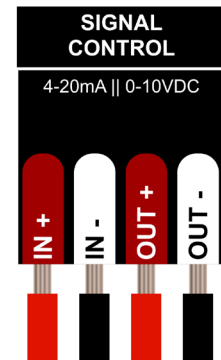
- Press  to cycle through the modes
- Press  to choose the proper mode for your application

4-20mA

IN + / IN - : Insert 4-20 mA or 0-10 V control signal into appropriate terminal. Valve moves to OPEN or CLOSED based on calibrated control signal values.

OUT + / OUT - : 4-20 mA Feedback supplied for position reference. Default 4mA out is CLOSE position and 20mA out is OPEN position.

Wiring Example



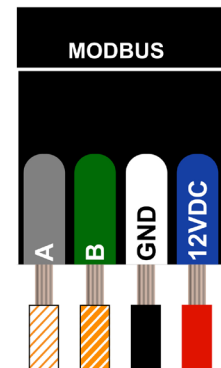
MB-RTU

Standard MODBUS operation. Ensure Device ID, Baud Rate, and COM timeout are set up in the MBUS-RTU-SETUP screen. Accessed

via  +  and then press  three times

Note: 12VDC Not needed for standard communication, only accessories

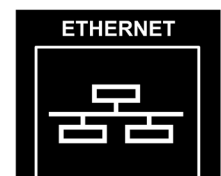
Wiring Example



MB-TCP

MODBUS operation using TCP service. Ensure IP address, gateway, PORT, COM timeout, and whether DHCP will be used via MBUS-TCP SETUP screen. Accessed by pressing the down arrow while on the MBUS-RTU-SETUP screen.

Wired With

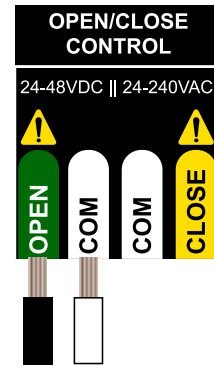


One-wire (OC1-WIRE)

Positive control wire inserted into open by default. When voltage is applied to positive control wire, valve moves to open position. Valve closes when signal is removed.

May be set up for closed. Option must be set in OC1-Wire setup screen and control wire must be inserted into CLOSE instead of OPEN.

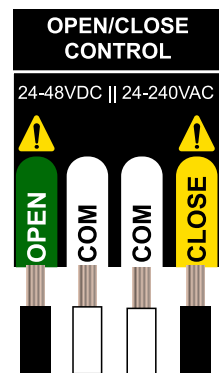
Wiring Example



Two-wire (OC2-WIRE)

Neutral Wire Inserted in to COM; Positive Control Wires inserted into OPEN and CLOSE. When voltage is applied to Positive Control Wire the valve moves to programmed OPEN or CLOSE position. Otherwise remains stationary. If both inputs are removed, valve moves to set FAILSAFE position in OC2-Wire setup screen.

Wiring Example



ON-OFF

Only available if SuperCap Installed

No additional wiring needed. If SuperCap installed option only needs enabled. Once enabled, power switch controls valve position. Valve will OPEN or CLOSE based on setting.

Keypad Button Reference

Buttons	
	Use to navigate menus and set values
	Store Values/Confirm
	Cancel Entry/Back out of Menu
	In calibration, press to set direction valve moves to open; Clockwise or Counter-Clockwise
	Manual Mode
	Move to calibrated open position Press to clear set point during calibration
	Move to calibrated closed position Press to clear set point during calibration
	Cycle between Automatic Modes (must press ENT to set after selecting proper mode)
Button Combinations	
Hold  + Press 	From Main Screen, enter Calibration Mode
Hold  + Press 	In Manual Mode, moves actuator to 100% open
Hold  + Press 	In Manual Mode, moves actuator to 100% closed