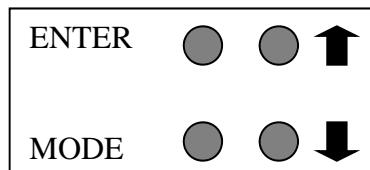


Team Technical Services

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ABB TZID-C AUTOSTROKE MANUAL @ VALVE



The four push buttons **ENTER**, **MODE**, \uparrow and \downarrow are pressed individually or in certain combinations according to the function desired.

Basic Functions:

ENTER

- Acknowledge message
- Start action
- Save in non-volatile memory

MODE

- Choose operating mode
 - (operating level)
- Select parameter group or parameter
 - (configuration level)

\uparrow UP direction button

\downarrow DOWN direction button

Mounting Position: Mount the positioner on the actuator so that the arrow on the feedback shaft travels within the arrows marked on the positioner.



Note: On rotary fail safe actuators determine direction of travel prior to mounting. Fail reached turning clockwise or fail reached turning counter-clockwise. [P3.2]

Connection Piping:

- Air Supply, Pressure 1.4 – 6 bar, 20 – 90 PSI
- Out 1 – Output pressure to actuator
- Out 2 – Output pressure to actuator (for double-acting actuators) If positioner does not autoadjust, reverse connections

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Commissioning

1. Turn on the air supply to the positioner. (**Install a filter-regulator with a set pressure not to exceed 85 psi**)
2. Apply the 4 – 20 mA analog signal to the positioner.
3. Check for proper mounting:
 - Press and hold **MODE**
 - Additionally briefly press \uparrow or \downarrow until mode **1.3** (MAN_SENS) is displayed
 - Release **MODE**
 - Press \uparrow or \downarrow to move the actuator to its mechanical limit stops in both directions, and note the values. The angle of rotation is indicated in degrees.

Recommended positions of limit stops:

- > - 28° and < +28° for linear actuators
- > - 57° and < + 57° for rotary actuators

4. Switch to the configuration level:
 - Press and hold \uparrow and \downarrow simultaneously, briefly press **ENTER** and wait until countdown from 3 to 0 is complete.
 - Release \uparrow and \downarrow . The device will automatically go to parameter group P1.0
5. Select the actuator type (PARAMETER P1):
 - Select **ROTARY** or **LINEAR** using \uparrow or \downarrow .
6. Start *Autoadjust*:
 - Press and hold **MODE**, briefly press \uparrow ; until “P1.1” is indicated
 - Release **MODE**.
 - Press & Hold **ENTER** until the countdown is finished.
 - Release **ENTER**
 - *Autoadjust* is started.
 - The message “COMPLETE” is displayed to indicate successful *Autoadjust*.

Note: If autoadjust does not begin on double-acting actuators, reverse actuator air lines

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7. Save the settings:
 - Press and hold **MODE**, additionally, briefly press ↑; until “EXIT” is indicated. (P1.4 or P1.5 depending on the software revision)
 - Release **MODE**.
 - Press and hold **ENTER** until the countdown is completed, then release **ENTER**.

8. Selecting operating mode:
 - Press and hold **MODE**, Additionally briefly press ↑ until **1.1 CTRL_FIX** is displayed.
 - Release **MODE**. Unit is now ready to run.

(NOTE: *If display reading is reversed, change the zero position*)

Adjustments

1. Change over to configuration level: (Example: P1.2.....DEADBAND)
 - Simultaneously press and hold ↑ and ↓, additionally press **ENTER** and release
 - Wait until countdown from 3 to 0 has run down.
 - Release ↑ and ↓.
 - Hold **MODE**, use ↑ or ↓ arrows to move through menu.

2. Change over to parameter level. (Must be in config)
(Example: P2.3....Direct / Reverse acting) (Example: P3.2....Zero Position)
 - Simultaneously press and hold **MODE** and **ENTER**.
 - In addition briefly press ↑ or ↓ to move through Parameter Levels
 - Hold **MODE**, use ↑ or ↓ to move through Level menu.
 - After changes are made, hold **MODE** and use ↑ and ↓ arrows to exit.
 - Press and hold **ENTER** and wait for countdown. Select operating mode (7)

Quick Checks

To check for leakage in tubing and/or actuator, put positioner in manual and see if it will hold a set point with-out drifting down. If valve is drifting this is a very good indication that there is a leak somewhere in the system.

To verify signal from the control room press the up button, this will display the input signal to the positioner.

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Parameter Overview

| ID | Designator | Name |
|------|-------------------|-------------------------|
| P1._ | STANDARD | |
| P1.0 | ACTUATOR | Actuator type |
| P1.1 | AUTO_ADJ | <i>Autoadjust</i> |
| P1.2 | TOL_BAND | Tolerance band |
| P1.3 | TEST | Test |
| P1.4 | EXIT | Return to operat. level |
| P2._ | SETPOINT | |
| P2.0 | MIN_RGE | Min. of setpoint range |
| P2.1 | MAX_RGE | Max. of setpoint range |
| P2.2 | CHARACT | Characteristic curve |
| P2.3 | ACTION | Valve action |
| P2.4 | SHUT-OFF | Shut-off value |
| P2.5 | RAMP [^] | Setpoint ramp, up |
| P2.6 | RAMP ^v | Setpoint ramp, down |
| P2.7 | EXIT | Return to operat. level |
| P3._ | ACTUATOR | |
| P3.0 | MIN_RGE | Min. of stroke range |
| P3.1 | MAX_RGE | Max. of stroke range |
| P3.2 | ZERO_POS | Zero position |
| P3.3 | EXIT | Return to operat. level |
| P4._ | MESSAGES | |
| P4.0 | TIME_OUT | Deadband time limit |
| P4.1 | POS_SW1 | Switching point SW1 |
| P4.2 | POS_SW2 | Switching point SW2 |
| P4.3 | SW1_ACTV | Active direction SW1 |
| P4.4 | SW2_ACTV | Active direction SW2 |
| P4.5 | EXIT | Return to operat. level |
| P5._ | ALARMS | |
| P5.0 | LEAKAGE | Leakage to actuator |
| P5.1 | SP_RGE | Outside setpoint range |
| P5.2 | SENS_RGE | Zero error |
| P5.3 | CTRLER | Controller inactive |
| P5.4 | TIME-OUT | Positioning time-out |
| P5.5 | STRK_CTR | Stroke counter |
| P5.6 | TRAVEL | Travel counter |
| P5.7 | EXIT | Return to operat. level |