

Changing Static Pressure Time Constant for ABB 2010TC Multivariable Transmitters



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INTRODUCTION

This procedure is used, when a customer has one or more transmitters connected at a field site and wants to change the static pressure measurement response time at the site.

INSTRUCTIONS

Wiring Communications and Power

1. One or more 2010TC transmitters must be connected together on the RS-485 bus.
2. **Disconnect the transmitter RS-485 bus from the Flow Computer or RTU.**
3. Connect the PC to RS-485 cable, 2100241-002 and 2100248-001, to one of the COM ports on the PC and connect the red (+) and black (-) alligator clips to COM (+) and (-) respectively. The B&B Electronics RS-485 converter is an equivalent substitute for the cable, TD(A) – and TD(B)+, to the transmitter communication terminals (-) and (+), respectively.
4. It may be necessary to connect a 9 volt battery to the cable or B&B Electronics RS-485 Converter +12V and GND.
5. Connect 12 volts to all the transmitter power terminals (+) and (-).

Keeping the Transmitter in the Operate Mode*

1. All transmitters on the RS-485 bus must be in the Operate mode, which is the normal mode of operation. Normally, the customer should NOT perform this paragraph. Use the following procedure to determine if any of the transmitters are in the **Configuration** mode.
2. Using the Local Key Pad, depress the M key. Display shows EXIT.
3. Repeated depress the + key until display shows Device Mode.
4. Depress the M key to select Device Mode. The display shows Operate.
5. Depress M key to select Configure. Display show ok.
6. Repeated depress the +key until display show EXIT.
7. Depress M key. Display shows User-Text.

Executing the AD Trim program

1. Determine which communications port the RS-485 cable or B&B converter is connect to on the computer. Go into the Windows Setting for the COM port that will communicate with the transmitters and turn off FIFO.
2. For Windows 2000 perform the following procedure to turn off the COM Port FIFO buffer.
 - a. Right mouse click My Computer.
 - b. Then left mouse click the following buttons.
 - c. Properties
 - d. Hardware
 - e. Device Manager
 - f. Ports (COM & LPT)
 - g. Communications Port (COM2), select the COM port that the RS-485 cable is connected to.
 - h. Port Settings
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None
 - i. Advanced

- j. Use FIFO Buffer, **NOT Checked**.
 - k. Mouse click OK on the various window associated with turning off the FIFO Buffer.
3. For Windows NT perform the following procedure to turn off the COM port FIFO buffer. Left mouse click the following buttons.
 - a. Start
 - b. Settings
 - c. Control Panel
 - d. Communications ports
 - e. Ports
 - f. COM1, COM2, select the COM port that the RS-485 cable is connected to.
 - g. Settings
 - h. Port Settings
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None
 - i. Advance
 - j. FIFO Buffer, **NOT CHECKED**
 - k. Mouse click OK on the various window associated with turning off the FIFO Buffer.
4. Run the AD Trim 2_0_2 program.
5. Select the COM port, that the RS-485 cable is plugged into.
6. Enter the Modbus address of the transmitter, that the Response Time will be read and modified.
7. With the mouse pointer, select **Connect**. The current static pressure time constant is displayed. Repeat this step is communications is not successful. If the reading is 0.25, then select **Exit without saving**.
8. Enter **0.25** in the Time constant Static pressure window.
9. With the mouse pointer, select **Save and Exit**. Occasionally, this communications shows error. However, the value should be in the transmitter.
10. The AD Trim program should display, Update Successful.
11. Select OK.
12. The AD Trim program should display, Device back in operate mode.
13. Select OK and the program will terminate.
14. Leave the transmitter powered up for a minimum of 60 seconds to allow the transmitter time to save the new time constant in non-destructible memory. If the transmitter has a display, the clock ICON will be displayed while the transmitter is saving the time constant data. The clock should remain on for approximately 60 seconds.
15. Power the transmitter down for approximately 5 seconds and then power the transmitter back up.
16. Repeat steps 4, 5, 6 and 7 to verify, that the 0.25 was accepted by the transmitter.

Removing Communications and Power

1. Disconnect the RS-485 cable from the transmitter RS-485 bus.
2. Connect the RS-485 transmitter bus to the flow computer or RTU.