WESTLOCK
CONTROLS CORPORATION

Digital EPIC D410/D420
For Rotary, Linear and Standard Applications
Operating Manual

1. Scope of Manual

This manual contains installation, wiring instructions and calibration of the Digital EPIC D410/D420 in standard applications as a microprocessor based device, providing both 4-20 mA signal for position feedback and digital communications via the HART® protocol.

2. Symbols Used in this Document

This symbol warns the user of possible danger. Failure to heed this warning may lead to personal injury or death and/or severe damage to equipment.

This symbol identifies information about operating the equipment in a particular manner that may damage it or result in a system failure. Failure to heed this warning can lead to total failure of the equipment or any other connected equipment.

This symbol draws attention to information that is essential for understanding the operation and/or features of the equipment.

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3. Mounting D-EPIC on a Rotary Actuator

Press fit the inner beacon to the inner beacon coupler. The inner beacon needs to be properly oriented. Use the symbols on the top of the inner beacon to orient correctly during installation as shown in Condition 1 or Condition 2 (See Figures 1 and 2 below).

Note

IMPORTANT: Condition 1 and Condition 2 show the placement of the inner beacon with respect to the positioner housing while the actuator is in the fail position.

Condition 1-Actuator fails in a clockwise direction.

Condition 2-Actuator fails in a counter clockwise direction.

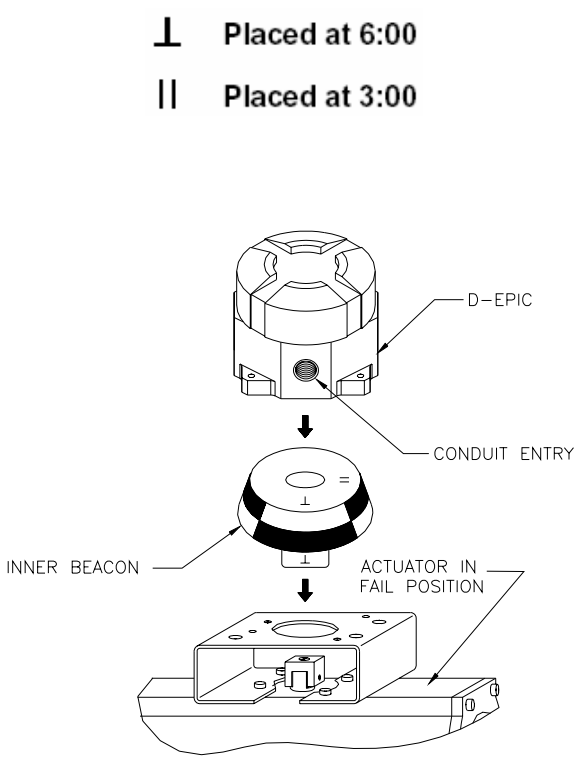

Figure 1

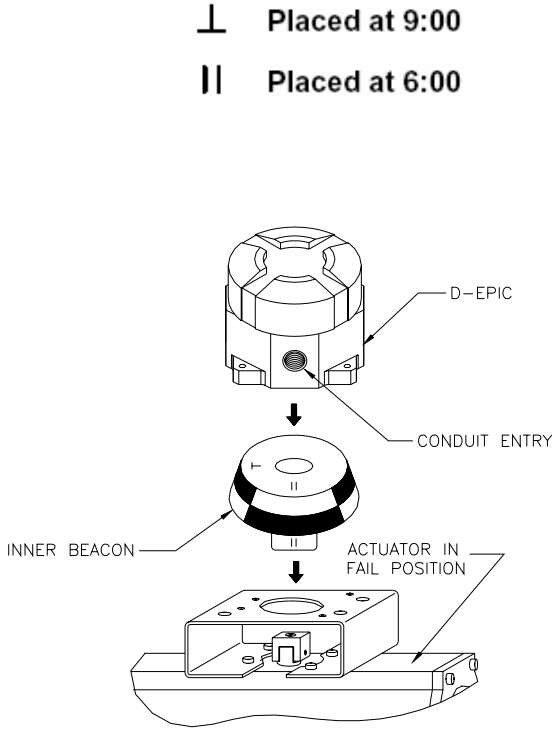

Figure 2

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4. Mounting the DEPIC on a Linear Actuator

4.1 To Center the DEPIC:

4.1.1 Stroke the actuator to its upper limit and place a mark on the actuator's yoke that lines up with the red arrow on the magnet assembly.

4.1.2 Stroke the actuator to its lower limit and place a mark on the actuator's yoke that lines up with the red arrow on the magnet assembly.

4.1.3 Place a third mark on the yoke centered between the upper and lower limit marks.

4.1.4 Lastly, mount the DEPIC to the bracket so that the conduit entry faces away from the diaphragm or cylinder (See Figure 3)

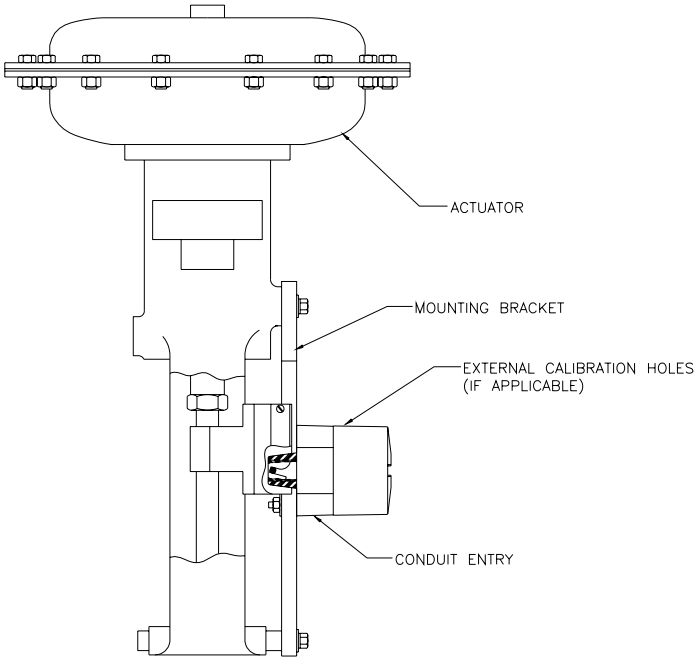


Figure 3

Note

NOTE: For Fisher actuators model 657 & 667 sizes 34 thru 70, Westlock Controls supplies a slotted mounting kit, to ease the mounting process. This will allow the user to easily center the positioner sensor between the limits of the magnet assembly's stroke.

5. D-EPIC Wiring Instructions

All wiring must be in accordance with National Electrical Code (ANSI-NFPA-70) for the appropriate area classifications.

All wiring must be in accordance with National Electrical Code (ANSI-NFPA-70) for area classifications. The valve monitors are approved for Class I, Division 1, Groups B, C and D; Aex dII B + H_2; Class I, Division 2, Groups A, B, C and D and AEx nA (zone 2) Enclosure Type 4 IP67.

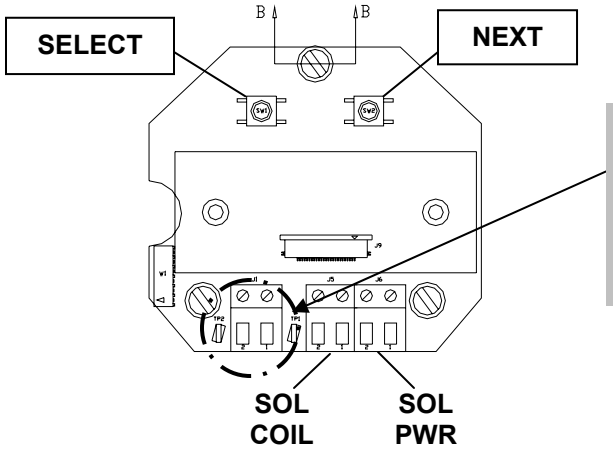
Always check the nameplate to make sure the agency approval ratings coincide with the application.

The proper wiring diagram for your unit is shown on the inside of the enclosure cover.

Confirm that the area is known to be non-hazardous before opening the cover of a network monitor and making or breaking any electrical connections.

Remove Cover and terminate twisted shielded cable to the terminal as show in Figure 4.

Figure 4



Two wire 4 to 20 mA current sink
(Current is proportional to the position) with 10 VDC Min. to 30 VDC Max. across the Output terminals.
Terminal block accepts 14 to 22 AWG wire
Analog Input Connection polarity insensitive

6. Pushbutton and Magnetic Sensor Calibration Procedure (If Applicable)

Utilize the Select and Next pushbuttons Figure 5 in the enclosure or the Select and Next magnetic sensors on the side of the enclosure Figure 6 to calibrate the D-EPIC.

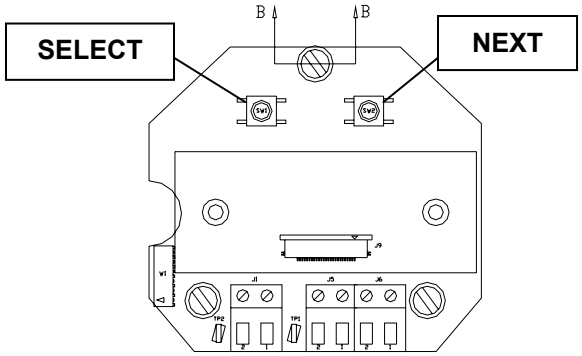


Figure 5

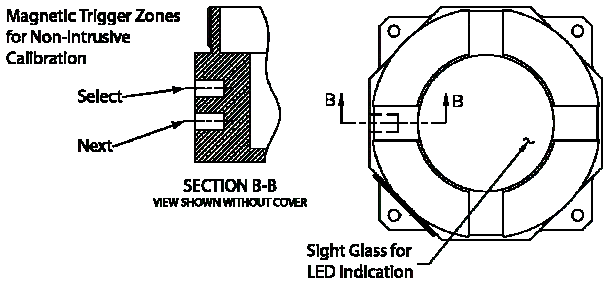


Figure 6
(If Applicable)

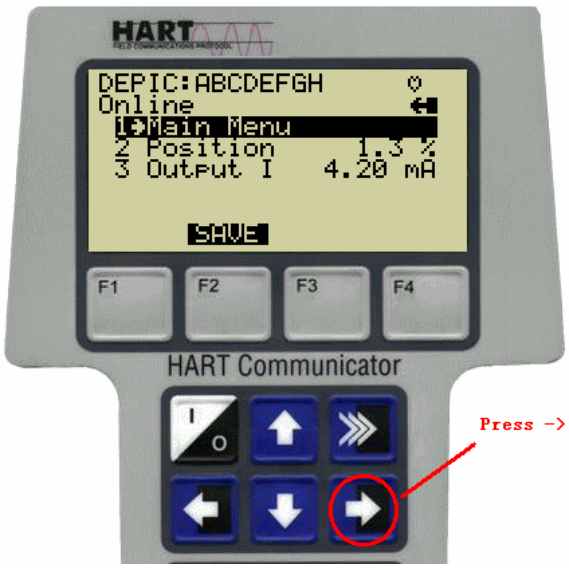
QUICK CAL:

1. **Press and hold the Select Key until ACAL is displayed.**
2. **Press the Select Key to select closed calibration CLS?**
3. **Stroke the Valve to the De-Energized position (Closed).**
4. **Once the De-Energized position (Closed) is achieved then press Select to calibrate this as the CLS position.**
5. **Stroke the Valve to the Energized position (Open).**
6. **Once the Energized position (Open) is achieved then press Select to calibrate this as the OPN position.**
7. **Then Press the Next Key until Exit is displayed on the LCD.**
8. **Once Exit is displayed press the Select key to Exit calibration.**

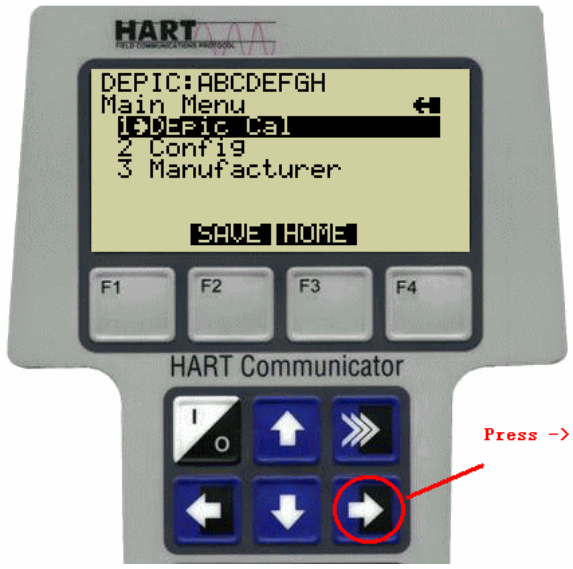
7. HART Calibration via Rosemount 275 HHP

7.1 Connect D-EPIC to HART Handheld 275.

7.2 Select Main Menu by pressing → Key.



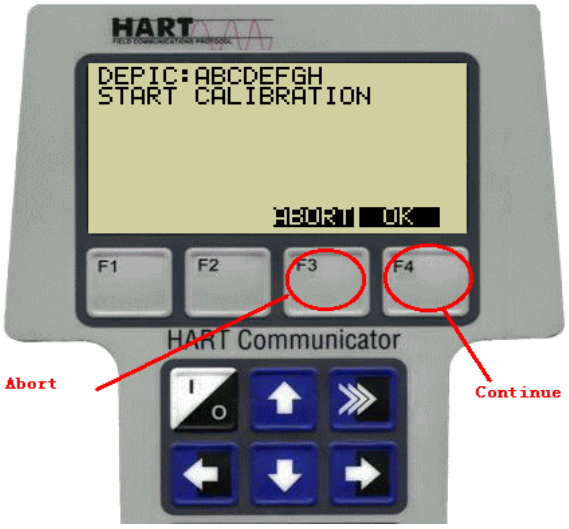
7.3 Select D-EPIC Cal by pressing → key.



7.4 Once D-EPIC selected.

7.4.1 Cal process can be abort by pressing F3 key.

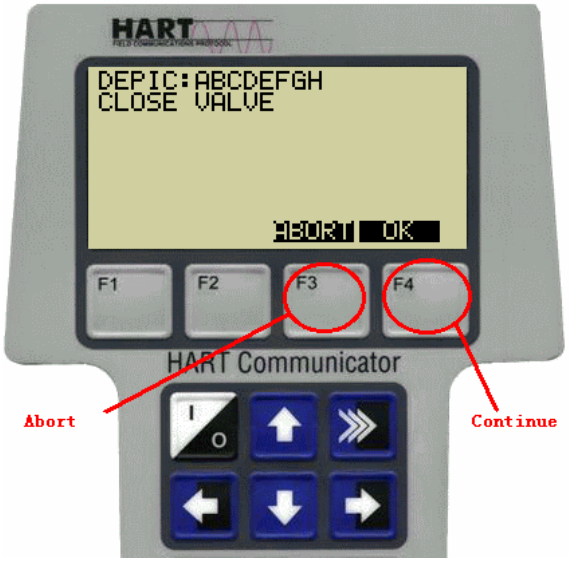
7.4.2 Cal process can be continue by pressing F4 key.



7.5 First close the valve and wait until the valve fully reaches the closed position.

7.5.1 Cal Process can be abort by pressing F3 key.

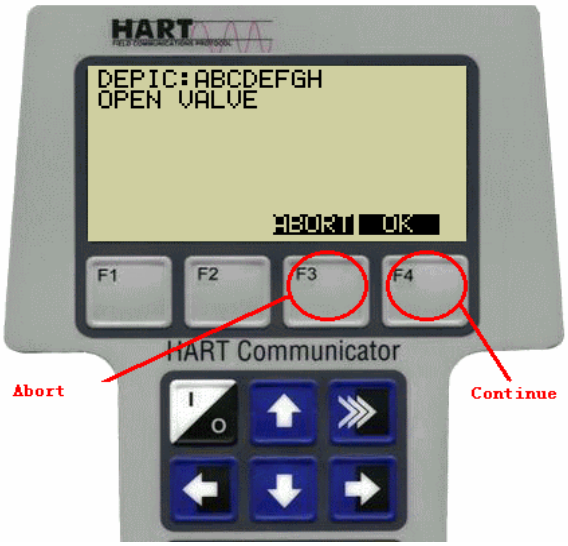
7.5.2 Cal process can be continued by pressing F4 key.



7.6 Now open the valve and wait until the valve fully reaches the open position.

7.6.1 Cal Process can be aborted by pressing F3 key.

7.6.2 Cal process can be continued by pressing F4 key.



7.7 Finish and except the new calibrated value.

7.7.1 To reject new calibrated value, and set back old value, select "ABORT " by pressing F3 key.

7.7.2 To except new calibrated value, select "OK" by pressing F4 key.

7.8 Return to online menu to read current output values by pressing ← key once.