

**DIGITAL EPIC CONTROL TRANSMITTERS**

FOUNDATION FIELDBUS™ : WEATHERPROOF - NEMA

Discrete position control and precision, non-contact position feedback with digital communication via FOUNDATION Fieldbus protocol. With options for linear or rotary control valves and remote PST/ESD initiation



**FEATURES**

- Microprocessor based technology allows digital communication via FOUNDATION Fieldbus protocol.
- Remote and local partial stroke test (PST) and emergency shut down (ESD) initiated remotely via FOUNDATION Fieldbus signal for safety system applications.
- Optional external button to initiate partial stroke test.
- Valve position measurement via a non-contact magnetic pick-up eliminates mechanical drive arms or linkages increasing reliability in high cycle applications or where vibration is present.
- Highly visible position indicator.
- Available with low power Falcon solenoid valve.
- Solenoid coils integrated within enclosure.
- Choice of factory pre-wired 3 and 4-way Falcon solenoid valves.
- Solenoid valves with a choice of C<sub>v</sub> ratings and coil voltage.
- Models F430 and F431 feature corrosion-resistant resin enclosure.
- Models F450 and F451 feature heavy duty stainless steel enclosure.

**TECHNICAL DATA**

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Agency approvals                    |                                     |
| Enclosure standards (ANSI/NEMA 250) | Type 4X                             |
| All enclosures                      |                                     |
| Enclosures                          | Engineered resin                    |
| F430/F431                           | Stainless steel                     |
| F450/F451                           |                                     |
| Falcon solenoid valves              |                                     |
| C <sub>v</sub>                      | Choice of 1.4 and 4.3               |
| Materials                           | Brass, aluminum and stainless steel |

**GENERAL APPLICATION**

Digital EPIC position transmitters are ideal for applications with sophisticated process patterns and those that require partial stroke testing (PST) or remote emergency shut down (ESD) initiation.

# DIGITAL EPIC CONTROL TRANSMITTERS

## FOUNDATION FIELDBUS: WEATHERPROOF - NEMA

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### TECHNICAL SPECIFICATIONS

|  |  |
|--|--|
| Conduit entries                        | ¾" NPT                                   |
| Output                                 | 4 - 20 mA proportional to valve position |
| Terminal voltage required              | 10 to 30 V                               |
| Linearity*                             | ± 1.0% F.S.                              |
| Span adjustment                        | 60° to 120°                              |
| Zero adjustment                        | 30% of calibration span                  |
| Resolution                             | ≤ 0.05% F.S.                             |
| Hysteresis                             | Negligible                               |
| Standard operating temperature range** | -40°F to +185°F                          |
| Temperature effect                     | < 0.01% F.S./°C                          |
| Humidity                               | 10% to 90% non-condensing                |
| Voltage effect                         | ≤ 0.2% F.S. from 10 V DC to 30 V DC      |
| Reverse polarity                       | Protected                                |
| Mounting attitude                      | Any position                             |
| Startup stabilization                  | 0.5 seconds                              |
| Output update rate                     | 25 ms                                    |

### NOTES

\* Linearity is applicable for stroke 2" and under for linear application.

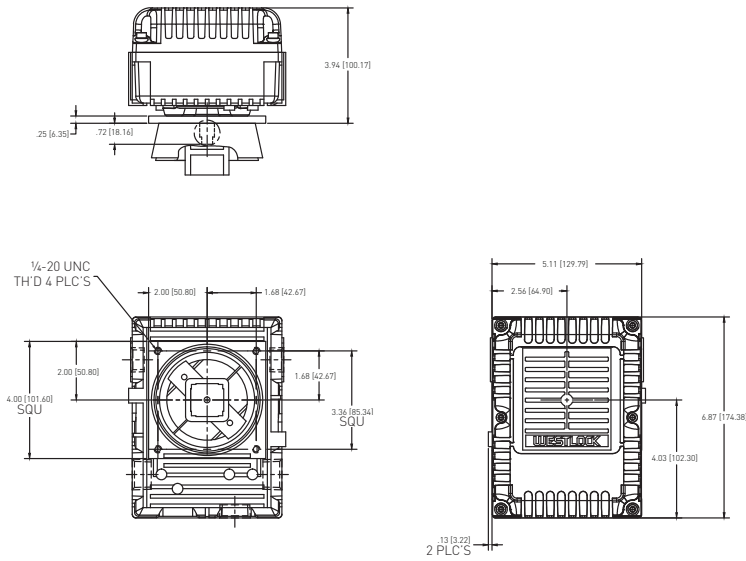
\*\* Engineered resin enclosures -10°F to +185°F for hazardous area use.

Standard Falcon valve operating temperature range -4°F to +185°F, with optional -40°F to +185°F.

# DIGITAL EPIC CONTROL TRANSMITTERS

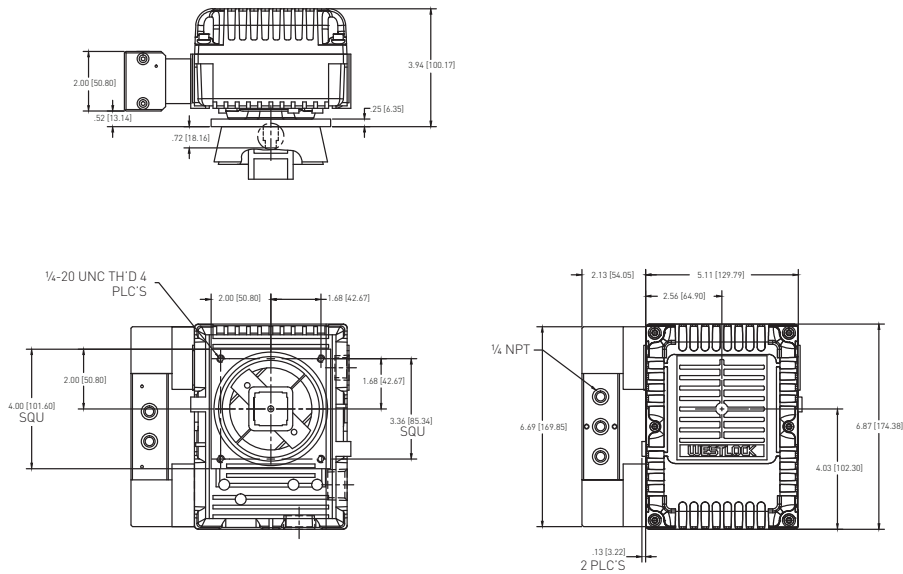
## FOUNDATION FIELDBUS: WEATHERPROOF - NEMA

### DIMENSIONS MODEL F430 (NO SOLENOID)



Dimension in inches, metric dimension (mm) in parentheses.

### DIMENSIONS MODEL F430 (DUAL COIL OPTION)



Dimension in inches, metric dimension (mm) in parentheses.  
Solenoid valve dimensions are indicative only and are dependent on solenoid valve selected.

### TECHNICAL SPECIFICATIONS

#### Materials of construction

|                         |                            |
|-------------------------|----------------------------|
| Enclosure               | Engineered polyamide resin |
| Hardware                | Stainless steel            |
| Beacon visual indicator | Co-polyester               |

Please consult your sales office for any other requirements.

### NOTES

#### Conduit entries

Digital EPIC position and control transmitters are available with a choice of conduit entries. Please see the selection guide for standard entries.

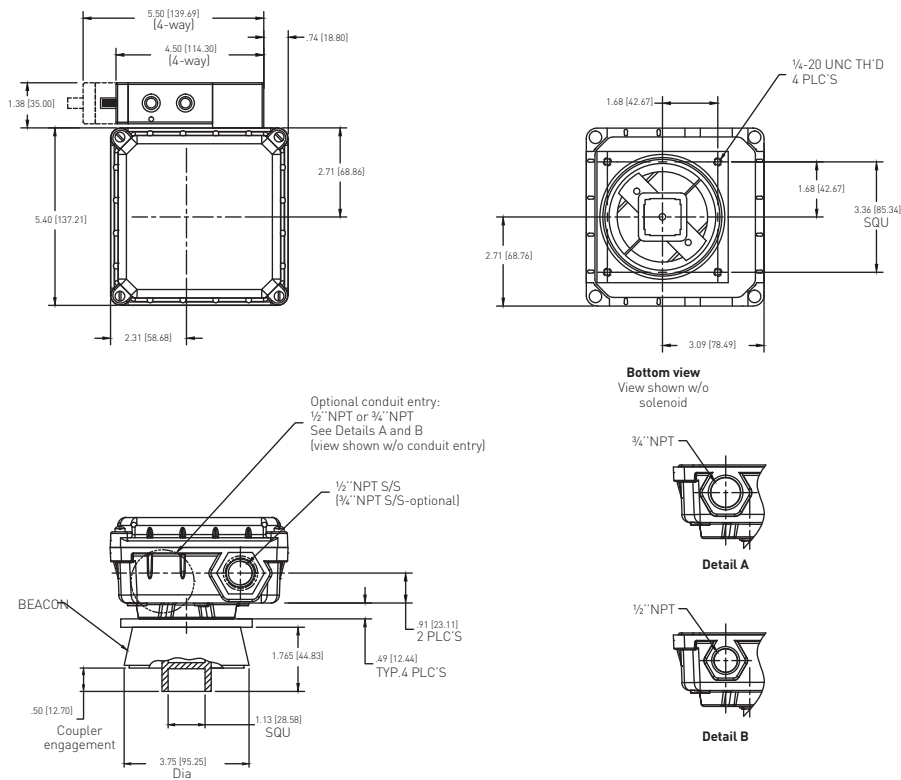
#### Solenoid valves

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and  $C_v$  to best suit your application. See the Falcon data sheet for more information.

# DIGITAL EPIC CONTROL TRANSMITTERS

## FOUNDATION FIELDBUS: WEATHERPROOF - NEMA

### DIMENSIONS MODEL F431



Dimension in inches, metric dimension (mm) in parentheses.  
 Solenoid valve dimensions are indicative only and are dependent on solenoid valve selected.

### TECHNICAL SPECIFICATIONS

#### Materials of construction

|                         |                            |
|-------------------------|----------------------------|
| Enclosure               | Engineered polyamide resin |
| Hardware                | Stainless steel            |
| Beacon visual indicator | Co-polyester               |

Please consult your sales office for any other requirements.

### NOTES

#### Conduit entries

Digital EPIC position and control transmitters are available with a choice of conduit entries. Please see the selection guide for standard entries.

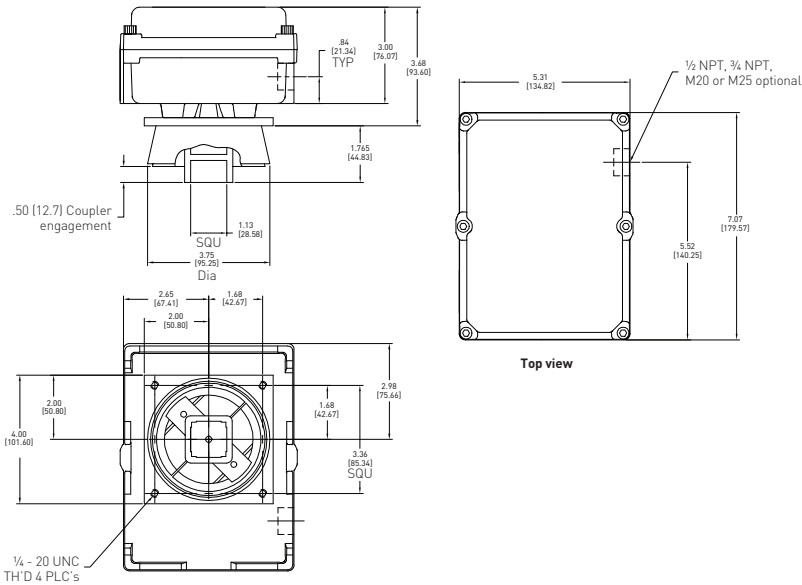
#### Solenoid valves

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and  $C_v$  to best suit your application. See the Falcon data sheet for more information.

# DIGITAL EPIC CONTROL TRANSMITTERS

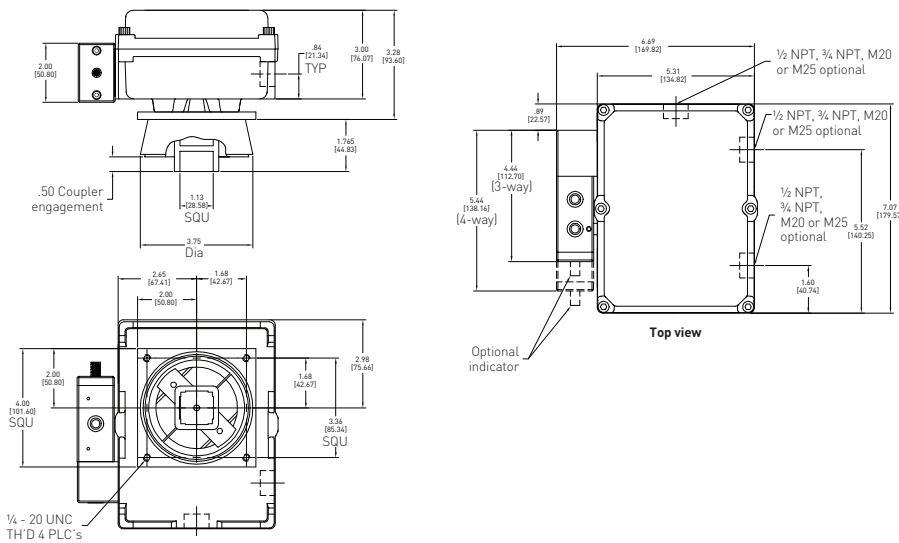
## FOUNDATION FIELDBUS: WEATHERPROOF - NEMA

### DIMENSIONS MODEL F450 (NO SOLENOID)



Dimensions in inches, metric dimension (mm) in parentheses.

### DIMENSIONS MODEL F450



Dimension in inches, metric dimension (mm) in parentheses.  
Solenoid valve dimensions are indicative only and are dependent on solenoid valve selected.

### TECHNICAL SPECIFICATIONS

#### Materials of construction

|                         |   |
|-------------------------|---|
| Enclosure               | Stainless steel with electropolished finish |
| Hardware                | Stainless steel                             |
| Beacon visual indicator | Co-polyester                                |

Please consult your sales office for any other requirements.

### NOTES

#### Conduit entries

Digital EPIC position and control transmitters are available with a choice of conduit entries. Please see the selection guide for standard entries.

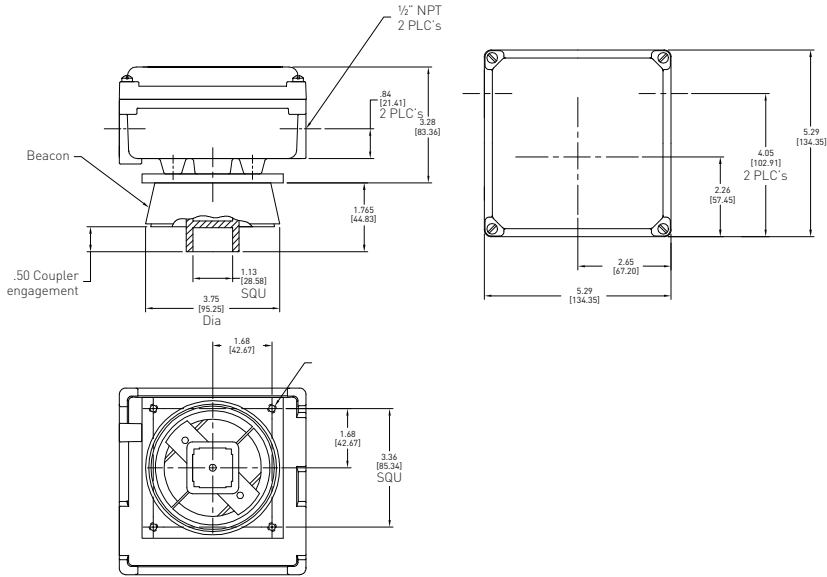
#### Solenoid valves

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and  $C_v$  to best suit your application. See the Falcon data sheet for more information.

# DIGITAL EPIC CONTROL TRANSMITTERS

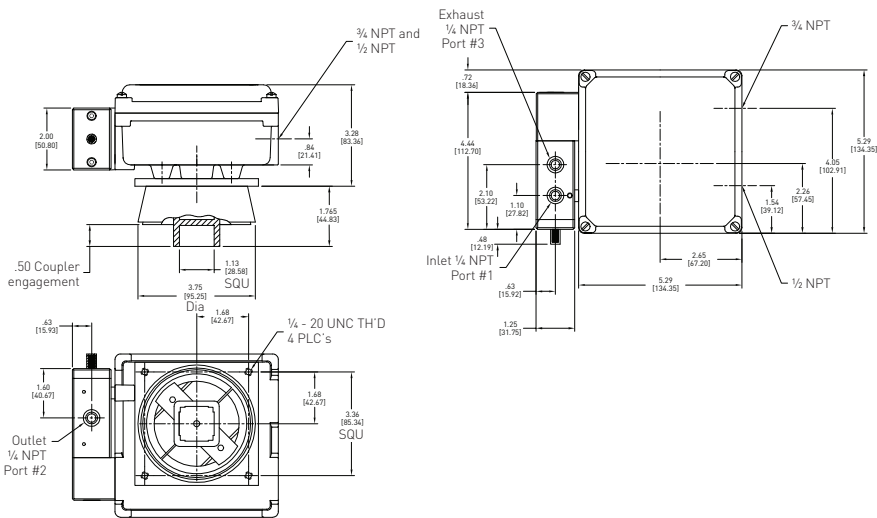
## FOUNDATION FIELDBUS: WEATHERPROOF - NEMA

### DIMENSIONS MODEL F451 (NO SOLENOID)



Dimensions in inches, metric dimension (mm) in parentheses.

### DIMENSIONS MODEL F451



Dimension in inches, metric dimension (mm) in parentheses.  
Solenoid valve dimensions are indicative only and are dependent on solenoid valve selected.

### TECHNICAL SPECIFICATIONS

#### Materials of construction

|                         |   |
|-------------------------|---|
| Enclosure               | Stainless steel with electropolished finish |
| Hardware                | Stainless steel                             |
| Beacon visual indicator | Co-polyester                                |

Please consult your sales office for any other requirements.

### NOTES

#### Conduit entries

Digital EPIC position and control transmitters are available with a choice of conduit entries. Please see the selection guide for standard entries.

#### Solenoid valves

The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and  $C_v$  to best suit your application. See the Falcon data sheet for more information.

# DIGITAL EPIC CONTROL TRANSMITTERS

## SELECTION GUIDE

### Base model

|      |  |
|------|--|
| F430 | Engineered resin enclosure for dual coil |
| F431 | Engineered resin enclosure               |
| F450 | Stainless steel enclosure for dual coil  |
| F451 | Stainless steel enclosure                |

### Application type

|    |  |
|----|--|
| LV | Linear transmitter***                          |
| LR | Linear transmitter with remote mount option*** |
| RO | Rotary transmitter                             |
| RR | Rotary transmitter with remote mount option    |

### ESD/PST/PIN connector

|   |                                      |   |                                      |
|---|--------------------------------------|---|--------------------------------------|
| 0 | None w/ 3/4 NPT                      | 5 | PST function micro (EURO) w/ 1/2 NPT |
| 1 | ESD function w/ 3/4 NPT              | 6 | Mini w/ 1/2 NPT                      |
| 2 | PST function w/ 3/4 NPT              | 7 | ESD function w/mini 1/2 NPT          |
| 3 | Micro (EURO) w/ 1/2 NPT              | 8 | PST function w/mini 1/2 NPT          |
| 4 | ESD function micro (EURO) w/ 1/2 NPT |   |                                      |

### Coil voltage

|   |          |
|---|----------|
| 0 | None     |
| D | 7.2 V DC |

### Falcon V valve body

|     |                            |     |                              |
|-----|----------------------------|-----|------------------------------|
| 2V3 | 1.4 Cv, 3-way, brass       | 2V7 | 1.4 Cv, 4-way, brass         |
| 3V3 | 1.4 Cv, 3-way, aluminum    | 3V7 | 1.4 Cv, 4-way, aluminum      |
| 5V3 | 1.4 Cv, 3-way, 316 SS      | 5V7 | 1.4 Cv, 4-way, 316 SS        |
| 3V4 | 4.3 Cv, 3-way, aluminum**  | 3V8 | 4.3 Cv, 4-way, aluminum      |
| 2VY | 1.4 Cv, dual coil, brass*  | 3VY | 1.4 Cv, dual coil, aluminum* |
| 5VY | 1.4 Cv, dual coil, 316 SS* | 3VZ | 4.3 Cv, dual coil, aluminum* |

### Valve options

|   |                         |
|---|-------------------------|
| 0 | None                    |
| M | Momentary over-ride     |
| L | Locking over-ride       |
| R | Manual reset            |
| N | Manual reset with latch |
| E | External pilot          |

F431 RO 1 D 3V3 0 = Model number **F431R01D3V30**

\* Dual coil valve body options only available with base Models F430 and F450.

\*\* 3V4 valves are 3V8 with ports 2 and 3 plugged at the factory for 3-way functionality.

\*\*\* Valve stroke and fail position must be specified at time of quotation for LV and LR options.

## NOTES

### Specifying your control transmitter

Specifying a control transmitter is a complex process as there are many variables which affect each individual application. To ensure that you receive the best possible combination for your control and monitoring requirement, please contact your local sales office for advice and guidance from one of our experts.

### Hazardous area classification

Please see our data sheet for further information on the global standards affecting the specification and installation of equipment in hazardous areas.



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