

QUANTUM™ ROTARY CONTROL MONITORS

INTRINSICALLY SAFE – NEC

Low-power rotary position control monitors for quarter-turn valve applications in intrinsically safe hazardous areas. They offer a variety of switching options and a choice of single or dual-coil Falcon solenoid valves.



FEATURES

- Quantum enclosures integrate position sensors and low power solenoid valves into a single unit.
- Solenoid coils integrated within Quantum housing.
- Choice of factory pre-wired 3 and 4 way Falcon solenoid valves.
- Solenoid valves with a choice of C_v ratings and coil voltage.
- Strong durable Beacon™ offers 360° visual indication in a choice of styles and colors.
- Touch set cams are hand adjustable, spring loaded and self-locking providing quick calibration of position switches and sensors.
- Terminal strips are pre-wired and numbered for ease of use.
- Additional conduit for easy field wiring and mounting accessories as standard.
- Standardized mounting pattern for easy adaptation to common bracketry.
- Robust stainless steel conduit entry inserts provide protection from excessive torque and reliable grounding.
- NAMUR shaft output compliant to VDI/VDE 3845 available.
- Engineered resin enclosure is robust, lightweight and provides exceptional chemical, UV and impact resistance.
- Aluminum enclosures with ultra-low copper content (0.2% maximum) suitable for corrosive environments.
- Rugged stainless steel enclosure.

TECHNICAL DATA

Agency approvals

Area classification (NEC 500)
Models 711/722/811

Intrinsically safe Class I, II & III, Division 1, Groups A, B, C, D, E, F, G, T6, $T_a = 40^\circ\text{C}$ (Entity) when operated through approved I.S. barriers
Non-incendive Class I, Division 2, Groups A, B, C, D, T6, $T_a = 40^\circ\text{C}$

Enclosure standards (ANSI/NEMA 250)

All enclosures

Type 4, 4X

Switches

Models 711/722/811

Pepperl + Fuchs inductive proximity sensors
SPDT mechanical switches, with gold-plated contacts
Magnum, SPDT hermetically-sealed magnetic proximity switches

Enclosures

Models 711/811

Model 722

Models 722/811

Engineered resin

Aluminum

Stainless steel

Falcon solenoid valves

C_v

Choice of 1.4 and 4.3

Materials

Brass, aluminum and stainless steel

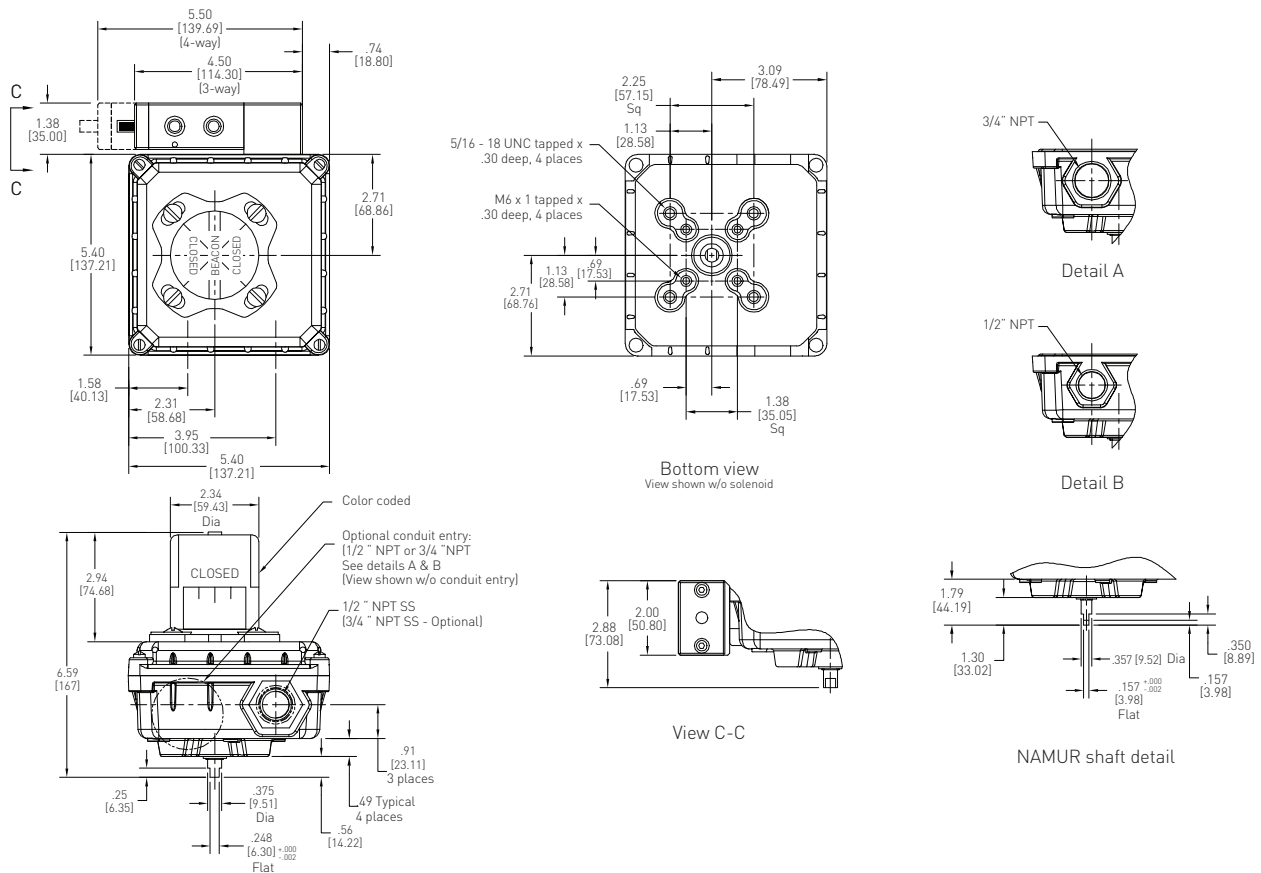
GENERAL APPLICATION

Quantum control monitors combine consistent and accurate valve monitoring with the control of automation process valves using integrated position sensors and low power solenoid valves in a single compact unit.

QUANTUM™ ROTARY CONTROL MONITORS

INTRINSICALLY SAFE – NEC

MODEL 711 DIMENSIONS



Dimensions in inches, where available metric dimension (mm) in parentheses

TECHNICAL SPECIFICATIONS

Materials of construction

| | |
|-------------------------|----------------------------|
| Enclosure | Engineered polyamide resin |
| Shaft and hardware | Stainless steel |
| Bushing | Nylon |
| Beacon visual indicator | Co-polyester |

Drive shaft

| | |
|-------------------|-----------------------------|
| Westlock standard | Double-D with 1/4" A/F |
| NAMUR standard | NAMUR standard VDI/VDE 3845 |

Available switches

| |
|--------------------------------------------------------------|
| Pepperl + Fuchs NJ2-V3-N inductive proximity sensors |
| SPDT mechanical switches, with gold-plated contacts |
| Magnum, SPDT hermetically-sealed magnetic proximity switches |

NOTES

1. See selection guide for standard conduit entries
2. See switches & sensors data sheet for further information
3. Please consult your sales office for any other requirements

SOLENOID VALVES

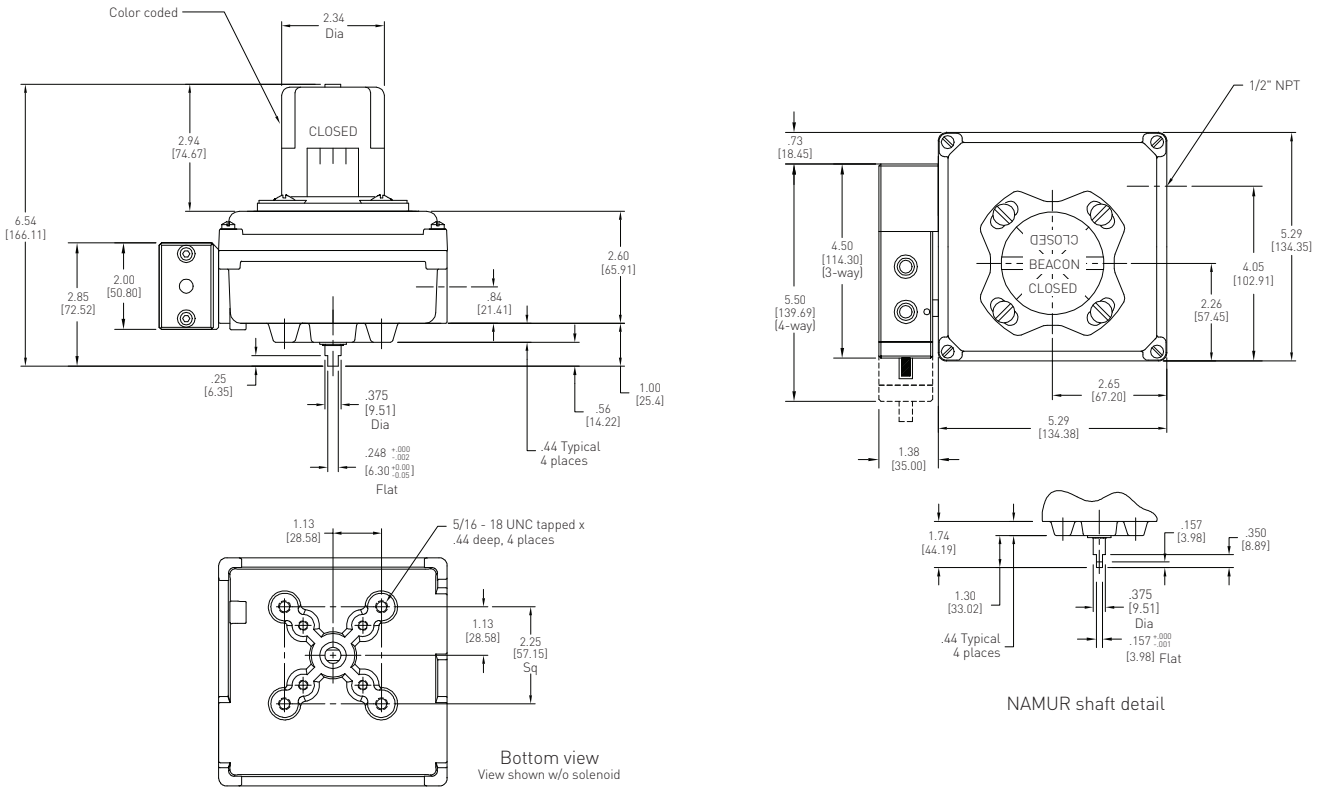
The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and C_v to best suit your application. See the Falcon data sheet for more information.



QUANTUM™ ROTARY CONTROL MONITORS

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MODEL 722 DIMENSIONS



Dimensions in inches, where available metric dimension (mm) in parentheses

TECHNICAL SPECIFICATIONS

Materials of construction

| | |
|-------------------------|----------------------------------|
| Enclosure | Aluminum with powder coat finish |
| Shaft and hardware | Stainless steel |
| Bushing | Oil impregnated bronze |
| Beacon visual indicator | Co-polyester |

Drive shaft

| | |
|-------------------|-----------------------------|
| Westlock standard | Double-D with 1/4" A/F |
| NAMUR standard | NAMUR standard VDI/VDE 3845 |

Available switches

| |
|--------------------------------------------------------------|
| Pepperl + Fuchs NJ2-V3-N inductive proximity sensors |
| SPDT mechanical switches, with gold-plated contacts |
| Magnum, SPDT hermetically-sealed magnetic proximity switches |

Options

| |
|---------------------------|
| Stainless steel enclosure |
|---------------------------|

SOLENOID VALVES

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



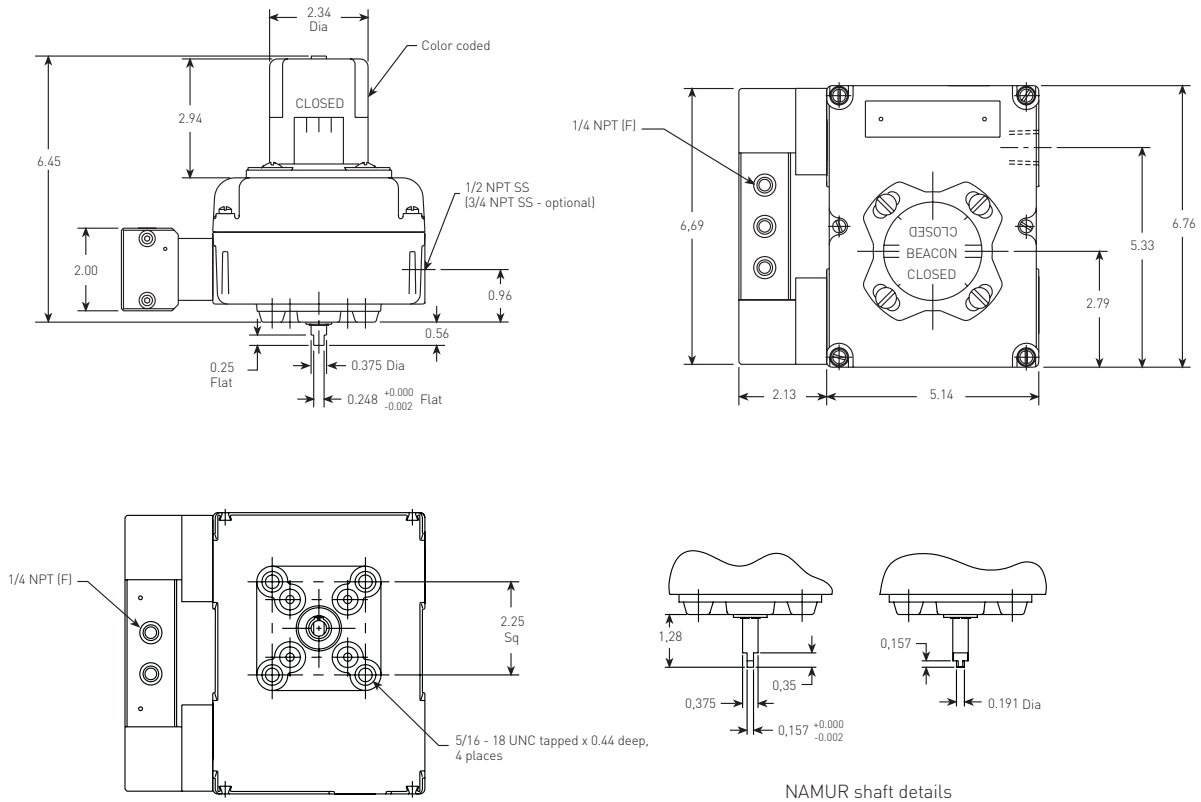
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QUANTUM™ ROTARY CONTROL MONITORS

INTRINSICALLY SAFE – NEC

MODEL 811 DIMENSIONS



Dimensions in inches

TECHNICAL SPECIFICATIONS

Materials of construction

| | |
|-------------------------|----------------------------|
| Enclosure | Engineered polyamide resin |
| Shaft and hardware | Stainless steel |
| Bushing | Nylon |
| Beacon visual indicator | Co-polyester |

Drive shaft

| | |
|-------------------|-----------------------------|
| Westlock standard | Double-D with 1/4" A/F |
| NAMUR standard | NAMUR standard VDI/VDE 3845 |

Available switches

| |
|--------------------------------------------------------------|
| Pepperl + Fuchs NJ2-V3-N inductive proximity sensors |
| SPDT mechanical switches, with gold-plated contacts |
| Magnum, SPDT hermetically-sealed magnetic proximity switches |

Options

| |
|---------------------------|
| Stainless steel enclosure |
|---------------------------|

SOLENOID VALVES

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



NOTES

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QUANTUM™ INTRINSICALLY SAFE ROTARY CONTROL MONITORS

MODELS 711/722/811 SELECTION GUIDE

Base model

| | |
|------|---------------------------------------------------------|
| 711- | Engineered resin enclosure |
| 722- | Aluminum enclosure ^[3] |
| 811- | Engineered resin enclosure for dual coil ^[5] |

Shaft output

| | |
|---|-----------------------------------|
| S | Standard (double-D with ¼" flats) |
| N | NAMUR |

Beacon

| | | | |
|----|---------------------------|----|-------|
| BY | BM2-Y (standard) | B1 | BM3-1 |
| RG | BM2-RG | B3 | BM3-3 |
| FE | BM2-Y-FE (French/English) | B5 | BM3-5 |
| AB | BM2-B | B7 | BM3-7 |
| AR | BM2-R | B9 | BM3-9 |
| FC | Flat cover | | |

Conduit

| | |
|----|----------------|
| 1A | One ½" NPT (F) |
| 1B | One ¾" NPT (F) |
| 2A | Two ½" NPT (F) |
| 2B | Two ¾" NPT (F) |

Position switches

| | |
|------|-------------------------------------------------------------------|
| 2M08 | Two P+F sensors model NJ2-V3-N - 8 pt. TS |
| 2M09 | Two SPDT mechanical switches with gold-plated contacts - 8 pt. TS |
| 2M12 | Two SPDT Magnum switches with rhodium contacts - 8 pt. TS |

Analog position transmitter

| | |
|----|---------------|
| 00 | Not available |
|----|---------------|

Coil voltage

| | |
|---|-----------------|
| I | 24 V DC IS coil |
|---|-----------------|

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 |

711- N BY 1A 2M12 00 I 3V3 0 = Model number **711-NBY1A2M1200I3V30**

NOTES

- * Dual coil valve body options only available with base model 811
- ** 3V4 valves are 3V8 valves with ports 2 & 3 plugged at the factory for 3-way functionality

1. Please contact your sales office for guidance on selecting the best possible combination for your control and monitoring requirements.
2. See Hazardous area classification technical bulletin for further information on global standards.
3. For stainless steel enclosure, please add '00124' to the end of your part number built with the above selection guide.

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