

## 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

#### Switches

Models 711/722/811

Type 4, 4X

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

$C_v$

Materials

Choice of 1.4 and 4.3

Brass, aluminum and stainless steel

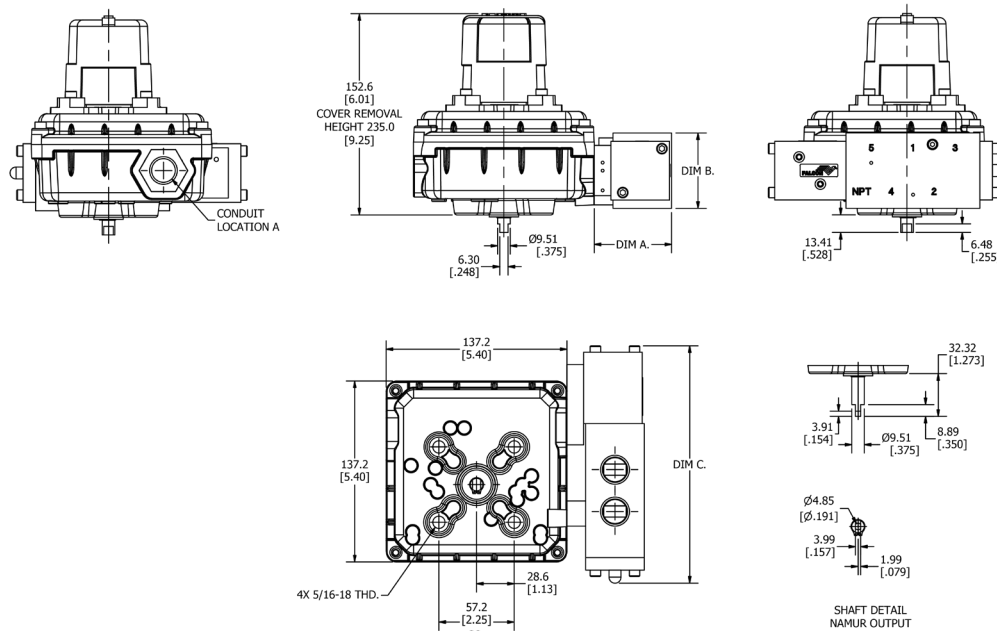
### GENERAL APPLICATION

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

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## 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 ¼" A/F
NAMUR standard	NAMUR standard VDI/VDE 3845

### Available switches

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

### Options

Stainless steel enclosure
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## 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.

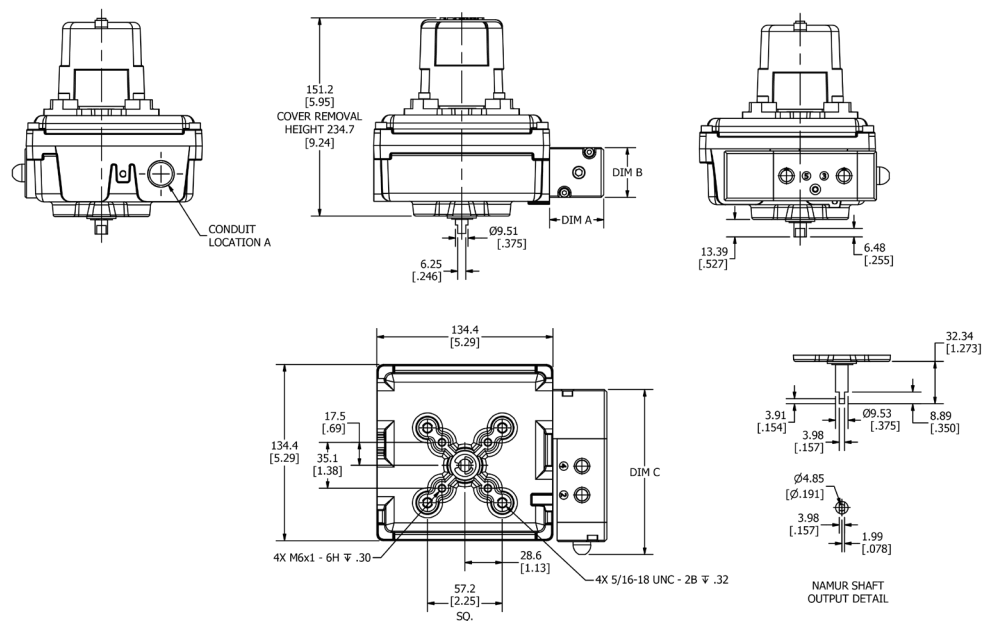


## NOTES

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

INTRINSICALLY SAFE – NEC

### MODEL 722 DIMENSIONS



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

## TECHNICAL SPECIFICATIONS

### Materials of construction

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

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

## Options

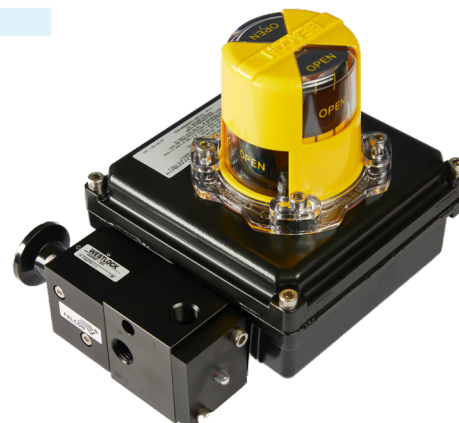
Stainless steel enclosure

## 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

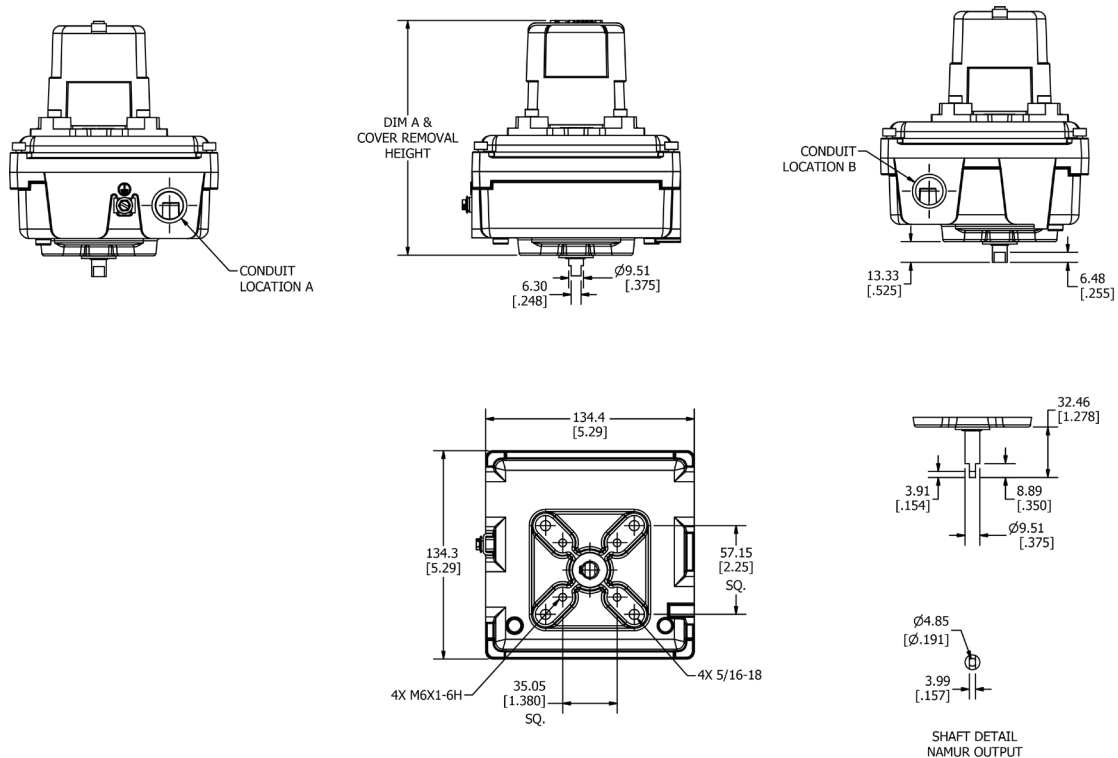
The Falcon range of solenoid valves allows you to choose the material, voltage, number of ports, number of coils and  $C_v$  to best suit your application. See the Falcon data sheet for more information.



# QUANTUM™ ROTARY CONTROL MONITORS

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
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## 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™ INTRINSICALLY SAFE ROTARY CONTROL MONITORS

## MODELS 711/722/811 SELECTION GUIDE

Base model									
711-	Engineered Resin Enclosure								
722-	Aluminum Enclosure								
811-	Engineered Resin Enclosure For Dual Coil with 12 pt. Terminal Strip or Single Coil with 4 Switch options								
Shaft output									
S	Standard (double-D with 1/4"Flats)								
D	Direct mount to Keystone F89 actuators								
N	NAMUR								
Beacon									
BY	BM2-Y (Standard)								
RG	BM2-RG (Red Closed/Green Open)								
FE	Bm2-Y-Fe (French/English)								
B1	BM3-1 (3-way B1 Flowpath)								
B3	BM3-3 (3-way B3 Flowpath)								
B5	BM3-5 (3-way B5 Flowpath)								
B7	BM3-7 (3-way B7 Flowpath)								
B9	BM3-9 (3-way B9 Flowpath)								
LP	BM2-Y-LP (Low Profile Standard)								
FC	Flat Cover								
Conduit									
1A	One 1/2" NPT (F)								
1B	One 3/4" NPT (F)								
2A	Two 1/2" NPT (F)								
2B	Two 3/4" NPT (F)								
Position Switches									
2M08	Two P+F Sensors Model NJ2-V3-N - 8 pt. Terminal Strip								
2M09	Two SPDT Mechanical Switches with Gold Plated Contacts - 8 pt. Terminal Strip								
2M12	Two SPDT Magnum Switches with Rhodium Contacts - 8 pt. Terminal Strip								
2M16	IS MagPAC Module <b>(Two SPST Bifurcated Switches with LEDs) - Standard with Clear Cover in 711 and 811 Only</b>								
4M08	Four P+F Sensors Model NJ2-V3-N - 16 pt. Terminal Strip <b>(Only available with 811 Model and Single Coil Valve Bodies)</b>								
4M09	Four SPDT Mechanical Switches with Gold Plated Contacts - 16 pt. Terminal Strip <b>(Only available with 811 Model &amp; Single Coil Valve Bodies)</b>								
4M12	Four SPDT Magnum Switches with Rhodium Contacts - 16 pt. Terminal Strip <b>(Only available with 811 Model and Single Coil Valve Bodies)</b>								
Position Transmitter									
00	None								
Coil Voltage									
I	24 VDC 1.5W								
P	24 VDC 1.6W (Standard)								
Falcon V Valve Body									
2V3	1.4 C <sub>v</sub> 3-way, Brass				3VY	1.4 C <sub>v</sub> , Dual Coil, Aluminum <b>(811 Model Only)</b>			
3V3	1.4 C <sub>v</sub> 3-way, Aluminum				5VY	1.4 C <sub>v</sub> , Dual Coil, 316 SS <b>(811 Model Only)</b>			
5V3	1.4 C <sub>v</sub> 3-way, 316 SS				540	3.5 C <sub>v</sub> , 3-way, 316 SS* <b>(722 Model Only)</b>			
2V7	1.4 C <sub>v</sub> 4-way, Brass				580	3.5 C <sub>v</sub> , 3-way, 316 SS* <b>(722 Model Only)</b>			
3V7	1.4 C <sub>v</sub> 4-way, Aluminum				3V4	4.3 C <sub>v</sub> , 3-way, Aluminum**			
5V7	1.4 C <sub>v</sub> 4-way, 316 SS				3V8	4.3 C <sub>v</sub> , 4-way, Aluminum**			
2VY	1.4 C <sub>v</sub> , Dual Coil, Brass <b>(811 Model Only)</b>				3VZ	4.3 C <sub>v</sub> , Dual Coil, Aluminum <b>(811 Model Only)</b>			
Valve Options									
0	None								
M	Momentary Override								
L	Locking Override								
R	Manual Reset <b>(Not available on 4.3 C<sub>v</sub> aluminum valves)</b>								
N	Manual Reset with Latch <b>(Not available on 4.3 C<sub>v</sub> aluminum valves)</b>								
E	External Pilot <b>(Required for operating pressures below 45 psi)</b>								
Unit Specialty Code									
00124	316 Stainless Steel Enclosure <b>(Only available with 722 and 811)</b>								
00710	12 pt. Terminal Strip <b>(Only applicable for 711 and 722)</b>								
00124	= Model number 711-NBY1A2M1200I5V3000124								
711-	N	BY	1A	2M12	00	I	5V3	0	00124

### NOTES

\*540 and 580 valves are not available with Valve Options

\*\*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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**Translations**

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