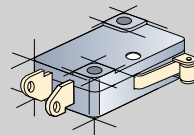
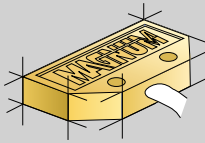
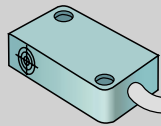




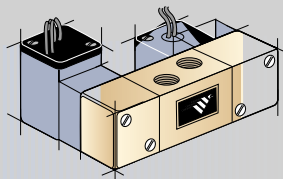
## Low Power Control Monitor for use in Intrinsically Safe Hazardous Areas

### Standard Sensor Options



ATTENTION

Magnum and Proximity Sensors Only  
For low power ( $P \leq 240$  mW) and/or  
high DI card capacitance ( $C \geq 0.01$  mfd.)  
applications refer to the Reference Section  
Bulletin No. WD-13.02.



BULLETIN NO. Q-17.02

## Quantum™ Dual Coil Intrinsically Safe

Intrinsically safe Quantum units meet Class I, Groups A, B, C, & D and Class II, Groups E, F, & G, Division 1 and 2 requirements. Intrinsically safe dual coil Falcon solenoid valves operate through approved I.S. barriers at 12 VDC, 33 mA. and are available in a wide variety of body materials and Cv. ratings. P&F Kriterium sensors are internationally approved for intrinsically safe applications as are both Magnum and mechanical sensors under their classification as "simple apparatus". Housed within a high impact engineered resin enclosure and capable of operating in

any position, Falcon solenoid valves elevate the integration of sensors and controls to a new level. Offering an extremely efficient and compact method for the integration of position sensors and dual coil solenoid valves, the Quantum integrates both components into a single cost effective unit.



### P+F, NJ2-V3-N Proximity Type (Solid State)

Intrinsically Safe, FM, CSA, PTB, CENELEC

Sensing Range	2mm
Electrical Version	D.C. Voltage 2 wire in accordance with EN 60947-5-6 (NAMUR)
Hysteresis	3-15% (5% typical)
Switching Frequency	1 KHz
Input Voltage Range	5-25 VDC
Output/Current Consumption	Cam Trigger Present: $\leq 1$ mA Cam Trigger Absent: $\geq 3$ mA (15 mA max)
Operating Temp.	-10°C to +100°C

### MAGNUM™ Proximity Sensor w/ Low Power Contacts

UL, CSA "Simple Apparatus", Hermetically Sealed, SPST or SPST, Rhodium Contacts

Voltage	24 VDC Nominal
Nominal Contact Resistance	$\leq .10$ ohm
Operating Current Range	.5 mA to 1A
Power Range	10 mW to 25 W
Temperature Range	-40°F to 185°F

### Mechanical V3 w/ Gold Contacts UL, CSA "Simple Apparatus"

VDC	Contact Rating
12	100 mA Resistive
24	100 mA Resistive

### COIL POWER SUPPLY

	COIL
Operating Voltage	24 VDC
Wattage	0.48 Watts*
Operating Current	33 mA*
Coil Resistance	380 Ohms

\*When operated through approved I.S. barrier.

# Quantum™ Dual Coil

## Intrinsically Safe

### AREA CLASSIFICATIONS

NEMA 4, 4x  
Class I, Groups A, B, C, D,  
Class II, Groups E, F, G, Div. 1 & 2

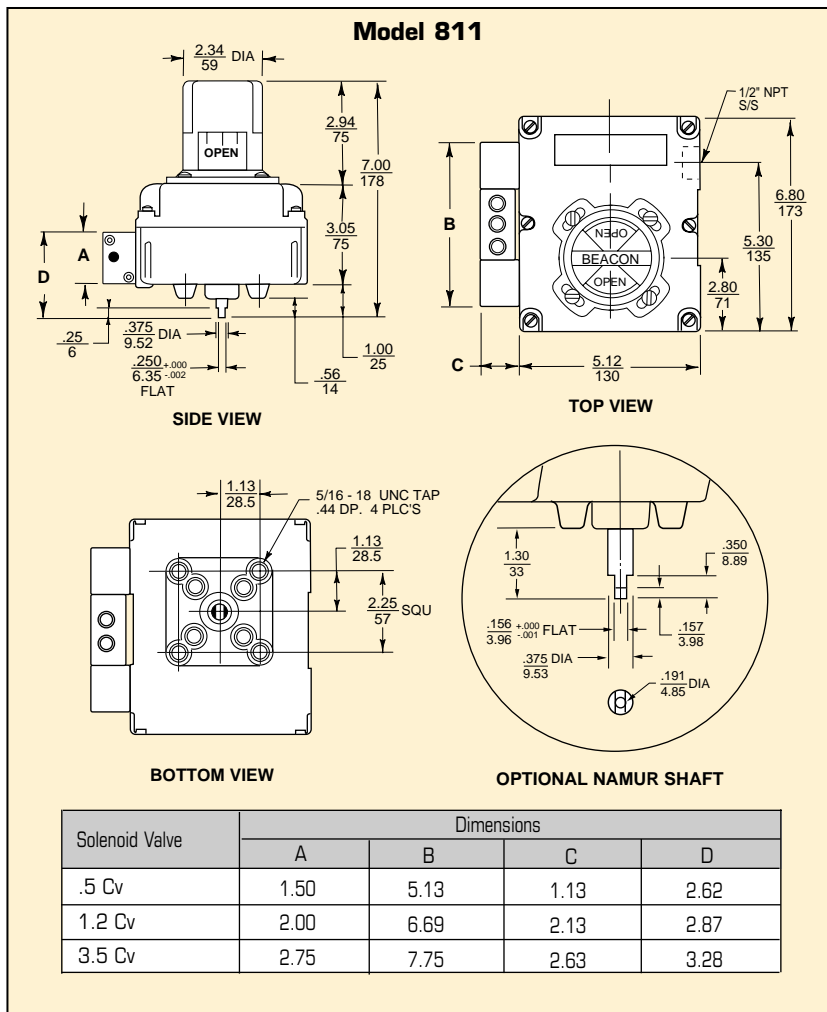
### ORDERING GUIDE



(FALCON™ SOLENOID)

COILS	CV	Body	4-Way	
<b>FIO</b> 24 VDC 0.48 watts  NOTE: I.S. valves must be operated through approved I.S. barriers.  Entity Parameters V max=35V I max=300mA Capacitance=0 Inductance=0	.5 Cv	Brass	2000	
		Alum.	3000	
		303S.S.	4000	
		316S.S.	5000	
	1.2 Cv	Brass	2Y00	
		Alum.	3Y00	
		303SS	4Y00	
		316S.S.	5Y00	
	3.5 Cv	Alum.	3Z00	
		303S.S.*	4Z00	
	<b>OPTIONAL FEATURES</b> (See BULLETIN NO. Q-18.02)			

### DIMENSIONS (inches/mm)



\* Available in optional aluminum or SS enclosure.

Note: Operating pressure: 45-120 psi.

### ORDERING GUIDE

QUANTUM™ LP	BEACON™	3-WAY BEACON™	SENSOR	SOLENOID (Falcon™)
<b>811</b> Engineered Resin    NEMA 4, 4x Class I, Groups A, B, C, D Class II, Groups E, F, G Div. 1 & 2  Factory Mutual System Approved	<b>STANDARD</b> (Black & Yellow) <b>BY</b> 	<b>90° Rotation B1</b> 	Magnum (SPDT Rhodium) <b>2M12</b>	Use above listing for ordering solenoid  
	<b>ANSI GREEN</b> (Liquid-Low Hazard) <b>AG</b> 	<b>90° Rotation B3</b> 	Magnum (SPST Rhodium) <b>2M10</b>	
	<b>ANSI BLUE</b> (Gas-Low Hazard) <b>AB</b> 	<b>90° Rotation B5</b> 	Mech. (SPDT) w/ Gold Plated Contacts <b>2M9</b>	
	<b>ANSI RED</b> (Fire Quenching) <b>AR</b> 	<b>180° Rotation B7</b> 	P+F (NJ2-V3-N) <b>2M8</b>	
		<b>180° Rotation B9</b> 		

NOTE: Model 811 Max. 3 Switches.

Ordering Example: Quantum LP Intrinsically Safe, resin enclosure with standard black & yellow Beacon, 2 Magnum Sensors and Falcon 24 VDC/.48 watts, .5 Cv, brass, 4-Way solenoid valve. 811-BY-2M10-FIO2000