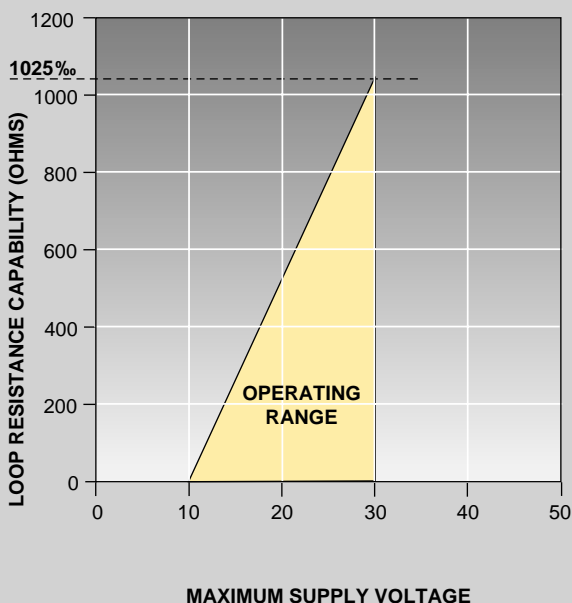




Non-Contact HART® Enabled Position Monitoring for Rotary Valves



Power Supply Requirements



EPIC™ N4 Series

Non-Contact HART® Enabled Position Transmitter

The EPIC™ N4 Series Position Transmitters are "smart" devices with microprocessor-based intelligence providing both 4-20 mA signal for position and digital communications via the HART® protocol. The N4 Series features low copper content aluminum, engineered resin or 316 SS enclosures with single solenoid valve or optional redundant solenoid valve. The N4 Series design represents a significant departure from previous attempts to reliably measure the position of rotary control valves. As opposed to conventional devices, couplers are not utilized. A magnetic proximity module, attached to the actuator output shaft is the only "moving" part in the transmitter. Sensing is performed totally by non-contacting means, based upon characterization of flux strength as a function of axial position.

The ESD/PS option provides for a discrete output via the SIS to control an ESD solenoid with integrated partial stroke test functionality; PS time, configurable PS stroke duration, time/date stamp of test and PS stroke alarm. PS test can be initiated via HART or push button.

Low current operation of the sensor is enabled through the use of new materials, which allows continuous operation rather than discrete sampling. Continuous operation permits high speed updating of the output current making it suitable for use in fast closed loop systems.

Accurate measurement of valve position provides the precision data required for the use of advanced control strategies and predictive maintenance algorithms.

TECHNICAL SPECIFICATIONS

Conduit Entries	3/4" NPT
Output	4 to 20 mA proportional to valve position
Terminal Voltage Req.	10 to 30 volts
Linearity	≤0.6% F.S.
Span Adjustment	60 to 120 degrees
Zero Adjustment	30% of calibration span
Resolution	≤0.05% F.S.
Hysteresis	Negligible
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 VDC to 30 VDC
Reverse Polarity	Protected
Mounting Attitude	Any Position
Startup Stabilization	.5 seconds

EPIC™ N4 Series

Non-Contact HART® Enabled Position Transmitter



AREA CLASSIFICATIONS	
Class I, Groups A, B, C, D	
Class II, Groups E, F, G,	
Division 2	

ORDERING GUIDE (FALCON™ SOLENOID)

COILS	CV	Body	3-Way	4-Way
FSO 24 VDC 0.5 watts	.3 Cv	Brass	2100	2500
		Alum.	3100	3500
		303 S.S.	4100	4500
FAO 120 VAC 4.0 watts	.5 Cv	316 S.S.	5100	5500
		Brass	2200	2600
FVO 125 VDC 0.85 watts	.5 Cv	Alum.	3200	3600
		303 SS	4200	4600
		316 S.S.	5200	5600
FHO 220 VAC 4.0 watts	1.2 Cv	Brass	2300	2700
		Alum.	3300	3700
		303 S.S.	4300	4700
	3.5 Cv	Alum.	3400	3800

OPTIONAL FEATURES (See BULLETIN NO. Q-18.02)

DIMENSIONS (inches/mm)

APPROVALS / CERTIFICATION

FM (Factory Mutual Research)
CSA (Canadian Standards Association)

Solenoid Valve	Dimensions				
	A	B (3-WAY)	C (4-WAY)	D	E
.3 & .5 Cv	1.50	3.31	4.06	1.13	4.24
1.2 Cv	2.00	4.50	5.50	1.38	4.49
3.5 Cv	2.75	5.25	6.56	1.88	4.87

D430RO

MATERIALS OF CONSTRUCTION	
Housing/Cover	Engineered Resin

D440RO

MATERIALS OF CONSTRUCTION	
Housing/Cover	Cast Aluminum

D450RO

MATERIALS OF CONSTRUCTION	
Housing/Cover	316 Stainless Steel

D4 50-RO-N-3-5900-1-2-1

Ordering Example

- Beacon Options "1" = Black/Yellow (for add. options refer to Price Book)
- Special Operation Options "0" = No Special Option, "1" = ESD/PST Relay Controller
"2" = PST- Pushbutton Initiation
- Solenoid Coil Options "1" = FSO 24Vdc, 0.5W (for additional options refer to Price Book)
- Solenoid Override Options "0" = None (for options E, L, M, N, R or S refer to Price Book)
- Solenoid Valve Body "0" = No Solenoid, 2100- 5900 or 2Y00- 4Z00 (see Falcon Sol. Ordering Guide)
- For additional solenoid options (3rd character) refer to Price Book.
- Conduit Options "1" = 1/2" NPT, "2" = M20, "3" = 3/4" NPT, "6" = M25
- Area Class Option "N" = Nonincendive (Class I Division 2, Groups A thru G)
- Valve Type Options "RO" = Rotary Valve, "RR" = Rotary Valve with Remote Option
- Enclosure Options "30" = N4R2- Resin Single/Dual Coil Falcon, "40" = N4A2- Aluminum Single/Dual Coil Falcon
"50" = N4S2- Stainless Steel Single/Dual Coil Falcon
- Product Code for Digital Epic **D4**