



Moniteur VPTs (Valve Position Transmitters) are available with a wide variety of industry proven inductive sensors for today's advanced process PLCs. Whether your process control system requires PNP, NPN, or NAMUR Intrinsically Safe rated sensors, Moniteur can supply the preferred position transmitter. Sensors available\*:

- \* Pepperl & Fuchs NBB-V3-Z4 (PNP)
- \* Efactor IS2002AROA (PNP)
- \* Pepperl & Fuchs NJ2-V3 (NAMUR)
- \* Efactor NS5003 (NAMUR)
- \* Moniteur NAMUR

### Principle of Operation

- \* Inductive sensors are "solid state" (without moving parts) and are the most reliable of sensing methods, with a MTBF over 20 million cycles. Inductive Sensors have three parts of operation - the oscillator, triggering circuit and switching amplifier. The oscillator generates a high-frequency electromagnetic field in the sensor's target area. When a ferrous metal target enters the electromagnetic field (target area), eddy currents created in the target by the oscillator increase the load on the oscillator. At a specific load, the trigger circuit senses the reduction in oscillation and signals the switching amplifier to change the signal. Inductive Sensors consume electric power to operate, and must have approval to be used in hazardous areas (see table below).
- \* NAMUR inductive sensors operate without the amplifier circuitry in the sensor, allowing use in all hazardous areas. The required signal amplifier must be installed externally in the safe area.

### Applications

- \* Hazardous areas rated Division 2. The P & F and Efactor sensors listed are FM approved for general purpose or hazardous areas rated Division 2, according to the NEC.
- \* Intrinsically Safe. NAMUR Inductive Sensors are rated Intrinsically Safe and must be used with an approved current and voltage limiting barrier.
- \* To assist cam setting, the P&F NBB-V3-Z4 and Efactor Sensors include setting lights in the housing.

### Specifications - Inductive Sensors

Sensor	Operation	Supply Voltage	Load Current / Target Absent	Load Current / Target Present	FM Approval
P & F NBB3-V3-Z4	PNP	5-60 VDC	< 0.7 mA	4-100 mA	Division 2
Efactor IS2002AROA	PNP	10-140 VDC	< 0.8 mA	5-100 mA	Division 2
P & F NJ2-V3	NAMUR	5-25 VDC	< 1 mA	3 - 15 mA	Intrinsically Safe
Efactor NS5003	NAMUR	7.5-15 VDC	< 1 mA	2.2 - 15 mA	Intrinsically Safe
Moniteur NAMUR	NAMUR	5-25 VDC	< 1 mA	3 - 15 mA	Intrinsically Safe**

\*Moniteur can also supply Valve Position Transmitters with other adaptable sensors to your specifications.

\*\*pending.