The Proximity™ Mark Series is a line of position indicators with a selection of various output options. Three model styles make up the Mark series to cover almost any application. Standard models in the Mark Series have visual position indicators and are weatherproof, explosion-proof, and submersible. A large variety of outputs are available to fit specific applications. There is a choice of 1 to 6 switch outputs of 16 varieties including inductive sensors, high temperature switches, gold contact switches, hermetically sealed switches, and high current switches. Besides the switch outputs the Series offers potentiometer outputs, transmitters and HART Communications. The units are purchased for either direct drive applications, such as rotary valves, or lever drive applications, such as linear valves. Adjustable visual indicator is standard on direct drive units that displays OPEN / CLOSED status and degrees.

A patented magnetic drive that completely seals the switch compartment from the atmosphere for maximum leak protection is utilized in the Mark 1. The Mark 3 uses the same magnetic drive of the Mark 1, but it can be used for multi-turn applications with 1 to 25 revolutions, such as gate valves. A through shaft drive is incorporated in the Mark 4 making the unit a lower cost alternative to the Mark 1 for applications that are not as demanding.

Mark 1
- Features a patented magnetic coupling that isolates the switch compartment, completely sealing the unit from the surrounding atmosphere for maximum hazard and leak protection.
- EZset cams on switch models provide simple set point adjustment.
- Flexible design allows multiple switches and transmitter options.
- Ideal for corrosive environments.

Mark 3
- Features a patented magnetic coupling that isolates the switch compartment, completely sealing the unit from the surrounding atmosphere for maximum hazard and leak protection.
- Multi-Turn models that can provide switch signals between 1 and 25 revolutions, and transmitter models for up to 10 revolutions without gear reduction.
- Flexible design allows multiple switches and transmitter options.
- Ideal for corrosive environments.

Mark 4
- Thru-Shaft design that features a 1” bushing for long life and O-rings to seal the switch compartment for hazard, corrosion, and leak protection.
- EZset cams on switch models provide simple set point adjustment.
- Flexible design allows multiple switches and transmitter options.
- A lower cost alternative to the Mark 1 Series for less demanding applications.
Mark 1, 2 Switches both Type V – SPDT, 4 to 20 mA transmitter, Direct Drive, Painted Aluminum Enclosure.

Mark 1, 2 Switches both Type V – SPDT, Direct Drive, Painted Aluminum Enclosure with Junction Package.

EXAMPLE MODEL NUMBERS

††Minimum temperature depends on output and switch type selected.

Note: Mark 1 and 4 potentiometer and transmitter outputs will have no switches when ordered with switch type 0; 2 switches if ordered with switch types B, C, I, R, V, or W; and 4 switches if ordered with switch type S. Mark 3 potentiometer and transmitter outputs will have no switches when ordered with switch type 0, and 2 switches if ordered with switch types A, G, M or T.

CALL TO ORDER:     U.S. Phone 219 879-8000     •     U.K. Phone (+44) (0)1494-461707     •     Australia Phone (+61) (0) 2 4272 2055
Position Indicators/ Switches/ Transmitters

Mounting kits with drive yoke (see drawing), or slotted lever arm, bracket, fasteners and other zinc plated or stainless steel hardware fit over 2000 popular valves and actuators. A high strength spring tempered stainless steel drive yoke/coupling is tailored to fit securely to a specific valve or actuator stem. There is no slippage or binding. No special alignment fixtures are required due to switch offset design and yoke to stem engagement that makes installation a "snap". Each kit is specially designed for a particular valve or actuator, making field mounting simple with standard tools. Please specify make and model of valve or actuator on order.

Mounting kits can be used interchangeably with all models since external mounting features are identical. Rotary valves utilize direct drive couplings and a slotted lever drive is used with linear valves. Lever drives convert linear motion to rotary. Stainless steel visual indicators are standard for direct drive, automated quarter-turn valve applications.

SPECIFICATIONS

General
Product Ratings:
Weatherproof and flameproof. NEMA 1, 2, 3, 3R, 3S, 4, 4X, 6, 7, 9, 12, 13.
UL rated: Class I, Div. 1 & 2, Groups B, C, D (Some units available for Group A, consult factory); Class II, Div. 1 & 2, Groups E, F, and G.
CSA rated: Class I, Div. 1 & 2, Groups A, B, C, D; Class II, Div. 1 & 2, Groups E, F, and G, Submersible to 50 feet.
SAA rated: -S suffix, Certified Ex d IIC T6 IP68 (15 meters).
ATEX Compliant:
- B suffix, directive 94/9/EC, KEMA 03 ATEX 2391, \( \text{II 2 G Ex ia IIC T4} \).
- IS suffix directive 94/9/EC, KEMA 03 ATEX 1392X, \( \text{II 1 G Ex ia IIC T4} \).
- B suffix, directive 94/9/EC, KEMA 03 ATEX 2391, \( \text{II 2 G Ex ia IIC T6} \) for -25°C/-40°C/-50°C ≤ Tamb ≤ 80°C optional wording)
depending on output and switch type selected.
- IS suffix directive 94/9/EC, KEMA 03 ATEX 1392X, \( \text{II 1 G Ex ia IIC T4} \).
- Mark 1 and 4 with Transmitter

Electrical Connections:
Screw terminal. Optional factory sealed leads that are 36” (914.4 mm) of 16 AWG.
Weight: 4 to 6 lb (1.5 to 3.0 kg).
Operational Life: 10,000,000 cycles.
Maximum Altitude: 20,000 feet.
Patents: US 4214133, 4647733, 4831350, 5357067, and other patents pending.

Mark 1, 3, and 4 with Switch Outputs
Temperature Limits: -58 to 176°F (-50 to 80°C). Switch Type C rated to 350°F (176°C) for 600 hours, Switch Type T rated to 250°F (121°C) continuous. (ATEX flameproof, -B suffix, rated -40°C (-40°F) to 80°C (176°F) for switch type A, G, M, O, R, S, T, V, or W, -25°C (-13°F) to 80°C (176°F) for switch types B, D, or I; ATEX intrinsically safe, -IS suffix, rated -25°C (-13°F) to 40°F (10°C) for switch type T, -40°C (-40°F) to 40°C (10°C) for switch types O, R, S, V, or W.)
Power Requirements: 5 to 30 VDC.
Current Consumption: 50 mA.
Output Signal: 4 to 20 mA.
Zero and Span Adjustments: Trim pots for adjusting both. Mark 1 and 4: Span is adjustable from 50 to 300°. Mark 3: Span is adjustable from 15 to 8.5 revolutions.
Conduit Connection: 3/4” female NPT standard. Optional one or two 1/2” female NPT. M25 and M20 optional (Standard on SAA models).
Rotational Travel: Mark 1: Maximum: 0°. Maximum: 30°. Mark 3: Minimum: 1.5 revolutions; Maximum: 8.5 revolutions.

Mark 1, 3, and 4 with HART® Transmitter
Accuracy: ± 2.5% of full span.
Temperature Limits: -40 to 176°F (-40 to 80°C). (ATEX flameproof, -B suffix, rated -40°C (-40°F) to 80°C (176°F) for switch types A, G, M, O, R, S, T, V, or W, -25°C (-13°F) to 80°C (176°F) for switch types B, D, or I; ATEX intrinsically safe, -IS suffix, rated -25°C (-13°F) to 40°F (10°C) for switch type T, -40°C (-40°F) to 40°C (10°C) for switch types O, R, S, V, or W.)
Power Requirements: 8 to 30 VDC.
Current Consumption: 21 mA.
Output Signal: 4 to 20 mA.
HART® Receive Impedance: \( Rx = 500 \, \text{kΩ} \), \( Cx = 2500 \, \text{pF} \).
Zero and Span Adjustments: Pushbuttons or HART master for setting both. Mark 1 and 4: Span is adjustable from 0 to 330°. Mark 3: Span is adjustable from 1.5 to 8.5 revolutions.
Conduit Connection: 3/4” female NPT standard. Optional one or two 1/2” female NPT. M25 and M20 optional (Standard on SAA models).
Rotational Travel: Mark 1 and 4: Maximum: 30°. Mark 3: Minimum: 1.5 revolutions; Maximum: 8.5 revolutions.