



Model APE-SMA-500-1-A

SMA Series



## Proximity Sensors

Presents their new SMA Series proximity sensors.

Its use of reed switch-based technology which offers reliability of up to 5 million cycles increases response upon decreasing price.

Offered in metal housings, these proximity sensors are interchangeable with existing sensors of similar characteristics or can be designed specifically for individual application needs.

**Proximity SMA Series Position Sensors** are reliable, magnetically actuated, stainless steel, completely interchangeable with competitive units and AC or DC for user friendly operation. They have no moving parts, eliminate costly seal fittings and offer enhanced reliability by eliminating arcing. Unintentional actuation by metals is not a problem.

The sensor consists of a durable hermetically sealed reed switch potted in a 316 stainless steel housing and a separate bronze magnetic actuator bolt. Sensing distance is 0.2" (5 mm) for the standard actuator.

The SMA Series are excellent for hazardous and corrosive environments, solid state and intrinsically safe applications, and may be mounted in any position.

For installation in hazardous locations be sure to check local electrical codes. The SMA Series meets **INTI-CITEI 2003 d151** and is certified **Ex d IIC T6**.



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### GENERAL

SMA Series Position Sensors consist of two basic components, a hermetically sealed reed switch sensor assembly and a magnetic actuator assembly. A change in state of the contacts in the sensor is initiated by moving the actuator closer to or further away from the sensor target area. Either into or away from the reed switch magnetic sensing range. This opens or closes the electrical circuit.

### SENSORS

Detector sensors are A 316 stainless steel bolts 50 mm length with metric 20 mm step 1.5 mm external threads and a 1/2"- 14 mm. NPT conduit entrance. The durable SPST reed switch is potted inside the sensor enclosure.

### ACTUATORS

The actuator is a bronze bolt with a magnet embedded in the head. The available actuators provide levels of sensitivity for either 0.2" standard or optional 0.5" sensing capability. Custom magnets should be tested prior to use to determine sensing distance.

### SPECIFICATIONS

**Housing:** AISI-316 Stainless Steel.

**Active Element Hermetic Seal:** Glass (inert gas).

**Potting:** Epoxy / Silicon Resin.

**Temp. Limit:** 14 to 149°F (-10 to 65°C).

**Sensor Actuation:** Magnetic.

**Sensing Distance:** 0.2" (5 mm); B - 0.5" (12.7 mm).

**Contacts:** Iridium Platinum, SPST, Form C.

**Current Rating:** 1A @ 220 VAC, 1A @ 30 VDC.

**Intrinsically Safe:** Simple Apparatus (w/barrier).

**Operating/Response Time:** 3.0 m Sec.

**Initial Contact Resistance:** 0.50 ohms (Max).

**Repeatability:** 0.005 in. (0.1 mm). **Hysteresis:** 0.078 in. (2 mm).

**Leads:** Factory Sealed with 19" minimum, 2 conductor, PVC insulated, 18 AWG (NO/ Common).

**Conduit Connection:** 1/2" NPT.

**Weight:** 0.45 lb. with actuator (204 gr.) - Standard model

### MECHANICAL INSTALLATION

1. The sensor(s) and actuator may be mounted in any position. Choose orientation that best fits your needs.
2. Install sensors individually, side-by-side, facing the same direction, at 90° or facing each other at a
3. Determine desired operating point. Use actuator supplied with sensor, keeping all magnetic materials away from the sensor assembly.
4. Locate sensor and actuator mounting assemblies to assure the actuator will move within the switch sensing area.
5. Adjust set-points by rotating either the sensor or actuator or both in their respective threaded bracket assemblies.

This will move them closer together or further apart for desired operation.

### ELECTRICAL CONNECTIONS

Use 18 AWG, 2-conductor, shielded cable or 1/2" NPT conduit connectors.

Long runs of cable or conduit should be supported at the sensor to avoid pulling it out of position. For installation in hazardous locations, check local electrical codes. The Detector position sensors are designed to Ex d IIC T6.

