



## 1. GENERAL

The valve position indicator consists of an enclosure (approximately 150mm x 100mm by 60mm) made up of two parts a bottom part (base) and a lid. The enclosure can be made from aluminum alloy, stainless steel or various types of plastic depending upon the application.

The bottom part allows for cable entry via screw entry holes that accommodate cable glands. As an option, a solenoid valve is attached to the side of the unit and activated by an internal miniature electro-valve.

The lid is fitted with a seal inside a groove and four captive screws for attachment to the base. There are two basic lid shapes, one is normal (flat) the other is extended. When the lid material is non-transparent window is optionally fitted into the wall of the lid. Alternatively, a low profile indicator under the bottom of the enclosure indicates the status of the valve. The extended version of the lid, whether molded as part of the lid or incorporated into metallic flat lid, has a cylindrical raised portion fabricated into the lid center. This allows the internal valve position indicator to be laterally visible.

Internally, a rotating cam may activate up to four switches/sensors. A maximum number of four switches/sensors and two miniature electro-valves can be used inside a valve position indicator. The approved switches, sensors and miniature electro-valves are as follows:

**Table 1**

| Description                                       | Style | Type   | Ex Rating         | Certificate no. |
|---|-------|--|-------------------|-----------------|
| Micro/Limit Switch                                | M     | VS10N001C2   | Simple Switches   | ----            |
| Reed Switch                                       | P     | HSR-V933   | Simple Switches   | ----            |
| Reed Switch                                       | R     | LV-ELE145  | Simple Switches   | ----            |
| Go Switch   | L     | 35 Series  | Simple Switches   | ----            |
| DPDT Micro Switch                                 | T     | Cherry Burrell E19 ITW<br>DPDT-ZZ #26-804                              | Simple Switches   | ----            |
| Pepperl + Fuchs Slot Type<br>Sensors              | N     | SJ... & SC...  | Ex ia IIC T4...T6 | PTB99ATEX2219X  |
| Pepperl + Fuchs Cuboidal<br>Inductive Sensors     | E     | NJ2 V3 N   | Ex ia IIC T4...T6 | PTB00ATEX2032X  |
| Pepperl + Fuchs Cuboidal<br>Inductive Sensor      | N     | FJ..., NJ... & NC... (Plus<br>additional types in supplement<br>1 & 2) | Ex ia IIC T4...T6 | PTB00ATEX2032X  |
| Hans Turk GmbH Two Wire<br>Proximity Sensor       | N     | ...-...-Y1-.../...   | Ex ia IIC T4...T6 | KEMA02ATEX1090X |
| IFM Electronic GmbH<br>Inductive Proximity Switch | N     | NE***, NF***, NG***, NI***,<br>NN***, NT*** & NS***                    | Ex ia IIC T4...T6 | PTB01ATEX2191   |
| Miniature Elector Valve                           |       | 81 519...  | Ex ia IIC T6      | LCIE02ATEX6122X |

Other than simple switches, only devices that are certified as either "Ex ia IIC T4" or "Ex ia IIC T5" or "Ex ia IIC T6" shall be used in the Valve Position Indicator. The certified ambient temperature

range of the Valve Position Indicator is -20°C to +40°C with the following exceptions:

If a Valve Position Indicator incorporates a miniature electro valve (solenoid) that is certified under LCIE02ATEX6122X (solenoid), then the ambient temperature range for that particular Indicator is: Ta = 10°C to +40°C.

If a Valve Position Indicator is manufactured from either aluminium alloy or stainless steel, does not feature a Lexan dome indicator and only incorporates simple reed/micro switches or Pepperl + Fuchs slot type sensors (SJ.. and SC..) PTB99ATEX2219X (plus supplement 1), then the Valve Position Indicator may be marked with an ambient temperature range of: Ta = -50°C to +40°C.

## 2. SPECIAL CONDITIONS OF USE (X)

None

## 3. MARKING

The following (or similar) information had to be clearly and permanently marked on all units covered by this report:

TopWorx RSA (Pty) Ltd

Valve Position Indicator

Model : Refer to Table 1

Manufacturer : TopWorx RSA (Pty) Ltd

Serial no. : ----

Ex tD A21 IP65 T100°C

IA No. : S-XPL/11.0816

Responsible Testing Officer:



T Vorster

Reviewed by:



D Maree  
SANAS Technical Signatory