



Keeping the World Flowing
for Future Generations

The Smart Position Indicator (SPI) features limit switches enclosed in a IECEx/ATEX certified protective enclosure providing an accurate and reliable Open/Close signal to the control room for multi-turn manual valves.

Using 30+ years of proven technology, the new SPI mechanically displays the position of the valve for in-field notification and digitally signals its open/closed position.

With certification for use in gas and dust explosion hazardous environments, the SPI helps to create a safer working environment. The compact SPI offers flameproof limit switches or inductive sensors complete with increased safety terminal facilities housed within an increased safety enclosure.

Application

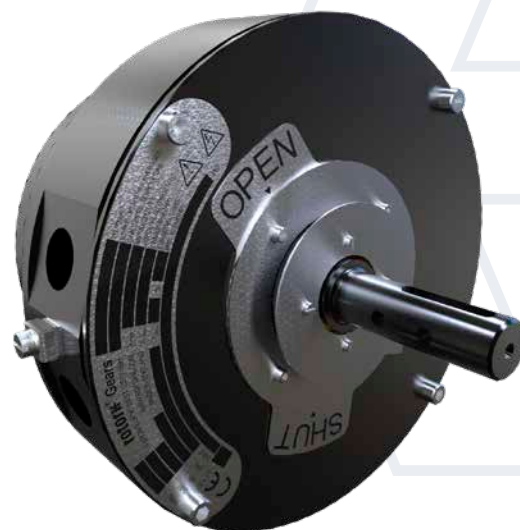
The Smart Position Indicator is designed for use in chemical, petro-chemical, oil and gas industries, power plants and water supply.

Features

- Multi-turn manual duty
- ISO5210 F10 output
- Anodised aluminium housing
- Stainless steel fasteners
- Protected shafts
- Adjustable open/shut plates & contacts
- Maintenance free
- Switches and terminals housed inside a protective enclosure
- Switches used:
 - Bartec 07-1501-6
 - Pepperl+Fuchs NCB2-V3-NO
 - Crouzet 831391
 - Omron DV3-161 or equivalent (non-hazardous variants)
- Mount to existing F10 input flange (stem acceptance Ø20 x 60 mm)
- Direct mount to non-thrust taking, rising stem valve (max stem acceptance Ø20 x 100 mm from mounting face)

Options

- Pin/key handwheel
- Thrust base for thrust taking valves up to 40kN (max stem acceptance Ø20 x 135 mm from mounting face)



Smart Position Indicator (SPI)

Environmental Specification

- IP67 minimum sealed unit

Certification

- **Hazardous Area:**

On versions fitted with flameproof micro-switches:

Ex II 2GD

Ex eb db IIC T4 Gb / Ex h IIC T4 Gb / Ex tb IIIC T135°C Db IP67

Switch Type	Voltage Rating (V max)	Current Rating (A max)	Ambient Temperature Rating (T _{amb})
BARTEC 07-1501	120 VAC	5A	-25 to +65 °C
BARTEC 07-1501	30 VDC	3A	-25 to +65 °C
BARTEC 07-1501	15 VDC	5A	-25 to +65 °C
CROUZET 831391	90 VAC	1.5A	-25 to +65 °C
CROUZET 831391	90 VAC	5A	-25 to +40 °C

On versions fitted with intrinsically safe proximity sensors:

Ex II 2G

Ex ib IIC T4 Gb / Ex h IIC T4 Gb

Switch Type	Voltage Rating (V max)	Current Rating (A max)	Ambient Temperature Rating (T _{amb})
PEPPERL + FUCHS NCB2-V3-NO	16V	25 mA	-25 to +100 °C

- **Non Hazardous Area:**

Watertight & Dust-tight, BS EN 60529 IP67

Switch Type	Voltage Rating (V max)	Current Rating (A max)	Ambient Temperature Rating (T _{amb})
Omron DV3-161	250 VAC	16 A	-25 to +100 °C
Omron DV3-161	30 VDC	10 A	-25 to +100 °C
Omron DV3-161	8 VDC	16 A	-25 to +100 °C

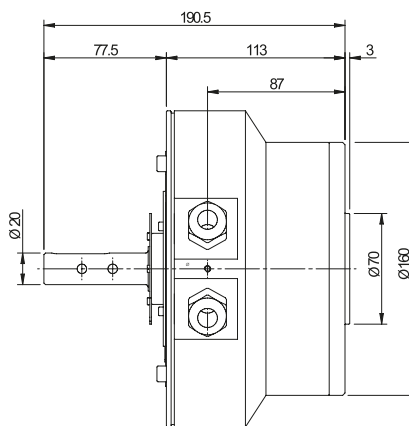
Technical Specification

Size	Ratio : 1	Gearbox No. of Turns		Weight (kg)
		Min	Max	
SPI 1	34.8	4	26	6.4
SPI 2	113.3	13	87	6.4
SPI 3	368	42	284	6.6
SPI 4	1,196	137	923	6.7

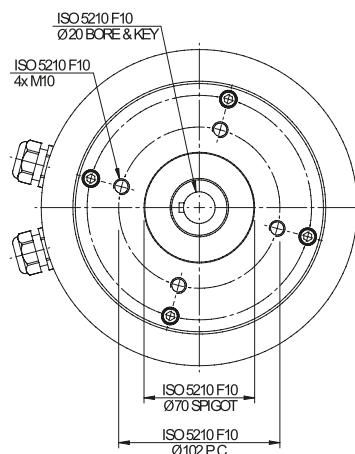
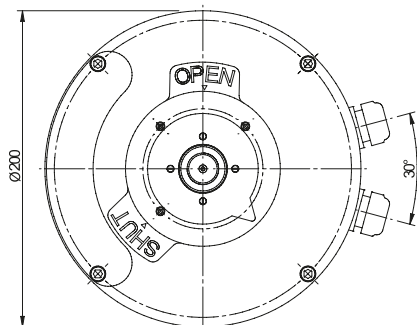
18 Nm torque should be added to the input torque before sizing a handwheel when using an SPI. With a standard 360 Nm rim effort, adding 100 mm to the handwheel size will generate the 18 Nm required.

Material Specification

Description	Material
Fasteners	Stainless Steel A4
Position Indicator	Stainless Steel 303
Sealing	NBR
Housing	Aluminium
Gearing	Carbon Steel C45
End Plates	Aluminium



Note: Cable glands are shown for pictorial purposes only.
Cable gland holes are ½" - 14 NPT.



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