

Frequently Asked Questions



What is the ITT ISP?

The ISP or Integrated Sensing Platform is a fully featured ultra-compact intelligent sensing module designed for use on aseptic diaphragm valves. The ISP features auto calibration, optional integral solenoid, and high visibility LEDs for identification of status. Output options include ASi and Devicenet for network communication and 3 wire and 2 wire point to point. (Note 2 wire and DeviceNet have expected availability of Q3 2020).

Why is the ISP reliable?

The ISP utilizes the most advanced magnoresistive sensing available today. This technology is used extensively in the automotive industry because of its reliability and repeatability. Highly accurate and insensitive to temperature fluctuations, the ISP technology continuously senses the entire stroke range. The contact-free architecture assures long life expectancy with no component wear. There are no linkages to bend or bind and no contacts to corrode.

What valve size range does the ISP adapt to?

The ISP is designed to adapt to small fractional Bio-Tek or BioVizion valves all the way to 3" & 4" valves with the 33 series actuators. 47 Series 3 & 4" Advantage actuators are not supported.

Does the ISP require a mounting kit?

The ISP has a number of mounting kits required to properly mount the switch package. Valve size and actuator type must be determined. Charts are provided in the IOM for each ITT actuator type.

Does the ISP have auto calibration?

The ISP features auto calibration on 3 wire and Bus network modules that include an internal solenoid. 2 Wire models and models without a solenoid valve are semi-automatic and require an external air supply to cycle the valve open and closed to set the open and closed positions.

How is the ISP calibrated?

The ISP can be calibrated in a number of ways depending upon the specific options and output protocols. All units can be calibrated with the magnetic dongle. 3 Wire and network modules featuring Diagnostics and Control (feature code BT) can be calibrated with the ISP APP.

Are magnetic dongles supplied with each sensor?

No. To avoid an excessive number of dongles on the job site, the end user must determine how many dongles are desired for the project. ITT price sheets contain single and multi-pack part/numbers for ordering these items.

Is the ISP resistant to wash down environments?

The ISP was designed for the harsh wash down environments common in the Biopharmaceutical industry. IP 67 rated the ISP is good for temporary immersion. Additionally, the ISP has fully potted electronics and never needs to be opened for mounting or maintenance; therefore the unit is practically impervious to the environment. You never need to worry that a sealing ring has been pinched or damaged during maintenance.

Can the ISP be mounted on other brands of linear actuator?

The ISP continually senses linear travel of a magnetic target. This means that in many cases the ISP could be adapted for other valves with linear strokes. If your needs require this, contact your local authorized distributor to review your application.

What does ‘Diagnostics’ and ‘Diagnostics with Control’ mean?

ISP modules with the Diagnostics option (feature code BL) provide a number of valve related performance information and data fields. Diagnostics such as opening and closing times, ISP unit temperature and error codes can be monitored with the ISP APP. Giving the user valuable feedback to the performance of the valve. Additionally valve tag and maintenance information fields are available for user input. User manual and website links are directly accessible from the ISP APP. Lifetime and resettable stroke counters are available with the Diagnostic options.

ISP units with internal solenoid options are also available with Diagnostics and Control, which allows the user to cycle the solenoid valve remotely with the ISP APP. A number of safety features are included to avoid inadvertent control.

How do I specify the ISP?

The ISP is easily specified for a particular customer specification. Valve size, actuator type, Output type, with or without solenoid, with or without Diagnostics are options that must be selected to determine the complete ISP model and mounting kits required.

Product	Output		Solenoid		Cover Size		Diagnostics	
Code	Option	Code	Option	Code	Option	Code	Option	Code
ISP	ASi	AI	None	-	0.25"-2"	-	None	-
	2 Wire	2W	Included	SV	2.5"-4"	LS	With Diagnostics	BL
	3 Wire	3W					With Diagnostics and Control	BT
	DeviceNet	DN						

The details of each feature can be found in the ISP brochure B.ISP.en-US.2020-04 available on the ITT website <https://www.engvalves.com/core/medialibrary/engvalves/website/Tools-Resources/Brochures/PureFlo/B-ISP-en-US.pdf?ext=.pdf>.

ITT has also created a specification tool that allows the user to answer a few questions and generate the appropriate ISP model. Please see your local distributor for the latest version of the “ITT Specification Configurator”.

Is there a minimum travel distance required for the ISP? Use with AOS?

The ISP easily works with the Adjustable Opening stop feature of ITT actuators. The sensing module will need to be removed or added after the AOS feature has been set. The ISP will automatically sense the reduced stroke of the actuator and set the limits accordingly. There are however minimum stroke requirements for proper operation.

ISP units BT/BV – 1” (no mounting plate) 0.10” minimum stroke required.

ISP units 1.5 and above: (with mounting plate) 0.20” minimum stroke required.

When installing an ISP to an existing actuator, why must I measure the magnet position with the valve in the open position?

If the magnet is not threaded in all the way, or there is a problem with the actuator, the magnet may sit too high such that it could interfere with the upper housing of the ISP, causing damage to the ISP.

Why can't I calibrate my ISP with the App? Why can't I operate the solenoid valve with the App?

- Check that your ISP has the BT option.
- If connected to ASi or DeviceNet system, communications must be disabled at the master control. Alternatively, calibration and solenoid operation may always be performed with the dongle.
- If you have a 3W ISP connected to a PLC, calibration and solenoid control on the App will not function. The ISP must be connected to an independent power supply. Contact ITT to obtain the power supply. Alternatively, calibration and solenoid operation may always be performed with the dongle.
- If you would like to bench calibrate your ISP, you will need a power supply. Contact ITT to obtain the power supply.

I have an existing switch in the field. Can I retrofit the ISP? Do I have to change my wiring or my PLC?

The following information is needed to determine:

- Manufacturer and Model number of the existing switch. In some cases we may need the following additional information:
 - If discrete switches (including prox switches with moving contacts) are currently used, what is the voltage of the system? AC or DC?
 - If inductive (solid state) prox switches are currently used, what type (PNP, NPN, Z, N, etc.)?
 - If network (bus) system is used, which one?
- Is the current switch in a hazardous location? If so, what is the classification of the location? (For example, Division 1 or 2; or Zone 0, 1 or 2)
- Is the system wired to a terminal block in the switch housing?
- Is conduit required?
- Is a quick connect used? What size (e.g., mini, micro, M12, M16, etc.) Male or female? How many pins and what form? Is a diagram available showing the function of each pin?