User Guide

ISP App: Diagnostics and Control

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Before using this guide, ensure that you have downloaded the most current version of the ISP app to your iPhone® or iPad® from the App Store. When searching the App Store on an iPad, ensure that the drop-down menu at the top of search results page is set to "iPhone Only." Your iOS device must be running iOS 9 or later and be equipped with Bluetooth® technology to use the ISP app. The app is not compatible with Bluetooth Classic.

Make sure that your iOS device has its Bluetooth capability turned on when attempting to use the ISP app. This can be found under your iOS device's settings. To ensure that you have good Bluetooth reception, keep your iOS device within 10 m | 33 ft of the module that you wish to connect to. The range of your Bluetooth device may be affected by many things, including interference from other devices and physical obstructions.

WARNING:
Upon disconnect or master disabling overrides, valve may cycle.

Home Screen

Selecting a valve: After opening the ISP app, you are directed to the home screen. This screen allows you to browse and select a specific automated valve when multiple valves are present.

Figure 1: Home screen

1. All energized ISP-BT and ISP-BL modules within range of your iOS device will appear on the home screen. If no devices are within range, the device list will be blank. If the device list is very long, it can be reduced by searching for specific tag numbers, using the Filter feature on the drop down menu.

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2. To identify a specific valve when multiple valves are present, select the wink button (Item 1 in Figure 1: Home screen on page 1) next to the unit you wish to select. This will cause the module's LEDs to blink the currently displayed color for 30 seconds, or until you press the "Stop Winking" button (Item 2 in Figure 1: Home screen on page 1)

3. Choose a specific valve by selecting the applicable ISP (Item 3 in Figure 1: Home screen on page 1), this will direct you to the device detail screen.

Note: The list of devices present can be refreshed by swiping downward on the home screen.

Releasing a device

Once you have selected a device, it will be paired to your iOS device until you unpair it. In order for another iOS device user to access control with their ISP app, unpair your device by going back to the home screen/device list.

Menu

Selecting the menu (Item 4 in Figure 1: Home screen on page 1) allows you access a variety of features on the menu screen.
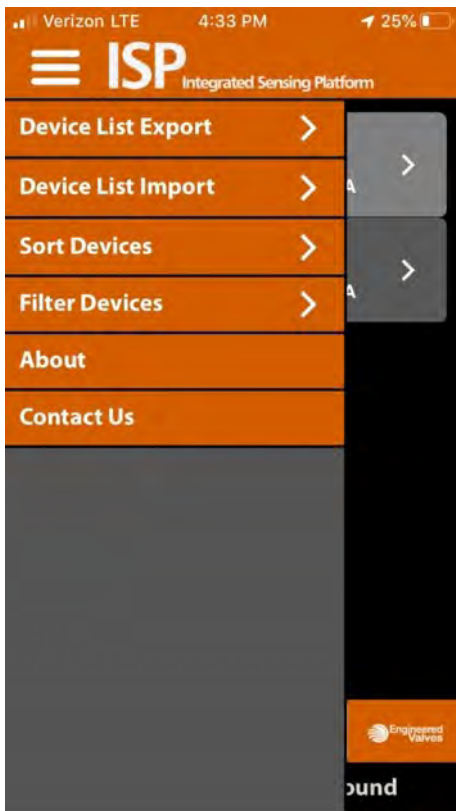

Figure 2: Menu screen

Export / Import

Selecting Device List Import or Export will allow you to import/export: valve tag number, valve/actuator description and a variety of additional information from the ISP to a CSV file. The data may be edited and uploaded to the applicable ISPs.

To use this feature, export and save the CSV file in iCloud. A Valve Sensing folder will be created in iCloud. Use the 'Files' app on the iOS device to locate files in iCloud or local storage. The file may be opened on the iOS device, or downloaded from iCloud to a computer. The file may be edited using

spreadsheet software. Rename the file to CSVImport and save as CSV file type. Then import the file to iCloud, Valve Sensing folder. Using your iOS device, confirm the new file is in the Valve Sensing folder.

In the ISP app, tap Device List Import / from iCloud Drive.

This process is convenient for mass changes, such as updating a list of tag numbers, or entering maintenance records.

Sort / Filter

These features may be used to quickly locate specific tag numbers.

Operating Information screen

You can customize the tag number for a device, change the address, change the baud rate (DeviceNet only), force the solenoids on or off, cause the device to wink, and set the open/closed limits from the device detail screen. (Forcing the solenoid and automatic setting of open/closed limits is available only with the BT option.)
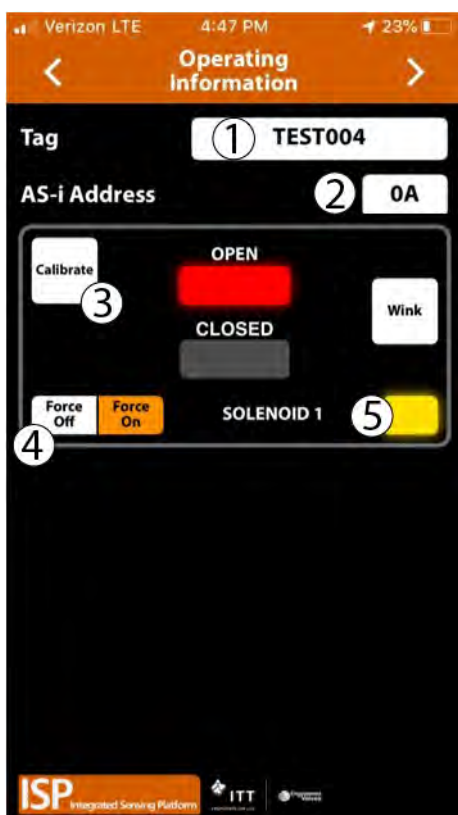

Figure 3: Device detail

In addition this screen shows the current valve position.

Locked screen

If the icons on the device detail screen appear grayed-out or unavailable to select, this means the master is still in control.

Check to ensure that the power supply is set to IR addressing mode (AS-i only) or enable the control override bit for the device (AS-i DO Bit 2; DeviceNet™ Byte 0, Bit 7). For 3-Wire ISPs the M12 connector must be physically disconnected. A separate power supply is required to enable the greyed-out functions.

Changing the device tag or address

To change the **tag number**, edit the existing tag in the associated text field (Item 1 in). The tag can be up to sixteen characters long.

To change the **AS-i address**, edit the existing address in the associated text field (Item 2 in). The AS-i address can be 1A to 31A or 1B to 31B.

To change the **DeviceNet address**, edit the existing address in the associated text field (Item 2 in). The DeviceNet address can be 0 to 63. There is also an option to change the Baud Rate to 125k, 250k, or 500k.

A warning screen will appear indicating this action could disrupt the process in which the valve is installed. Select cancel or continue. Alter the address and select Done.

Forcing the solenoid on/off (Item 4 in)

Note: This function is only available with BT option. Not available with BL option.

> **WARNING:**
> Selecting Force Solenoid will stroke the valve. When Force Solenoid is selected, a Warning screen will appear indicating that this could disrupt the process in which the valve is installed. When prompted, choose Continue to accept, or Cancel.

- **AS-i:** The Force Solenoid function requires that the ISP is unlocked at the master (using input bit 2). Alternatively, the ISP could be physically disconnected from the AS-i master, and powered with a separate power supply.
- **3-Wire:** The Force Solenoid function requires that the ISP is disconnected from the PLC, and powered with a separate power supply.

When the solenoid control is forced on an indicator turns orange (Item 5 in).

Forcing the solenoid will cause the valve to open or close. A warning screen will appear indicating this action could disrupt the process. Select cancel or continue.

Calibrating the valve assembly

Note: This function is only available with BT option. Not available with BL option.

- **AS-i:** The Calibrate function requires that the ISP is unlocked at the master (using input bit 2). Alternatively, the ISP could be physically disconnected from the AS-i master, and powered with a separate power supply.
- **3-Wire:** The Calibrate function requires that the ISP is disconnected from the PLC, and powered with a separate power supply.

> **WARNING:**
> Calibration requires stroking the valve. When Calibration is selected, a Warning screen will appear indicating that this could disrupt the process in which the valve is installed. When prompted, choose Continue to accept, or Cancel.

1. Touch Calibrate (Item 3 in). Accept the Warning prompt (see above), or cancel.
2. The valve will stroke in each direction and teach itself the open and closed positions.
3. During calibration, a popup will offer to swap the LED colors for open and closed. Select Keep or Swap.
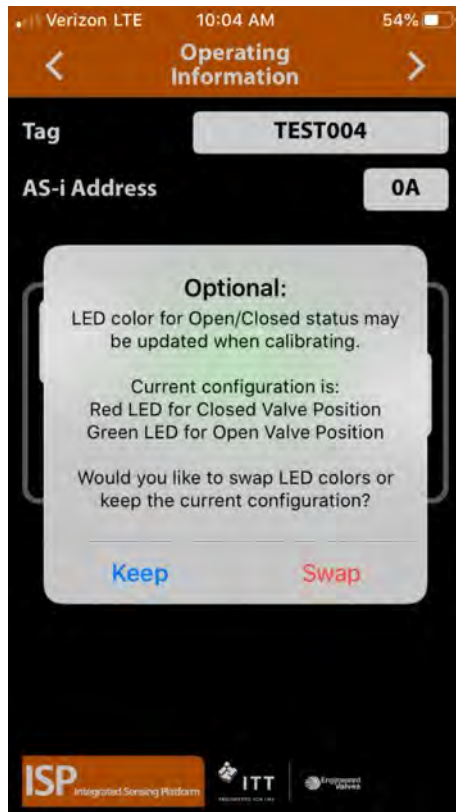
Figure 4: LED color swap option

4. Calibration is complete when the LEDs are solid red or green.

More Information screen

To see additional information about a specific valve, swipe right or use the arrows at the top of the device detail screen.

At the top of the More Information screen, the unit model number, serial number, and date code are displayed. These are preset from the factory and cannot be changed.
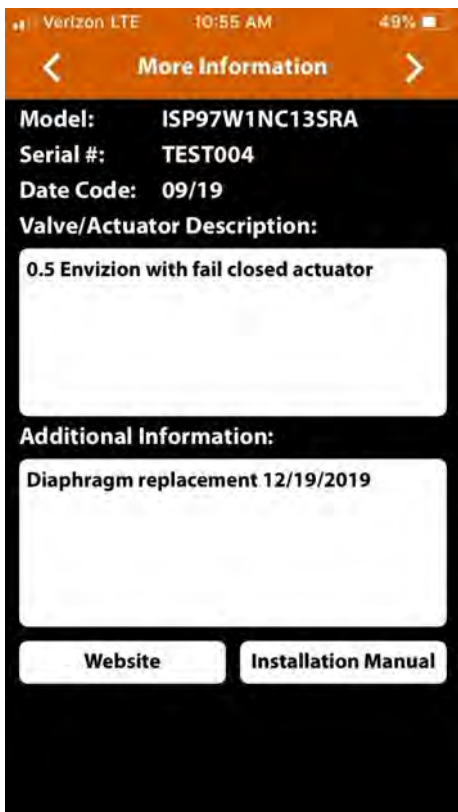
Figure 5: More information screen

There are two customizable text boxes titled "Valve/Actuator Description" and "Additional Information" where up to 160 characters can be added for user notes, such as maintenance records.

Website and instruction manual

The direct links to ITT's website and the unit Installation, Operating and Maintenance Instructions located on the bottom buttons of the More Information screen require an Internet connection to access.

Diagnostic data

To see additional diagnostics about a specific valve, advance a page to the right using the arrows at the top of the more information screen.
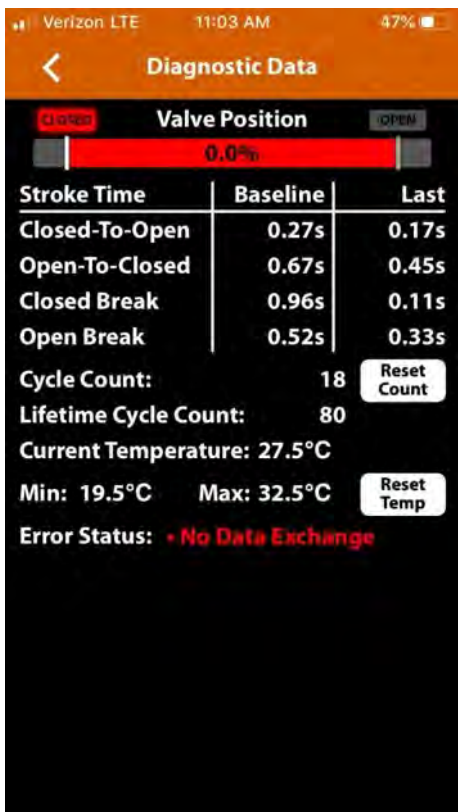
Figure 6: Diagnostics screen

1. The valve position information includes real time valve position, stroke time baseline, and stroke time of last cycle.

2. The valve Cycle Count is displayed and indicates how many cycles the valve has made since last reset. A cycle is considered to be a complete actuation of the valve (e.g., closed to open, then open to closed). Selecting the reset button will erase the cycle count and start counting again from 0.

3. The Lifetime Cycle count is that of the ISP device. It cannot be reset.

4. The current temperature of the ISP is displayed; along with the temperature range of the ISP since last reset. Selecting the reset button will erase the historical temperature data and start a new period of temperature data collection.

5. The Error Status register can display numerous faults that are detected by the module. These data are only available via the ISP app and is not accessible from the bus network. The following is a list of errors/faults that can be detected and display on the iOS device:

Table 1:

Common	DeviceNet only	Asi Only	3-Wire Only
Output shorted	Major DeviceNet fault	No data exchange	Open signal shorted
Internal sensor fault	Minor DeviceNet fault		Closed signal shorted
No magnet detected	DeviceNet timed-out		Thermal shutdown error
Bus protocol error	Pending DeviceNet change		Supply voltage too low
	Duplicate address		
	Bus-off fault		

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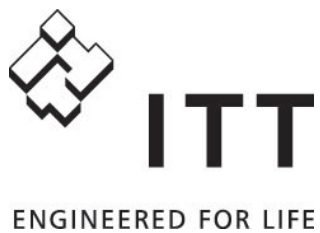
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