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the science inside

brands you trust.

SAUNDERS® I-VUE
Intelligent Sensing Technology

CRANE®
ChemPharma Flow Solutions

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Saunders® I-VUE Sensor Key Features and Benefits

The Saunders® I-VUE is an intelligent valve sensor designed specifically for aseptic diaphragm valve applications in the Life Science industry. Compatible with Point-to-Point (P2P), AS-i, and DeviceNet control systems, the Saunders® I-VUE offers substantial benefits over standard switch controls.

Saunders® I-VUE Key Features

❶ **Enhance Reliability and Accuracy** with Saunders® I-VUE solid state continuous sensing technology that provides precise position readings for the entire valve range from 0.25" to 4.00" (DN8 to DN100).

❷ **Simplify Installation** by utilizing automated valve calibration without opening the IP67 rated polycarbonate sensor enclosure, reducing set up times to 3 minutes or less.

❸ **Lower Maintenance Costs** by applying factory or user defined device settings to monitor valve cycle count and end point tolerance limits, preventing false alarms and unnecessary diaphragm replacement.

Saunders® I-VUE Sensor Key Benefits

With fully potted solid state electronics to protect against moisture and vibration, and no contacting parts to fail, the Saunders® I-VUE is built to provide many years of accurate valve position sensing. The Saunders® I-VUE advanced electro-magnetic sensing technology provides accuracy of less than 0.2mm (0.008") and is designed to be used on valves from 0.25" – 4.00" (DN8-DN100) with reliable, repeatable results. Unlike conventional end point switches, thanks to the Saunders® I-VUE continuous sensing, valve position is always known throughout the range of travel, allowing more accurate control even with variable process conditions.

The Saunders® I-VUE sealed IP67 and NEMA 4X rated polymer casing is compact, rugged, and does not require any dismantling when commissioning the valve. When fitted with the high performance integral solenoid valve, open and closed positions can be set via the network control system or at the unit in either manual or self-calibration modes in under 3 minutes, dramatically reducing complexity and cost even in hard to reach installations.

The Saunders® I-VUE has a unique LED smart window display to assist in setting and programming the sensor and communicating alarms. Diaphragm management and general maintenance is vastly improved as the Saunders® I-VUE can be programmed either by date or by operation cycle count, preempting unnecessary diaphragm replacement. Programmable alarms are in place for easy monitoring of valve and process status.

Please visit our Web-Based Drawing Library at: www.saundersdrawings.com for current database of drawings in PDF, 2D DWG, and 3D IGES formats.

Visual Position Indicator ❶
shows valve position even in
the event of power loss.

❷ Ring of bright red and green
LEDs display valve position.

❸ Illuminated Smart Window
display assists in programming
the sensor.

❹
**Robust all-polymer
enclosure is rated
NEMA 4X, IP67.**

❺ Magnetic Buttons allow
calibration and programming
of Saunders® I-VUE without
opening enclosure.

❼ Saunders® I-VUE direct
mounts on Saunders® S360
actuator. Compact adapters
available for Saunders® EC
and ECX actuators.

Optional 24VDC integral ❻
solenoid valve.

*Please register your Saunders® I-VUE at: www.saundersI-VUE.com to access important
installation information, download Electronic Data Sheets (EDS), and receive notifications
of required firmware upgrades.*

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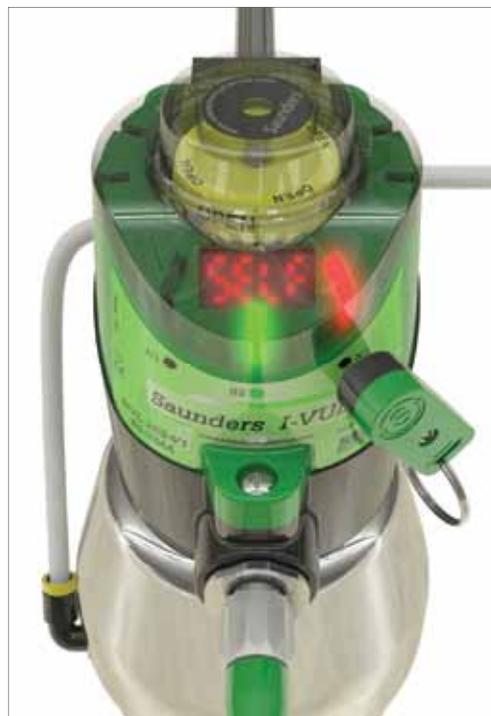
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Saunders® I-VUE EZ-SET Feature

The Saunders® I-VUE is ready to install and operate as delivered. The EZ-SET feature allows quick setting of the sensor without the need to open the enclosure. The EZ-SET feature works with P2P and networking options fitted with integral solenoid. Simply hold the black N side of the magnetic key against the N3 magnetic button for three seconds, confirm the action by touching the green S side of the magnetic key against the S2 button, and the valve will stroke three times and set open and closed positions.

When Saunders® I-VUE is a part of a network using AS-i or DeviceNet, the sensor can also be set from the control station. The Saunders® I-VUE can also be easily set when a remote solenoid is employed.

Standard settings and alarms can be custom programmed at the sensor using the magnetic key and buttons. These parameters can be programed at the control station on units that are DeviceNet or AS-i enabled.

The Saunders® I-VUE will Default to Factory Settings Unless Custom Programmed. These Factory Settings Include

Tolerances	Factory Setting
Open Position H	20%
Close Position L	20%
Alarms	**Factory Setting**
Cycle Time	OFF
Partial Counter	OFF
Worked Days	OFF
Date	OFF
PNP	OFF
Solenoid	ON
Others	**Factory Setting**
Display	PCot (Partial Counter)
Sleep Mode	OFF
Self-Calibration	3 Cycles
Password	NOT SET
Total Counter	Not Affected by Factory Reset
DN Address	63
DN Baude Rate	125

Please register your Saunders® I-VUE at:
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to access important installation information, download Electronic Data Sheets (EDS), and receive notifications of required firmware upgrades.

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Saunders® I-VUE Sensor Operating Instructions

Saunders® I-VUE Fast Key Access

Fast Keys allow easy, single-step operation of common functions. This includes Forced Solenoid, Self-Calibration, (EZ-SET), Demo Mode, and also Reset of Password.

Fast Key Access				
Function	**Button**	**Hold Time**	**Mode**	**Display Message**
Forced Solenoid	N1	3 seconds	Run	SoL ForCEd
Self-Calibration (auto setup)	N3	3 seconds (6 seconds if password reset)	Run	SurE → S2 → SELF CAL 1b / N3 Back to previous state
Demo Mode (2 keys required)	N1 and N3	3 seconds	Run	dEno tESt
Password Reset	S2 N1 and N3	3 seconds 3 seconds	Run	ConF → 0000 toLE

Programming the Saunders® I-VUE

The Saunders® I-VUE can be programmed to configure a range of features and alarms based on specific system or application requirements. This is accomplished via the magnetic key and buttons, while observing the selections on the Smart Window Display.

The S2 Button accesses ("drills down") a selection in the programming ladder (nested menu of functions). The N3 Button moves the selection "cursor" down the ladder, and the N1 Button moves it up the ladder, until the desired function is reached. When the desired parameter (function) is reached, the S2 Button accesses that option, while the N1 and N3 Buttons will again scroll through the options. Pressing the S2 Button confirms the selection.

Programming and alarm features can be deployed at the user's option, and they vary with the requirements pertaining to solenoid type, mode of feedback, and networking protocol. The Saunders® I-VUE IOM Manual provides easy-to-follow steps for all functions, and includes a flow chart as a visual aid for programming the sensor.
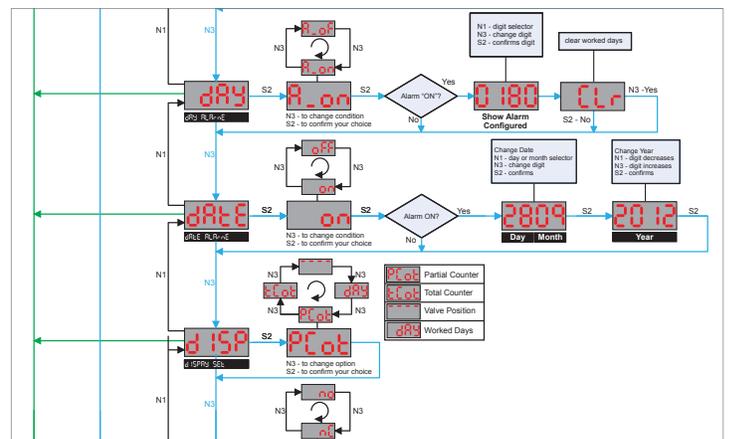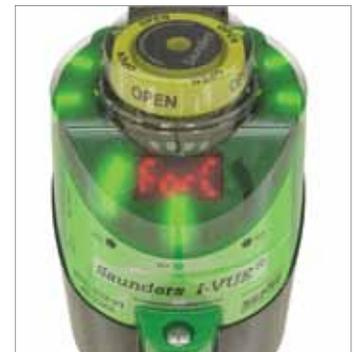
Typical Programming Logic

Please refer to the Installation, Operating and Maintenance Manual for full instructions on mounting, calibrating, programming and operating the Saunders® I-VUE sensor which is available at: www.saundersI-VUE.com.

Saunders® I-VUE Technical Details

The Saunders® I-VUE has the ability to set end point tolerance up to 40% of travel. This feature allows reliable feedback under variable process conditions and/or fluctuating air supply. End point limit switches cannot accommodate these variable conditions without false position indications resulting in unnecessary alarms.

The solid state sensing technology used in the Saunders® I-VUE provides sensitivity of .2mm (0.008"). This performance ensures accurate performance on smallest valves. The Saunders® I-VUE Sensor is available as a point to point sensor or as a sensor integrated into a network using AS-i or DeviceNet communication.

Saunders® I-VUE Optional Integral Solenoid

Body:	Anodized Aluminum or Stainless Steel
Type:	Piloted, 3/2
Voltage:	24VDC 0.6W
Cv:	0.9 (0,8 Kv)
Flow Rate:	400 Nl/m
Air Connections:	1/8" BSP
Manual Override:	Standard

The Saunders® I-VUE Complies with the Following International Codes and Standards

Approvals	P2P	AS-i	DeviceNet
NEMA 4X	●	●	●
IP66	●	●	●
IP67	●	●	●
CE	●	●	●

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Saunders® I-VUE Sensor Technical Details

The Saunders® I-VUE has been engineered to compensate for the behavior of diaphragm valves under multiple processing conditions including: process, CIP and SIP, and varying operating air supply.

Valve Size Range:	0.25"–4.00" (DN8-DN100)
Temperature Range:	0°C to + 70°C
Sensing Technology:	Continuous sensing via five electro-magnetic coils
Target:	Composite ferrous magnet
Sensitivity:	Less than 0.2mm (0.008")
Position Indication:	Green LEDs - Open
	Red LEDs - Closed
	Physical position indicator
Feedback Options:	24VDC P2P
	AS-i version 2.0 standard address
	AS-i version 2.1 extended address
	AS-i version 3.0 extended address (optional)
	DeviceNet
Local Programming:	Via magnetic key
Remote Programming:	At control panel (Networking versions only)
Standard Connection:	P2P with SOV: M12 5 pin
	P2P without SOV: M12 4pin
	AS-i: M12 4 Pin
	DeviceNet: Mini 5 pin

Optional connections available include: pig tail with cable gland.

Saunders® I-VUE Construction

Connection Box:	Polycarbonate
Module Housing:	Polycarbonate
Cap:	Polycarbonate
Seals:	Buna N
Connector:	Stainless steel
Fasteners:	Stainless steel
Target:	Composite ferrous magnet

Saunders® I-VUE Power Consumption

Type	P2P - 24 VDC	AS-i - 31.5 VDC	DeviceNet - 24 VDC
I-VUE (solenoid OFF)	< 48 mA or 1.2 W	< 54 mA or 1.5 W	< 48 mA or 1.2 W
I-VUE (solenoid ON)	< 64mA or 1.5 W	< 64 mA or 2.0W	< 64mA or 1.5 W

Please refer to the Installation, Operating and Maintenance Manual for full instructions on mounting, calibrating, programming and operating the Saunders® I-VUE sensor which is available at: www.saundersI-VUE.com.

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ResistoPure   **revo**   **Saunders®** *the science inside*   **w.t.a.®**   **XOMOX®**

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