SVI®II Digital Positioner and Controller
A Universal, Scalable Control Solution... for Today and Tomorrow.
The Universal Control Solution

Flexibility and versatility of the Masoneilan SVI® II digital valve positioner and controller provide high performance solutions for any process control application. SVI II offers advanced features and functions using the HART® Communications protocol. It is designed for use with any control valve system making it a truly universal control solution.

Diagnostics

Precision
Accuracy

Improved Process Yields
Versatile Communications

Flexible Scalable Solutions

Universal Application
Key Features

Accuracy and Precision
Performance of the final control element is critical to the overall operating efficiency of any process control system. The SVI II provides extremely accurate and precise control valve positioning, resulting in high process efficiency and excellent product yield. In addition, reliability of all related system components and equipment will increase due to reduced operating loads.

Non-Contacting Sensor
Position sensing within the SVI II is accomplished using a solid state device to monitor the relative position of a magnetic array rotating about the axis of the sensor. The sensor is extremely accurate and effectively non-contacting, providing high precision, reliable performance, and long life.

Modular Construction
Each major section of the SVI II has been designed into separate modules for ease of maintenance and field repair. Separate modules exist for the pneumatic train, electronics section, and mounting system. This also provides flexibility for future field upgrades as required, such as advanced diagnostics and PID process control.
Key Customer Benefits

Improved Reliability & Maintainability
Modular design of the SVI II provides maximum dependability and ease of maintenance for this type of digital field device.

Features
- Self-Checking Functions
- Minimum Moving Parts
- Modular Construction
Reduced Installation & Start-up Costs
Automated calibration and tuning functions help optimize equipment set-up and operation in significantly less time.

Features
- Auto-calibrate
- Auto-tune

Versatile Communication Methods
Various options are available for local or remote communications, providing users with the flexibility to implement the best solution for any process loop.

Features
- HART® 2-Way Digital Communications
- Masonelan ValVue® Software
- Handheld Communicator
- On-Board Display and Pushbuttons
- Asset Management Solutions (AMS®)

Reduced Process Variability
Tighter control to desired set points is possible, resulting in higher process yields, improved product quality, and more efficient plant operation.

Features
- Field-Based Process Loop Control
- Accurate Positioning & Control
- Enhanced Dynamic Performance
- Bumpless Transfer
- Custom Flow Characterization
- Split Ranging

Improved Safety
Minimize and eliminate frequent personnel visits to the field, including hazardous areas, to evaluate or readjust control valves.

Features
- Remote Communications

Easy Predictive Maintenance
Real-time data collection and tracking allows users to accurately monitor and predict equipment performance. Proactive measures can then be implemented to prevent further degradation.

Features
- Diagnostics Capabilities
- Data Analysis & Interpretation
Features and Functions

SVI II is an intelligent digital valve positioner and PID process loop controller. This device provides advanced control performance using the HART Communications protocol using existing 4-20 mA wires. Complete features and functions are readily accessible using various interface methods, including the on-board LCD display with pushbuttons, a HART handheld communicator, or a PC running ValVue or AMS communications software.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air-to-Open/Air-to-Close</td>
<td></td>
</tr>
<tr>
<td>Single Acting Positioner</td>
<td></td>
</tr>
<tr>
<td>Double Acting Positioner</td>
<td></td>
</tr>
<tr>
<td>Custom Flow Characterization</td>
<td></td>
</tr>
<tr>
<td>PID Process Controller</td>
<td></td>
</tr>
<tr>
<td>Position Limits</td>
<td></td>
</tr>
<tr>
<td>Tight Shutoff Limit</td>
<td></td>
</tr>
<tr>
<td>Bumpless Transfer</td>
<td></td>
</tr>
<tr>
<td>Set Positioner Parameters</td>
<td></td>
</tr>
<tr>
<td>Set Process Controller</td>
<td></td>
</tr>
<tr>
<td>PID Parameters</td>
<td></td>
</tr>
<tr>
<td>Set Error Limits</td>
<td></td>
</tr>
<tr>
<td>Set Tag and Description</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air-to-Open/Air-to-Close</td>
<td></td>
</tr>
<tr>
<td>Single Acting Positioner</td>
<td></td>
</tr>
<tr>
<td>Double Acting Positioner</td>
<td></td>
</tr>
<tr>
<td>Custom Flow Characterization</td>
<td></td>
</tr>
<tr>
<td>PID Process Controller</td>
<td></td>
</tr>
<tr>
<td>Position Limits</td>
<td></td>
</tr>
<tr>
<td>Tight Shutoff Limit</td>
<td></td>
</tr>
<tr>
<td>Bumpless Transfer</td>
<td></td>
</tr>
<tr>
<td>Set Positioner Parameters</td>
<td></td>
</tr>
<tr>
<td>Set Process Controller</td>
<td></td>
</tr>
<tr>
<td>PID Parameters</td>
<td></td>
</tr>
<tr>
<td>Set Error Limits</td>
<td></td>
</tr>
<tr>
<td>Set Tag and Description</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Diagnostics</td>
<td></td>
</tr>
<tr>
<td>Measure and Record Total</td>
<td></td>
</tr>
<tr>
<td>Travel, Time Open, Time</td>
<td></td>
</tr>
<tr>
<td>Closed, Time Near Closed, and</td>
<td></td>
</tr>
<tr>
<td>Number of Cycles</td>
<td></td>
</tr>
<tr>
<td>Standard Diagnostics</td>
<td></td>
</tr>
<tr>
<td>Complete Cycles</td>
<td></td>
</tr>
<tr>
<td>Report Valve Friction, Response</td>
<td></td>
</tr>
<tr>
<td>Time, Spring Range, Low and</td>
<td></td>
</tr>
<tr>
<td>High Pressure Readings</td>
<td></td>
</tr>
<tr>
<td>Extended Diagnostics</td>
<td></td>
</tr>
<tr>
<td>Record and Display Valve</td>
<td></td>
</tr>
<tr>
<td>Signatures</td>
<td></td>
</tr>
<tr>
<td>Display Step Response for</td>
<td></td>
</tr>
<tr>
<td>Dynamic Performance Analysis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calibration</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Tune</td>
<td></td>
</tr>
<tr>
<td>Locate Stop Positions</td>
<td></td>
</tr>
<tr>
<td>Set Input Signals Corresponding to Open and Closed Positions</td>
<td></td>
</tr>
<tr>
<td>Calibrate Input Current and Pressure</td>
<td></td>
</tr>
<tr>
<td>Calibrate Secondary Signal Input to Adjust I/P</td>
<td></td>
</tr>
<tr>
<td>Reset Calibrations to Factory Settings</td>
<td></td>
</tr>
<tr>
<td>Set Positioner Timing Parameter</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PID Process Controller</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Process Variable and Set Point</td>
<td></td>
</tr>
<tr>
<td>Display Controller Output and Valve Actuator Pressure</td>
<td></td>
</tr>
<tr>
<td>Monitor Process Variable Trends</td>
<td></td>
</tr>
<tr>
<td>Set Point Tracking</td>
<td></td>
</tr>
<tr>
<td>Set Process Controller Parameters</td>
<td></td>
</tr>
<tr>
<td>Change Set Point and Mode of Transfer: Local, Manual, or Remote Set Point</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVI Parameters</td>
<td></td>
</tr>
<tr>
<td>Save and Display Diagnostic Data</td>
<td></td>
</tr>
<tr>
<td>Manually Position Valve</td>
<td></td>
</tr>
<tr>
<td>Display Position</td>
<td></td>
</tr>
<tr>
<td>Display List of Faults</td>
<td></td>
</tr>
</tbody>
</table>
Technical Specifications

Masoneilan ValVue Smart Communications Software

System Requirements
Windows® 95, 98 or NT Operating Systems
16 MB RAM Minimum
Serial Port for HART Modem Connection

Masoneilan SVI II Digital Positioner & Controller

Performance
- Hysteresis plus Deadband: ±0.2%
- Repeatability: ±0.2%
- Sensitivity: ±0.2%
- Conformity: ±1.0%
- Accuracy (over complete operating range): ±0.2%
- Operating Temperature Range: -40° C to +85° C

Pneumatics
- Regulated and Filtered Air
  (or Sweet Natural Gas)
- Double Acting, Single Acting, Reverse Acting
- Supply Pressure: 20-150 psi
- Air Delivery: 7 scfm at 30 psi, 20 scfm at 45 psi
- Air Consumption: 0.2 scfm at 30 psi, 0.4 scfm at 45 psi

Input Power and Signal
- Signal: 4-20 mA with HART® Communication Protocol
- Power Supply: Taken from 4-20 mA Control Signal
- Minimum Terminal Voltage: 11.5 Volts DC
- Minimum Current Signal: 3.8 mA

Hazardous Area Certifications
- Enclosure Rating: NEMA 4X / IP 65
- Electro-Magnetic Compatibility: IEC 801-2,-3,-4 CE mark
- FM, CSA and CENELEC IS (T4 at 80°C, T4 at Reduced Ambient)
- FM, CSA and CENELEC Flameproof

Control Valve Mounting System
- Universal Design
- NAMUR Mounting for Quarter Turn Valves
- Corrosion Resistant Configuration

System Connectivity
- Device Description (DD) Registered
- Asset Management Solution (AMS) Driver
Model Numbering Code

Modular construction of the Masoneilan SVI II provides users with the versatility and flexibility to select the right solution for any process control application. The wide range of available features and functions can also be upgraded in the field for a highly adaptable and scalable solution to meet future process requirements.

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SVI II</td>
<td></td>
</tr>
</tbody>
</table>

**Style**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Basic Diagnostics</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Advanced Diagnostics</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Diagnostics Plus</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Process Controller</td>
</tr>
</tbody>
</table>

**Pneumatic Train**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Single Acting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Double Acting</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Single Acting with SST Cover</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Double Acting with SST Cover</td>
</tr>
</tbody>
</table>

**Pneumatics**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Standard Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Low Flow</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>High Flow</td>
</tr>
</tbody>
</table>

**Display**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>No Display and Pushbuttons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>With Display and Pushbuttons</td>
</tr>
</tbody>
</table>

**Gauges**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>With Gauges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Without Gauges</td>
</tr>
</tbody>
</table>

**Communications**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>HART Communications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>OTHER</td>
</tr>
</tbody>
</table>

**Option Board**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Analog Retransmit and Switches</td>
</tr>
</tbody>
</table>

**Agency Approval**

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>CENELEC/FM/CSA</td>
</tr>
</tbody>
</table>

**Option Codes**

<table>
<thead>
<tr>
<th></th>
<th>G</th>
<th>Exhaust Gas Manifold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P</td>
<td>NPT Pigtail Leads with Environmental Seal</td>
</tr>
<tr>
<td></td>
<td>J</td>
<td>Metric Pigtail Leads with Environmental Seal</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Lightning Arrestor</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Metric Flameproof Wiring Gland</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Metric Wiring Gland – Uncertified</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Tropicalization</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>Reverse Acting</td>
</tr>
<tr>
<td></td>
<td>O</td>
<td>Offshore/Marine Service</td>
</tr>
</tbody>
</table>

Example: SVI II 2 3 1 2 1 2 0 L
Masoneilan Sales Offices

**AUSTRIA**
Dresser Valves Europe
Hans Kudlich-Strasse 35
A2100 Korneuburg (b. Wien), Austria
Phone: 43-2262-63689
Fax: 43-2263-68915

**BELGIUM**
Dresser Valves Europe
281-283 Chaussee de Bruxelles
281-283 Brusselsesteenweg
1190 Brussels, Belgium
Phone: 32-2-344-0970
Fax: 32-2-344-1123

**BRAZIL**
Dresser Industria E Comercio Ltda
Divisao Masoneilan
Rua Senador Vergueiro, 433
09521-320 Sao Caetano Do Sul
Sao Paulo, Brazil
Phone: 55-11-453-5511
Fax: 55-11-453-5565

**CANADA**
Valve Division
Dresser Canada, Inc.
Suite 1100
333 5th Avenue S.W.
Calgary, Alberta T2P 3B6
Canada
Phone: 403-290-0001
Fax: 403-290-1526

**CHINA**
Dresser Valve Division
Suite 2403, Capital Mansion
6 Xinyuanan Road
Chao Yang District
Beijing 100040
China
Phone: 86-10-6466-1164
Fax: 86-10-6466-0195

**FRANCE**
Dresser Produits Industriels
Division Masoneilan
4 Place de Saverne
92400 Courbevoie
France
Mailing Address:
92971 Paris La Defense Cedex
France
Phone: 33-1-49-04-90-00
Fax: 33-1-49-04-90-10

**GERMANY**
Dresser Valves Europe
Klein-Kollenburg-Strasse 78-80
47877 Willich, Germany
Phone: 49-2156-9189-0
Fax: 49-2156-41098

**INDIA**
Dresser Valve India Pvt. Ltd.
305-306 “Midas” - Sahar Plaza
Mathuradas Vasjani Road
J.B. Nagar - Andheri East
Mumbai, India 400 059
Phone: 91-22-835-4790
Fax: 91-22-835-4791

**ITALY**
Dresser Italia S.p.A.
Masoneilan Operation
Via Cassano, 77
80020 Casaraitore (Naples), Italy
Phone: 39-81-7892-111
Fax: 39-81-7892-208

**JAPAN**
Niigata Masoneilan Company, Ltd.
20th Floor, Marive East Tower
WBG 2-6 Nakae, Mihama-Ku
Chiba-shi, Chiba 261-7120, Japan
Phone: 81-43-297-9222
Fax: 81-43-299-1115

**KOREA**
Dresser Korea, Inc.
#2107 Kuk Dong Building
60-1, 3-Ka, Choongmu-ro
Jung-Ku, Seoul - 100705
Korea
Phone: 82-2-274-0792
Fax: 82-2-274-0794

**KUWAIT**
Dresser Valve Division
P.O. Box 242
Safat 13003, Kuwait
Courier:
Flat No. 36, Floor 8
Gaswa Complex, Mahboula
Kuwait
Phone: 965-9061157

**SOUTH AFRICA**
Dresser Ltd, South Africa Branch
Valve Division
P.O. Box 2234, 16 Edendale Road
Eastleigh, Edenvale 1610
Republic of South Africa
Phone: 27-11-452-1550
Fax: 27-11-452-6542

**SPAIN**
Masoneilan, S.A.
Zona Franca
Sector M., Calle Y
08040 Barcelona, Spain
Phone: 34-93-223-4175
Fax: 34-93-223-4754

**SWITZERLAND**
Dresser Europe sa
Frauentalweg 76
CH-8045 Zurich, Switzerland
Mailing Address:
P.O. Box 3968
CH-8021 Zurich, Switzerland
Phone: 41-1-450 28 91
Fax: 41-1-450 28 95

**UNITED ARAB EMIRATES**
Dresser Valve Division
Post Box 61302
Jebel Ali Free Zone
United Arab Emirates

**UNITED KINGDOM**
Valve Division
Dresser U.K. Limited
Trevithick Works
Gillibrands Estate, Skelmersdale
Lancashire WN8 9TU, England
United Kingdom
Phone: 44-1695-52600
Fax: 44-1695-52662

**UNITED STATES**
Northern Region
Valve Division
Dresser Equipment Group, Inc.
85 Bodwell Street
Avon, MA  02322-1190
Phone: 508-586-4600
Fax: 508-427-8971

Southern Region
Valve Division
Dresser Equipment Group, Inc.
11100 West Airport Blvd.
Stafford, TX 77477-3014
Phone: 281-568-2211
Toll Free: 800-847-1099
Fax: 281-568-1414

**SINGAPORE**
Dresser Singapore Pte Ltd
Valve Division
16, Tuas Avenue 8
Singapore  639231
Phone: 65-861-6100
Fax: 65-861-7172

**THE NETHERLANDS**
Dresser Valves Europe
Steenhouwerstraat 11
3194 AG Hoogvliet
The Netherlands
Mailing Address:
P.O. Box 640
NL - 3190 AN Hoogvliet RT
The Netherlands
Phone: 31-10-438-4122
Fax: 31-10-438-4443

**SWITZERLAND**
Dresser Europe sa
Frauentalweg 76
CH-8045 Zurich, Switzerland
Mailing Address:
P.O. Box 3968
CH-8021 Zurich, Switzerland
Phone: 41-1-450 28 91
Fax: 41-1-450 28 95

**UNITED KINGDOM**
Valve Division
Dresser U.K. Limited
Trevithick Works
Gillibrands Estate, Skelmersdale
Lancashire WN8 9TU, England
United Kingdom
Phone: 44-1695-52600
Fax: 44-1695-52662

**UNITED STATES**
Northern Region
Valve Division
Dresser Equipment Group, Inc.
85 Bodwell Street
Avon, MA  02322-1190
Phone: 508-586-4600
Fax: 508-427-8971

Southern Region
Valve Division
Dresser Equipment Group, Inc.
11100 West Airport Blvd.
Stafford, TX 77477-3014
Phone: 281-568-2211
Toll Free: 800-847-1099
Fax: 281-568-1414