

SVI™ II AP

Digital Valve Positioner

Advanced Performance Digital Valve Positioner with True System Interoperability

The **Masoneilan™** SVI II AP is an Advanced Performance positioner with **HART™** protocol, local display and pushbuttons for single and double-acting pneumatic control valves. Its universal and modular design with proven non-contact position sensor fits many applications offering high performance valve control with real-time diagnostics.

Key Features

- Field-proven non-contact position sensor or remote-mount position feedback
- Universal design for linear and rotary valve applications
- Field upgradable options and firmware
- Explosion proof external LCD & pushbuttons
- Standard or high flow capacities eliminating or reducing the need of additional accessories (Booster, Quick Exhaust ...)
- Setup Wizard for quick and easy commissioning
- Offline and online diagnostics
- Two (2) configurable and built-in isolated solid-state switches
- Position transmitter 4-20mA output
- Universal label with ATEX, USA, Canada, IEC ... approvals
- **ValVue™** communication software
- eDDL and DTM (Standard and Advanced) support
- Industrial aluminium or stainless steel housing

Benefits

- Faster commissioning and startup of control valves
- Accurate and reliable valve positioning
- Bi-directional communication for local or remote setup
- Integration with many control systems and asset management software
- Optimized performance regardless of actuator size



Specifications

Safety Compliance:

- SIL2 self compliance per IEC61508 section 2-3

Diagnostics:

- 5 pressure sensors
- Total travel and number of cycles
- Valve operations (time open/time close/time near closed)
- Offline control valves signatures with ValVue Suite or Advanced DTM
- Online diagnostics with Valve Aware
- Field upgradable diagnostic levels

Materials

- Case/cover:
 - Aluminum ASTM 360 (standard), 316L (optional)
 - Paint¹: Grey polyurethane (category C4 per ISO 12944-2)
- I/P transducer and relay are constructed of composite polymers and stainless steel (300 and 400 Series)

Input Power and Signal:

- Power supply (taken from 4-20mA)
- Required terminal voltage: 9Vdc at 20mA
- Minimum current signal: 3.2mA

Optional Output Signals:

- Valve position: 4-20mA - Two wire loop powered with 10-24Vdc compliance voltage
- Two configurable digital contacts - 1A, 30Vdc

Input Signals:

- Valve setpoint: 4-20mA, 450 Ohms input resistance
- Remote position sensor: 10 kOhms

Communication:

- HART® revision 5 or 7 protocol
- Open technologies: eDDL, DTM, plug-in and snap-on applications, wireless
- Field or remote communication with true control system integration

Ambient Temperature Limits:

- -50°C to 85°C (-58°F to 185°F)

Ambient Humidity Limits:

- 10 to 95 percent RH non-condensing

EMC Conformity Standards:

- EN 61000-4-2, 3, 5, 6, 8, IEC 1000-4-2 and EN 50140
- EMC 89/336/EEC directive

Actuator Travel Range:

- Linear motion:
 - 0.25" to 6" (6.4 to 150mm) - standard mounting
 - >6" (150mm) - extended mounting
- Rotary motion: 18 to 140 deg
- Travel sensor resolution: 0.0015 percent

Control Valve Mounting System:

- Material: 300 Series St. St. standard
- Valve type:
 - Linear or rotary motion control valve
 - Single- or double²-acting actuator
- Optional remote-mount position sensor kit:
 - Remote Position Sensor (RPS) assembly
 - Cabling for up to 30 meters (100 feet)
 - Two inch pipe mount bracket

Pneumatics:

- Air or sweet natural gas - Regulated and filtered
- Connections (supply and actuator): 1/4" NPT

Air Supply Pressure:

- Single-acting: 20 to 100 psi (1.4 to 6.9 bar)
- Double-acting: 20 to 150 psi (1.4 to 10.3 bar)

Air Delivery and Air Consumption:

Output Delivery		
Air supply	Single acting	Double acting
30 psi (2.1 bar) supply	10.0 scfm (280 l/m)	7.2 scfm (204 l/m)
60 psi (4.2 bar) supply	16.6 scfm (470 l/m)	12.8 scfm (362 l/m)
90 psi (6.3 bar) supply	23.3 scfm (660 l/m)	18.3 scfm (518 l/m)
120 psi (8.4bar) supply	NA	23.8 scfm (674 l/m)
Air Consumption		
Air supply	Single acting	Double acting
30 psi (2.1 bar) supply	0.212 scfm (6 l/m)	0.424 scfm (12 l/m)
60 psi (4.2 bar) supply	0.282 scfm (8 l/m)	0.565 scfm (16 l/m)
90 psi (6.3 bar) supply	0.424 scfm (12 l/m)	0.847 scfm (24 l/m)
120 psi (8.4bar) supply	NA	1.06 scfm (30 l/m)

Certifications:

- Explosion / Flame / Dust-proof and Intrinsically safe
- FM, FMc, ATEX, IECEx
- Regional - CCC, ITRI, CCOE, CU-TR, AZS, UZ, INMETRO, JIS, KOSHA, IA, UKRAINE
- Enclosure protection: NEMA 4X / IP66
- CE MARK

Performance³ per ISA S75.13 / IEC61514:

Accuracy	± 0.5 percent full span
Linearity	± 1.0 percent full span
Hysteresis + deadband	± 0.3 percent full span
Repeatability	± 0.3 percent full span
Power-up with position control	<150ms
Power interruption without causing reset	<100ms

1. The stainless steel housing is not painted
2. Requires double-acting relay model
3. For linear characteristics

