

MasoneilanTM SViTM1000 Digital Valve Positioner

The SVi1000 from Baker Hughes is a user-friendly 4-20 mA digital valve positioner with HART® Protocol for single-acting pneumatic control valves with proven magnetic position measuring technology.

Benefits

- Easier and faster commissioning and startup of control valves
- Reliable and accurate valve positioning
- HART 5 or 7 compliant for local or remote setup and commissioning
- Integration with many control systems, handhelds and asset management software systems
- Fewer components with integrated valve position feedback and limit switches

Features

- User-friendly "One-button-one-function" local interface
- Robust, non-contact, shielded magnetic-type travel sensor
- Industrial metal housing
- Universal design for linear and rotary valve applications
- Intrinsically safe
- Integrated diagnostics: Cycle counts, Step Tests, Ramp Tests, as well as system health indicators
- Integrates with all major DCSs with full DD, eDDL, or DTM support
- Universal label with FM, FMc, ATEX, IEC, CE approvals
- Powerful DTM with user friendly interface for commissioning, calibration, tuning, diagnostics and maintenance

Specifications

Housing:

- Case/Cover: Low copper and chromated aluminum, ASTM A360
- Paint: Grey (RAL 7001) polyurethane with epoxy primer
- Protection: IP66 and NEMA 4X

Weight:

- 2 kg (4.5 lb)



Input Power and Signal:

- Min/Max current: 3.2 mA/24 mA
- Required Compliance voltage:
 - 9 Vdc at 20 mA
 - 11 Vdc at 4 mA
- Termination: Screw-type terminals
- Electrical connection: One 1/2NPT female

Optional Output Signals

- Two configurable solid-state switches
 - 1A – 30 Vdc, Normally Open or Normally Closed
- 4 to 20 mA Position Retransmit

Communication, Setup and Calibration

- Local pushbutton and LEDs for setup and calibration including stops, air action, Autotuning and tuning sets
- HART Protocol, Rev 5, 7

Ambient Temperature and Humidity Limits

- -40 to 85°C (-40 to 185°F)
- 100% RH non-condensing

Tropical Environmental Compatibility

- Fungus resistance per ASTM-G21
- Exposed circuits covered with anti-fungal coating
- Positively pressured housing with bug-resistant orifices

EMC Conformity Standards

- EN 61000-4-2, 3, 4, 5, 6, 8
- CISPR 11
- CE MARK per EMC Directive 2004/108/EC or 2014/30/EU

Performance

- Accuracy ± 0.5 percent (typical or less) Full span
- Hysteresis + DeadBand ± 0.3 percent Full span
- Repeatability ± 0.3 percent Full span
- Power-Up with position control <500 ms
- Power Interruption without reset <100 ms

Options

- /G (Supply and Output Gauges)
- /IM (Integrated Magnet),
- /SW (Solid State Switches)
- /PR (4–20 mA Position Retransmit)

Actuator Capabilities

- Non-contact magnetic travel sensor capable of:
 - Linear Motion: 0.25" to 8" (6.4 to 200 mm)
 - Rotary Motion: 18° to 140°

Pneumatics (Single-Acting Only)

- Air or sweet natural gas-regulated and filtered
- Air supply pressure: 1.4 to 6.9 bar max (20 to 100 psi max)

Air delivery

- 16.8 Nm³/h at 2.1 bar (30 psi) supply
- 28.2 Nm³/h at 4.2 bar (60 psi) supply

Standard Diagnostics

- Ramp Test: Hysteresis and Deadband, Linearity, Position
- Error Step Test: Overshoot, Response Time (T86,T63,Td)
- Travel Accumulator, Time Near Closed/Open

Hazardous Area Certifications

- Factory Mutual (FM), FMC, IEC, ATEX

Intrinsically Safe

- US/Canada-CL I; DIV 1; GP A,B,C,D, T4
- US – CL I; Zone 0; AEx ia IIC T4
- Canada – CL I; Zone 0; Ex ia IIC T4
- II 1G Ex ia IIC T4 Ga;
- II 3G Ex ic IIC T4 Gc;
- Ex ia IIC T4 Ga
- Ex ic IIC T4 Gc

Non-Incendive and Limited Energy

- US/Canada-CL I; DIV 2; GP A,B,C,D T4
- US – CL I; Zone 2; AEx nC IIC T4
- Canada – CL I; Zone 2; Ex nL IIC T4

