

SINGER VALVE ELECTRONIC CONTROL SOLUTIONS



Customized Electronic Solutions that Meet
the Demands of Unique Applications.

singervalve.com

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About Singer Valve

Singer Valve Inc. designs and manufactures automatic control valves for the global water industry. Since 1957, our pilot operated diaphragm control valves have been installed on virtually every continent around the world. Whether it is water loss management in Southeast Asia, water conservation concerns in Saudi Arabia or urban distribution demands in the United States, we provide water management solutions to governments, cities, companies, and contractors around the world.

Many of our innovative products are ones that have been born out of our inherent desire to solve an application challenge. Presented with a problem, our team of electronic, instrumentation and control valve specialists are relentless in their research and design until they find a solution.

At Singer Valve, we care about performance. That's why our control valves are manufactured to the highest quality so that you have one less thing to worry about.



What Our Clients Say

"Singer has a proven history of solid performance and it offers excellent product support. That's why South East Water specified a Singer valve."

Warren Roberts, Mechanical Supervisor
Siemens Ltd. Melbourne, Australia

"We have been very pleased with our Singer valves. The product quality and service support have been outstanding."

Steve Fassio, SCADA Technical Support
City of Modesto, California, USA

"Singer's ability to incorporate a customized control system has proven to be invaluable for our application."

Tom Rhoades, Chief Water Operator
Butler County, Ohio, USA

Singer Valve Customization Advantage

Singer Valve specializes in developing and customizing electronic control systems. We design, build and test all our electronic control panels and accessories in our own UL Approved facility. We employ dedicated electronic, instrumentation and control specialists to provide full client support from product recommendation to product start-up and beyond. With our ability to program PLCs and controllers combined with extensive understanding of process control schemes, we provide customized solutions to virtually any application that may be deemed impossible to solve with conventional hydraulic pilot systems. To ensure our products perform and our customers are satisfied, we provide full support to all of our customers around the world.

We have an electronic control solution that is perfect for you.



What we offer

- *Multiple I/O*
- *Custom graphics*
- *Touch screen interface*
- *Password protected allowing varying levels of security*
- *Multiple functionality*
- *One valve can perform many purposes*
 - *Flow control*
 - *Level control*
 - *Pressure control*
 - *Flow measurement*



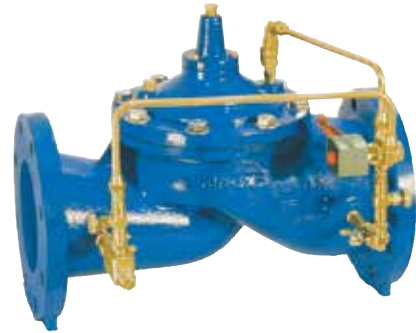
Electronic Control Solutions

Our electronic control management products interface seamlessly and effortlessly with SCADA. We customize solutions to meet the demands of unique applications.

SC Solenoid Control Valve

When you need a reliable yet simple two-position operation.

- Positive, drip-tight shut-off
- Simple on/off operation
- Available with main valve closed or open



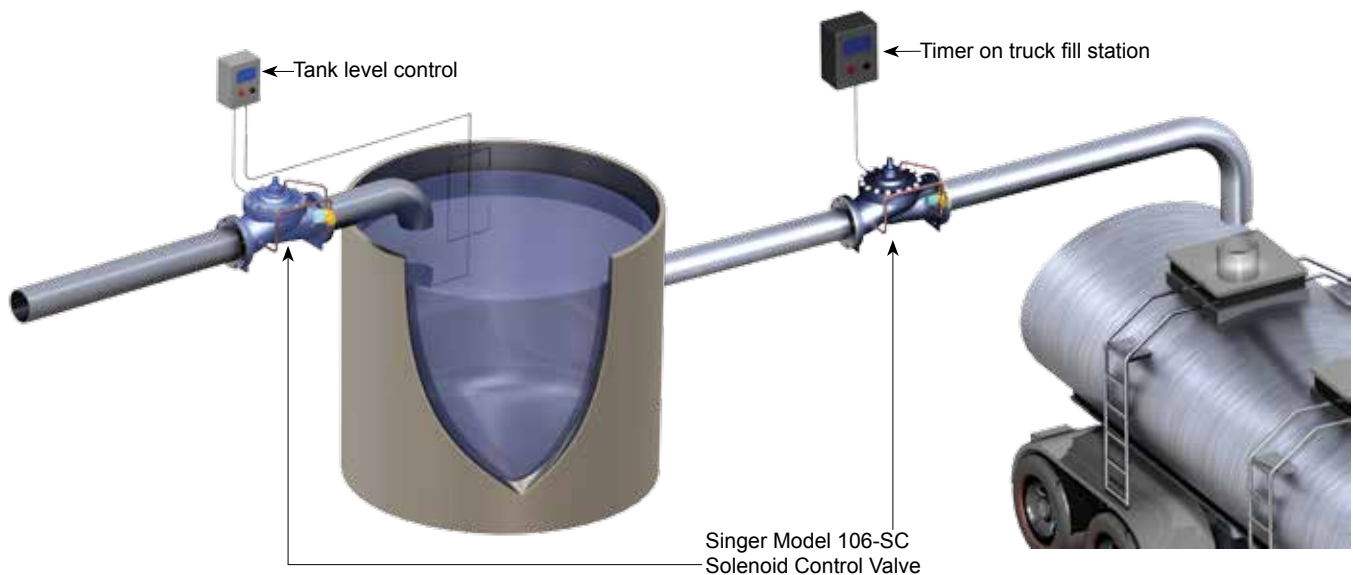
Product Overview

The Solenoid Control Valve responds to an electrical signal to provide two-position (On/Off) operation. A variety of voltage options are available. The solenoid either admits inlet pressure into the main valve operating chamber or releases pressure from the operating chamber. The pilot system is usually piped to discharge at the valve outlet, but can be piped to discharge to drain (atmosphere).

The Solenoid Control Valve is available either with the main valve closed when the solenoid is de-energized (NC - Normally Closed) or with the main valve open when the solenoid is de-energized (NO - Normally Open). (NC or NO refers to the main valve, not the solenoid.)

Ideal for:

- Tank fill applications
- Simple on/off

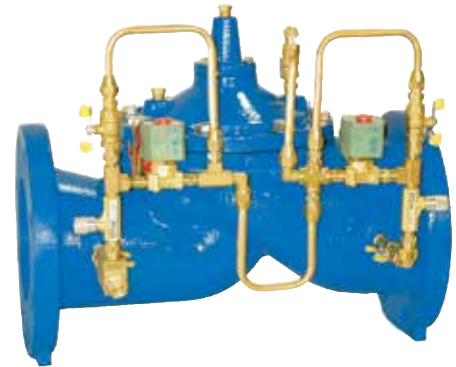


2SC-PCO

Dual Solenoid Control for Positioning and SCADA Controls

Precise control from remote locations.

- Process controller compatible
- Minimal power needed for stand-by operation
- Complete service in-line
- Manual controls for emergencies



206-2SC-PCO Globe

Product Overview

The Dual Solenoid Valve interfaces with controllers to provide electronic control of flow, pressure or level. Designed to be accurately positioned anywhere within the full stroke of the valve. It provides precise control remotely with minimal power needed during stand-by operation.

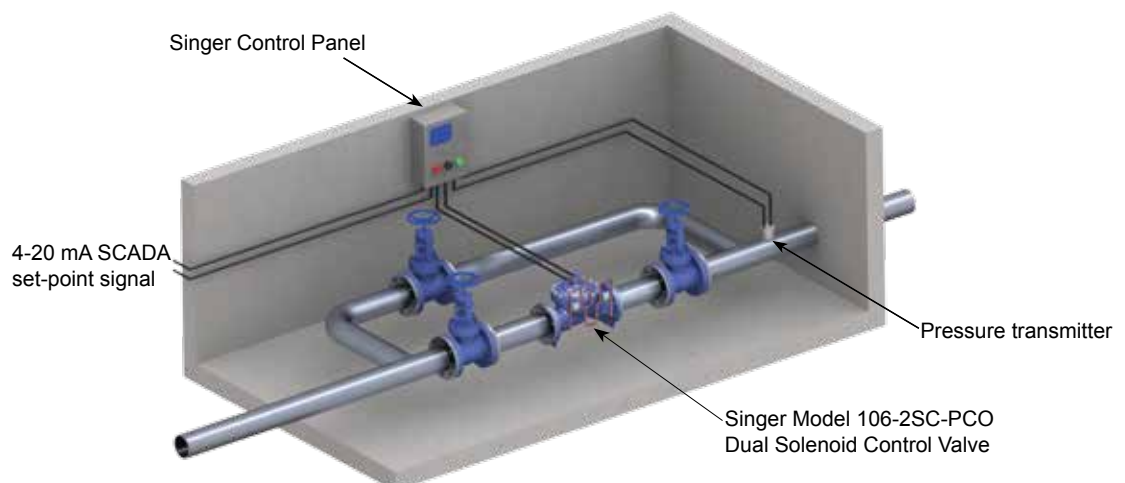
The flow into and out of the upper operating chamber is controlled by the two pilot solenoids. The electronic control determines whether the opening solenoid or the closing solenoid is operated. The change in valve position is dependent upon which solenoid is operated and the duration of the energized period.

The electronic control determines the valve function. Virtually any hydraulic function can be achieved using the “open-close” output from the SCADA controller to the valve.

The Dual Solenoid Valve is designed for use with Singer Single Process and Multi Process Control Panels.

Ideal for:

- Remote and sensitive locations



SPI-MV

Single Point Insertion Flow Metering Valve

The next generation of in-valve flow measurement.

- Accurate flow metering, combined with control valve to save space/cost
- Supplied with Flow Converter for local display and 4-20mA output measurements or can be combined with PLC-based control panel for flow control applications
- +/- 2% of rate accuracy, NIST traceable



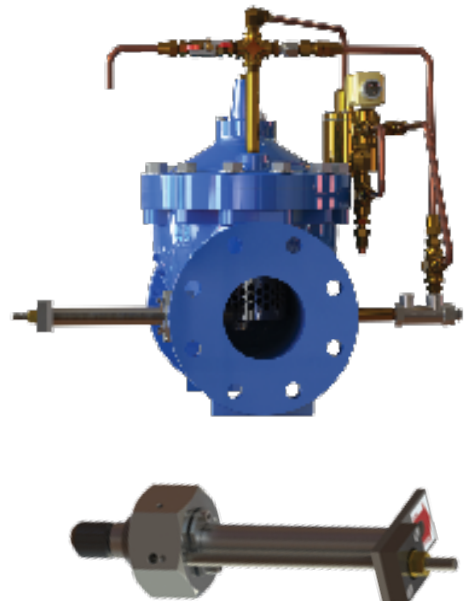
106-SPI-MV

Product Overview

The Singer Model 106-SPI-MV is a Single Point Insertion Electromagnetic Flow Meter, installed and calibrated in conjunction with a Singer Valve to provide an accurate flow rate that can be utilized with the metering valve as a standalone option or built into a 106-2SC-PCO pilot system to provide complete flow-based valve control. The complete insertion design fits in confined spaces and offers complete accessibility. The flow meter can be removed for easy inspection, cleaning, calibrating or verification.

Ideal for:

- Installations with limited upstream straight runs of pipe – only requires 3 pipe diameters.
- Applications where a flow signal and a control valve are required. Can be combined with any Singer control valve
- Applications where valve needs to be positioned for a variety of flow ranges. Can all be achieved in one simple solution, not multiple components.



2SC-MV

Electronic Flow Control and Metering System

All in one flow control and metering system.

- Combines precise flow control with relatively accurate flow metering
- +/- 3% accuracy
- Easily retrofitted to existing valves
- Manual control is available in case of emergencies



Product Overview

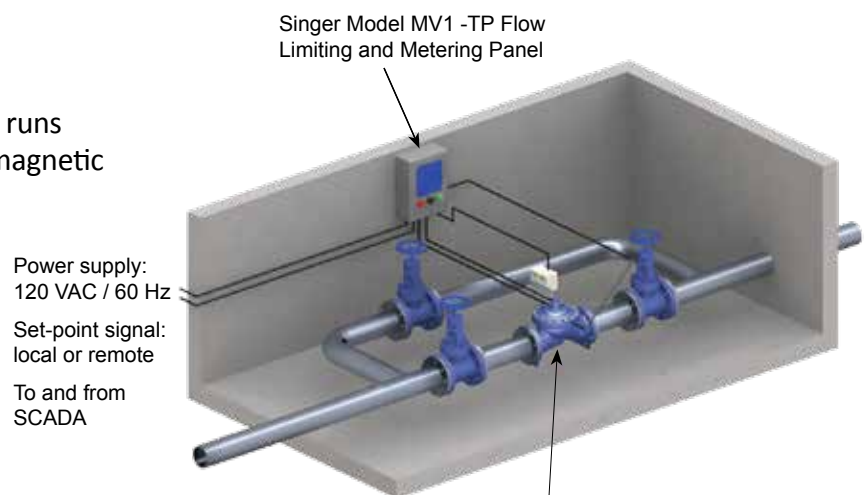
The Electronic Flow Control and Metering System is a PLC-based control panel that is compatible with SCADA and provides +/- 3% accuracy as certified by NIST (on select sizes). The metering panel has retransmission capabilities and the metering system can be retrofitted to existing valves.

The pressure in the upper operating chamber is controlled by operating the pilot solenoids. The PLC within the MV1-TP Flow Limiting and Metering Panel determines whether the opening solenoid or the closing solenoid is operated. The change in valve position is dependent upon which solenoid is operated and the duration of the energized period.

The Singer MV1-TP Flow Limiting and Metering Panel computes the flow rate based on valve differential pressure and position and operates the pilot solenoids to match the flow rate to the customer's pre-determined (adjustable) set-point. Flow is totalized and displayed via panel readout. In addition, the MV1-TP Flow Limiting and Metering Panel includes a pre-programmed logic controller, touch screen display, labelled wiring and terminal strip.

Ideal for:

- Flow metering & totalization
- Tight space applications where straight runs not available, typically as required for magnetic flow meters

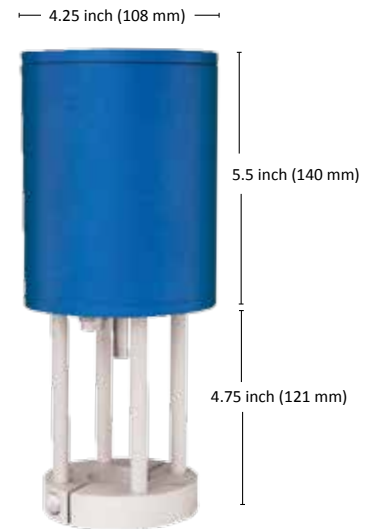


Singer Model 106-2SC-MV Electronic Flow Control and Metering Valve with X156 analog position transmitter, analog differential pressure transmitter, MV1-TP Flow Limiting and Metering Panel, dual solenoid control pilot system.

420-DC / 420-AC Automated Pilot Control

Reliable and cost-effective automation of water systems.

- Easily programmable range via USB cable and custom software
- Built in surge suppression and reverse polarity protection
- IP68, 7 ft/24 hours (2.134 m/24 hours)
- High-torque motors increase actuator's operational life
- Downstream pressure follows the control signal within +/- 1 psi / 0.068 bar
- 4 -20 mA setpoint input and 4 – 20mA position feedback



420-DC or 420-AC (Shown without pilot)

Product Overview

The 420DC/AC provides a reliable, simple and cost efficient way to automate today's water systems. A sturdy slow speed 24 VDC motor actuator drive can be installed on a variety of Singer pilots. The motor actuator responds to a 4-20 mA signal, rotating the pilot adjusting screw corresponding to the change in signal. The number of turns is adjustable and may be programmed to suit the pressure changes required for the application. The 420-DC or 420-AC requires less than 2 amps of power to operate, controlled by the 4-20 mA signals from the water distribution SCADA system. The very low power requirement lends itself well to a solar powered self-contained station. Extended power failure would result in relatively steady pressure at the last setting. Optional freeze or default to high or low pressure is available on loss of signal.

Ideal for:

- Pressure Management Systems – utilizing pressure reducing pilot to give adjustable pressure settings based on system demand.
- Remote or difficult to reach control valves where adjustments need to be made, and using SCADA is the best option.

SCP-TP Single-Process Control Panel

Quick configuration for any single process application

- Compatibility with remote SCADA Modbus, Hardwired 4 to 20 mA or local set-point adjustment
- Simplified single loop process controller with P.I.D. implementation, ON/OFF or 4-20mA motor control
- Selectable input controls and output alarms
- IP 66, 67 NEMA 4X rated panel
- Colour touch screen interface display
- Equipped with data logging features



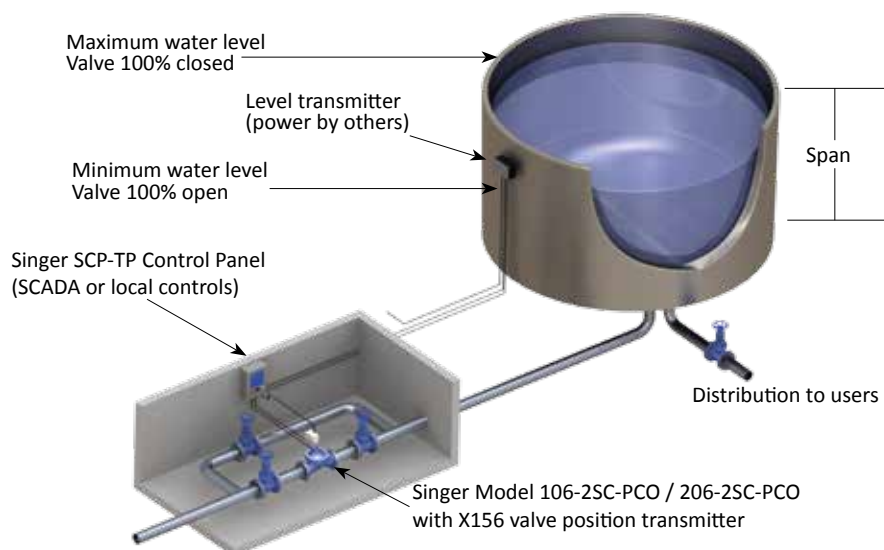
SCP-TP Model

Product Overview

The SCP-TP Controller is a simplified process controller designed to complement the Dual Solenoid Control Valve. It offers quick and easy configuration for any single process application as well as on/off applications. The SCP-TP is also equipped to be configured to control the Singer 420DC Motor. Range of application is dependent on the process variable (feedback) transmitter used, which includes (but not limited to) common automatic control valve functions with conventional pilots. The SCP-TP Controller reads and compares the process feedback (process variable) 4 to 20 mA signal to the desired setting (set-point) 4 to 20 mA signal. The SCP-TP then accurately positions the valve to bring the process variable towards the set-point until they coincide. The SCP-TP is also equipped with data logging features than when enabled can log all sensor feedback and setpoint data with a time stamp.

Ideal for:

- Level control
- Pressure control
- Flow control
- Position control
- Data logging
- 420DC Control



MCP-TP Multiple-Process Control Panel

Versatility in programming for custom applications.

- Compatibility with remote SCADA , Hardwired 4 to 20 mA or local set-point(s) adjustment
- Flexibility of single or multiple process monitoring and control
- Optional 1 panel for multi- valve application
- Precise valve positioning and visual status indication
- Robust and self-contained in NEMA 4X rated panel
- Colour touch screen interface display



MCP-TP Model

Product Overview

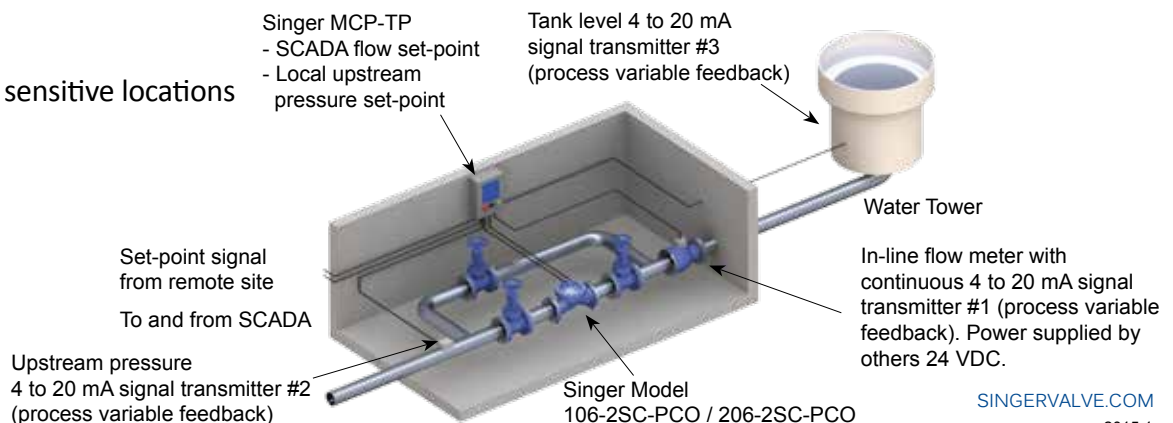
The MCP-TP Series is a multiple process loop control panel designed to complement the Singer Model 2SC-PCO Dual Solenoid Control Valve. Range of application is dependent on the feedback (process variables) transmitters used, which is similar to (but not limited to) combination automatic control valve functions with conventional pilots. The MCP-TP control panel has the ability to monitor multiple processes and remotely control the dual solenoid control valve based on system conditions. The MCP-TP control panel can function as a simple single loop controller (eg. pressure reducing, flow control, level control) or as a multiple loop controller (eg. flow and pressure, or reducing and sustaining).

The MCP-TP reads transmitted signals and energizes the dual solenoid pilots on the Singer control valve. The MCP-TP can react to any change in conditions by monitoring the system continuously and comparing actual process values to desired set-point values.

The Multi-Process Control Panel incorporates a high performance PLC-based control with P.I.D. optimization to provide control of multiple processes, such as pressure reducing, flow control, level and sustaining. Singer will customize the program to match your specific application needs. Optional alarm outputs for SCADA is available.

Ideal for:

- Remote or sensitive locations
- Tank fills



SAP Panel for Model RPS-L&H-ET Surge Anticipator Panel

Protects system from destructive pressure surges.

- Automatically interfaces pressure switch and control valve to protect system from destructive pressure surges
- Visual indication of operational status
- Simple to install
- Minimizes field wiring costs



SAP Panel for Model RPS-L&H-ET

Product Overview

The SAP Surge Anticipator Panel provides the interface between a customer supplied, system pressure switch and the Singer Surge Anticipating control valve. Together they provide protection against destructive pressure surges.

The SAP panel energizes the control valve pilot solenoid on an abnormally low pressure reading and/or power failure of pumps. The 12 VDC pilot solenoid is energized to open the main valve and relieve the surge pressure from the system. The RPS-L&H-ET (ET - Electronically Timed) valve is equipped with a hydraulic pilot to relieve on abnormally high pressures.

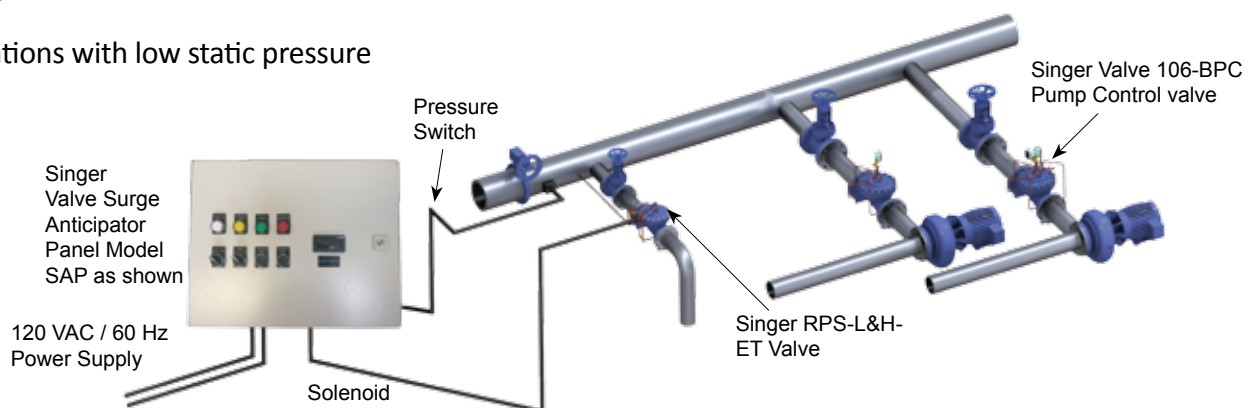
The SAP panel is equipped with adjustable digital delay timers that permit coordination of valve operation with pump start-ups, shutdowns, power failures and down surges.

The SAP panel comes equipped with a long life, high capacity 12 VDC battery, industrial grade battery charger with over current and polarity protection, door mounted volt meter, and battery test feature.

The logical arrangement of indicator lights and the volt meter provide easy supervision of the sequencing and the operating status.

Ideal for:

- Applications with low static pressure



SPC Singer Pump Control Panel

Avoid starting and stopping surges. Automatically.

- Simple to install and reduces field wiring costs
- Automatically interfaces pump and control valve to avoid starting and stopping surges
- Suitable for use with either in-line booster or deep well by-pass pump control valves
- Control switches for easy system operational execution



SPC Pump Control Panel

Product Overview

The SPC Pump Control Panel provides the interface between the pump motor starter and the Singer pump control valve. The SPC ensures that the pump starts and stops without causing line surges.

The SPC Pump Control Panel energizes the control valve pilot solenoid simultaneously with pump start. When pump shut-down is required the panel keeps the pump running while the pilot solenoid is de-energized. The panel turns the pump off just as the control valve completes its full stroke travel. It is equipped with delay timers and emergency fault contacts to provide the customer with local and remote indication for various operational failure conditions.

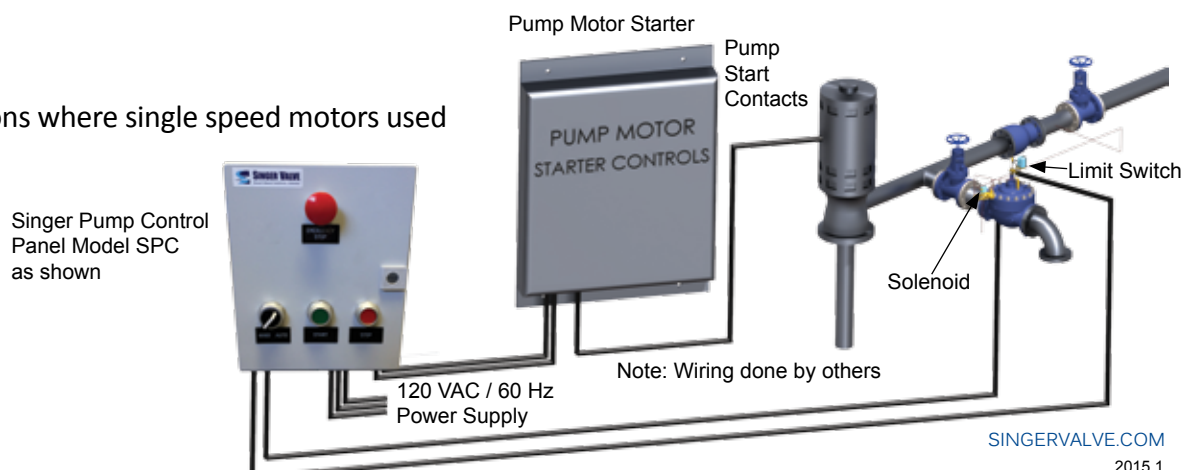
The SPC Pump Control Panel is connected to the pilot solenoid and limit switch that are standard components in the control valve pilot system. The panel is also connected to the customer supplied pump discharge pressure switch and the pump motor starter. A second limit switch and emergency shutdown solenoid are optional components for the control valve pilot system.

The logical arrangement of indicator lights with the Hand Off Automatic (HOA) selector switch provides easy supervision of the sequencing and the operating status.

The logical arrangement of Hand/Automatic selector, start, stop and emergency stop switches make the operating simple and easy to execute.

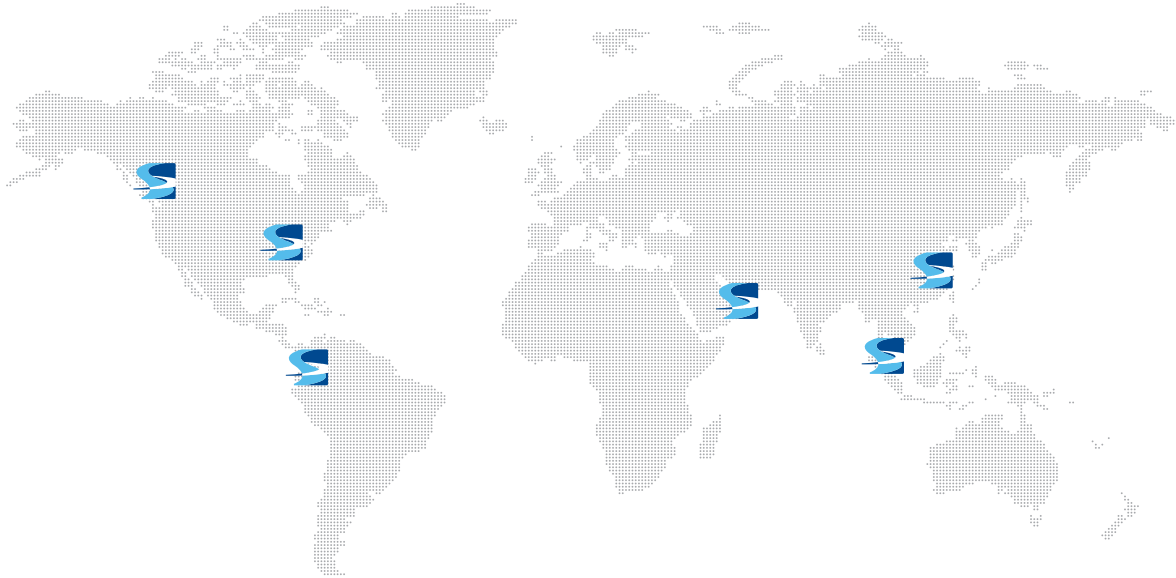
Ideal for:

- Applications where single speed motors used



Singer Valve Inc.

Global Offices



Canada Head Office

12850 – 87th Avenue
Surrey, BC V3W 3H9
Canada

Tel: (604) 594 5404
Fax: (604) 594 8845
Toll Free Fax (Canada & USA):
1 800 663 7266
✉ singer@singervalve.com

USA Office

Singer Valve LLC
1873 Scott Futrell Drive
Charlotte, NC 28208

Tel: (704) 391 5785
Fax: (704) 391 5768
Toll Free (USA):
1 888 764 7858
✉ mark@singervalve.com

United Arab Emirates Office

Singer Valve Middle East FZE
PO Box 121326
SAIF Free Zone, Q3 – Unit 94
Sharjah International Airport
FREE ZONE
Sharjah, UAE

Tel: +971 6 557 8116
Fax: +971 6 557 8117
✉ canadian@singervalve.com

Colombia Office

Singer Valve Latin America
Carrera 45, No. 16 Sur 190
Opalo 1105 – El Poblado
Medellin, Colombia

Tel: +57 310 4194165
✉ pegan@singervalve.com

Malaysia Office

SVM Water Controls Sdn. Bhd.
No 6, Jalan MJ 4, Medan Maju
Jaya,
Batu 7, Jalan Kelang Lama
46200 Petaling Jaya
Selangor Darul Ehsan, Malaysia

Tel: 603 7784 4043 / 7784 4044
Fax: 603 7781 8312
✉ svmwc@svm.com.my

China Office

Singer Valve (Taicang)
Company Ltd.
No.88 East Dalian Road,
Taicang, Jiangsu, China

Tel: 86 512 5320 6188
Fax: 86 512 5320 6099
✉ lijun@singervalve.com

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