TMR-SOV

The TMR-SOV provides unmatched reliability in actuating safety and other critical control valves.

The unique, patent-pending design of the TMR-SOV provides the reliability, availability, and test-ability for the field device that matches up to the TRICON. If your control requirements demand flawless, enduring performance in valve actuation, the TMR-SOV is your answer.

The TMR-SOV is the Proven Solution for Valve Actuation in Many Industries

- Olefins
- Petroleum refining
- Petrochemicals
- Gas pipelines
- Ammonia
- Pulp and paper
- Electrical power generation
- Steel
- Textiles
- Automotive

TMR Technology is the Key

The valve manifold used for the TMR-SOV provides the special circuits that allow the three SOV's to vote to trip. At least two of the valves must be in the trip position to cause the output to change state. Four pressure switches provide status information back to the logic solver to allow assessment of the operational status and diagnostics of the operating suitability of the valves. By periodically conducting an automated test sequence, the system can find both overt and covert faults, thus helping to assure that it will respond on demand. The modular design is also the key to simple maintenance and repair. Replacement of a solenoid valve can be accomplished in just a couple of minutes.

Key Benefits

Fault Tolerance/High Availability– The TMR-SOV is true 2oo3 voting where valve actuation occurs only when 2oo3 of the solenoids are exercised.

Diagnostics– Pressure sensors are incorporated to provide constant monitoring of the solenoid positions, providing on-line diagnosis of solenoid failure.

Maintenance Bypass– An online/bypass selector allows maintenance of the TMR-SOV without process interruption. Maintenance is simplified since there is no tubing to disconnect and reconnect.

Testing– Testing is "hands off." It is executed by the logic solver based on a user defined time interval, with failure diagnostics provided by pressure switches. The testing sequence is nested in the logic solver application program with a configurable timer for execution. Although testing frequencies for solenoid valves are generally in the three to six month range, some solenoid vendors recommend more frequent (i.e. monthly) cycling to reduce the possibility of a solenoid being "stuck" in position. The TMR-SOV allows an increase in the frequency of automatic testing without an increase in manpower requirements and has no impact on the process.

Installation– The TMR-SOV is provided in a 20"H x 16"W x 8"D a NEMA 4x enclosure ready for installation. The enclosure has connections for air supply, valve output and wiring. Installation cost and errors are reduced by eliminating the need for personnel to field mount and connect individual components.

Standard Features and Options

- Enclosures - NEMA 4X stainless steel
- Standard Testing - Autotest: Autotest is facilitated though the SIS application program by a configurable timer. Pressure sensors provide feedback to the SIS to verify proper operation of each solenoid.
- Standard Hazardous Area Classifications- Class I, Div. II, Groups A, B, C and D (FM and CSA)
- Standard Tubing and Fittings - Stainless steel tubing and fittings
- Power Source Requirements
- Standard: 24vdc @ .115 amps - for each solenoid
- Optional: 120vac @ .04 amps - for each solenoid
- Optional Indication and Test (Mounted on Enclosure)
- Operator Pushbutton, controlled from the Logic Solver
- Status lights, controlled by the Logic Solver, available in red, amber, green, white, clear or blue lens.

The TMR-SOV Advantage

- Unmatched reliability and availability
- On-line diagnosis of solenoid failure
- Simplified maintenance without process interruption
- “Hands off” testing requires less manpower
- Testing steps and results can be fully documented
- Easy installation in NEMA 4X enclosure (provided)