SUPERVISORY SWITCH FOR VALVE

MODEL: SD-SVS OSY SERIES

FEATURES

- The supervisory switch is used to monitor the open position of an Outside Screw and Yoke (OS&Y) type gate valve.
- User-friendly mounting bracket fits newer valve yokes
- Fine adjustment feature for fast, easy installation
- Three position switch detects tampering and valve closure

SPECIFICATIONS

Weight	0.6 Kg
Enclosure	Cover : Die Cast Base : Die Cast Finish : Red Powder Coated All parts have corrosion resistant finishes.
Cover Tamper	Tamper Resistant Screws Cover Tamper Switch Available 3 Amps / 5 Amps at 125/250VAC
Contact Rating	**SD-SVS OSY-1** : One Set of SPDT **SD-SVS OSY-2** : Two Sets of SPDT **SD-SVS OSY-3** : Two Sets of SPDT and Cover Tamper 10.0 Amps at 125/250 VAC 2.5 Amps at 30VDC Resistive
Conduit Entrance	One Knockouts and one hole for ½" conduit provided
Temperature Range	- 32°F to 120°F (0°C to 49°C)
Service Use	• Automatic Sprinkler: NFPA 13 • One or Two Family Dwelling: NFPA 13D Residential • Occupancies up to 4 Stories: NFPA 13R National Fire Alarm • Code: NFPA 72

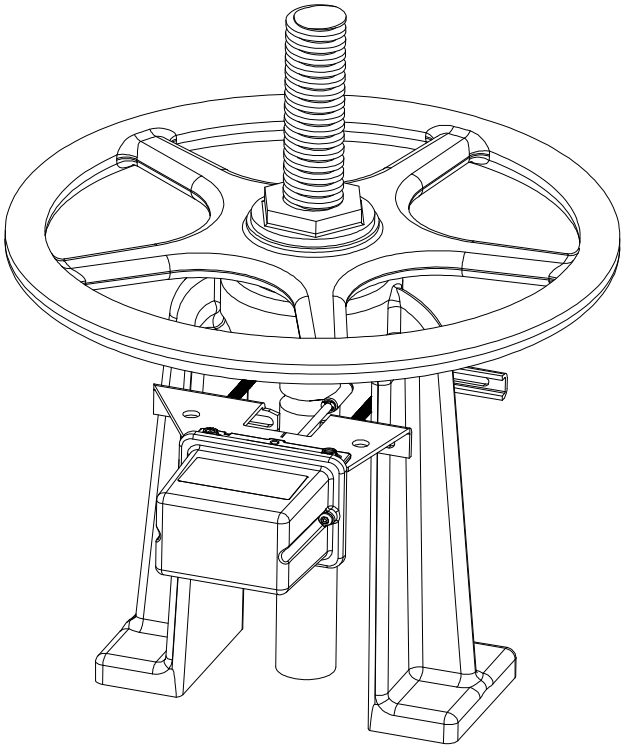
DESCRIPTION

The SD-SVS OSY Series is used to monitor the open position of an OS&Y (outside screw and yoke) type gate valve. This device is available in three models; the SD-SVS OSY-1, containing one set of SPDT contacts, the SD-SVS OSY-2, containing two sets of SPDT contacts and the SD-SVS OSY-3, containing two sets of SPDT and cover tamper. These switches mount conveniently to most OS&Y valves ranging in size from 2" to 12" (50mm to 300mm). They will mount on some valves as small as ½" (12.5mm). Supervisory Switch shall be installed on each valve as designated on the drawings and/or as specified herein. Switches shall be mounted so as not to interfere with the normal operation of the valve and shall be adjusted to operate within two revolutions of the valve control or when the stem has moved no more than one-fifth of the distance from its normal position. The mechanism shall be contained in a die cast metal housing that provides a side entrance for ½" conduit and incorporates the necessary facilities for attachment to the valve. A grounding provision is provided. The switch assembly shall include two switches each with a rated capacity of 10 Amp @ 125/250VAC and 2.5 Amp @ 24 VDC. The supervisory switch shall be Underwriters Laboratories listed for indoor or outdoor use.

TESTING

The operation of the Supervisory Switch and its associated protective monitoring system shall be inspected, tested, and maintained in accordance with all applicable local and national codes and standards and/or the Authority Having Jurisdiction (manufacturer recommends quarterly or more frequently). A minimum test shall consist of turning the valve wheel towards the closed position. The Supervisory Switch shall operate within the first two revolutions of the wheel. Fully close the valve and ensure that the Supervisory Switch does not restore. Fully open the valve and ensure that the Supervisory Switch restores to normal only when the valve is fully opened.

INSTALLATION



Note: If the valve stem is pre-grooved with ⅛" minimum depth; proceed to step 6.

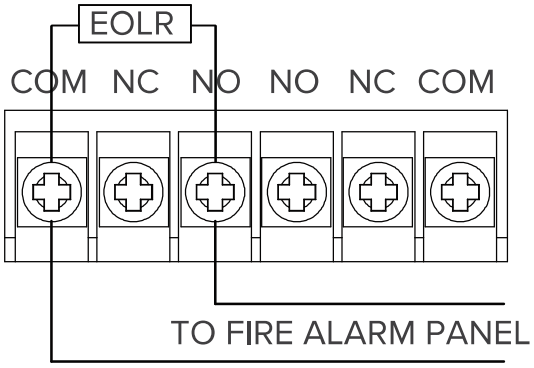
1. With the valve in the FULL OPEN position, locate the Supervisory Switch across the valve yoke as far from the valve gland as possible so that the spring loaded trip rod of the supervisory switch is pulled against the non-threaded portion of the valve stem. Position the supervisory switch with the bracket near the hand wheel as shown in figure if possible to avoid creating a pinch point between the wheel and the supervisory switch.
2. Mount the supervisory switch loosely with the carriage bolts and clamp bar supplied.
3. Loosen the locking screw that holds the trip rod in place and adjust the rod length. When adjusted properly, the rod should extend past the valve screw, but not so far that it contacts the clamp bar. Tighten the locking screw to hold the trip rod in place and properly seal the enclosure.

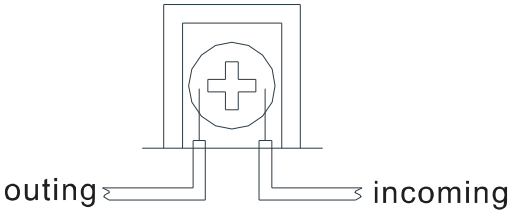
   Note: If trip rod length is excessive, loosen the locking screw and remove the trip rod from the trip lever. Using pliers, break off the one (1) inch long notched section. Reinstall trip rod and repeat Step 3 procedure.
4. Mark the valve stem at the center of the trip rod.
5. Remove the supervisory switch. Utilizing a ⅜" or ½" diameter straight file, file a ⅛" minimum depth groove centered on the mark on the valve stem. Deburr and smooth the edges of the groove to prevent damage to the valve packing and to allow the trip rod to move easily in and out of the groove as the valve is operated.

   Note: A groove depth of up to approximately 3/16" can make it easier to install the supervisory switch so that it does not restore as it rolls over by the threads of the valve stem.
6. Mount the supervisory switch on the valve yoke with the spring loaded trip rod of the supervisory switch pulled against the valve stem and centered in the groove of the stem. If possible, position the supervisory switch with the flat side of the bracket toward the hand wheel, to help avoid creating a pinch point between the wheel and supervisory switch
7. Final adjustment can be made by slightly loosening the two screws on the bracket and using the fine adjustment feature. The adjustment is correct when the plungers on the switches are depressed by the actuator and there is no continuity between the COM and NO terminals on the switches.
8. Tighten the adjustment screws and mounting hardware securely. Check to insure that the rod moves out of the groove easily and that the switches activate within two turns when the valve is operated from the FULL OPEN towards the CLOSED position.
9. Reinstall the cover and tighten the cover screws to properly seal the enclosure.

Caution: Close the valve fully to determine that the stem threads do not activate the switch. The switch being activated by the stem threads could result in a false valve open indication.

TYPICAL CONNECTION





An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire becomes dislodged from under the terminal.

DIMENSIONS