

OSY-1

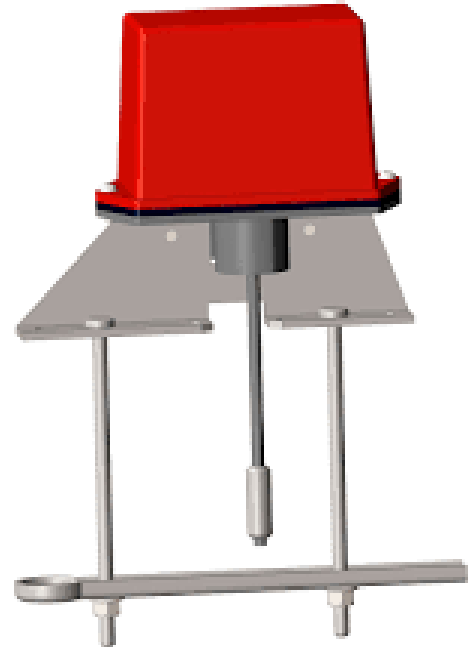
Supervisory Switch

Features

- NEMA 4- suitable for indoor/outdoor use
- Contact Ratings: OSY-1: One set SPDT (Form C)
 - 10.1Amps at 125/250 VAC
 - 2.0Amps at 24 VDC
- Operating Temperature Range: -40° F to 140°F (-40°C to 60°C)
- Visual switch indicators
- Adjustable length trip rod
- Accommodates up to 12AWG wire
- Three position switch monitors vandal and valve close signals
- Conduit Entrances: One opening for 1/2" conduit
- 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
- Warranty: 3 Years

WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Before opening any closed valve, ensure that opening the valve will not cause any damage from water flow due to open or missing sprinklers, piping, etc.



Important: This document contains important information on the installation and operation of OS&Y valve supervisory switch. Please read all instructions carefully before beginning installation. A copy of this document is required by NFPA 72 to be maintained on site.

Engineering Specifications

The OSY-1 supervisory switch is used to monitor the open position of an OS&Y (outside screw and yoke) type gate valve. OSY-1 supervisory switch shall be installed on each valve as designated on the drawing 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 with two revolutions of the valve control or when the stem has moved no more than one-fifth of the distance from its normal position.

Supervisory switch shall have one form C contacts, switch contact rating 10.1Amps at 125/250VAC, 2.0Amps at 24 VDC.

Testing

The operation of the OSY-1 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 OSY switch shall operate within the first two revolutions of the wheel. Fully close the valve and ensure the OSY switch does not restore. Fully open the valve and ensure OSY switch restore to normal.

Installation

The OSY-1 supervisory switch can be mounted on open yoke valves between 1/2" and 12" in diameter. If the switch is installed with the actuator pointing upward, water may leak into the interior of the switch. Therefore, do NOT install the OSY switch with its actuating lever pointing upward.

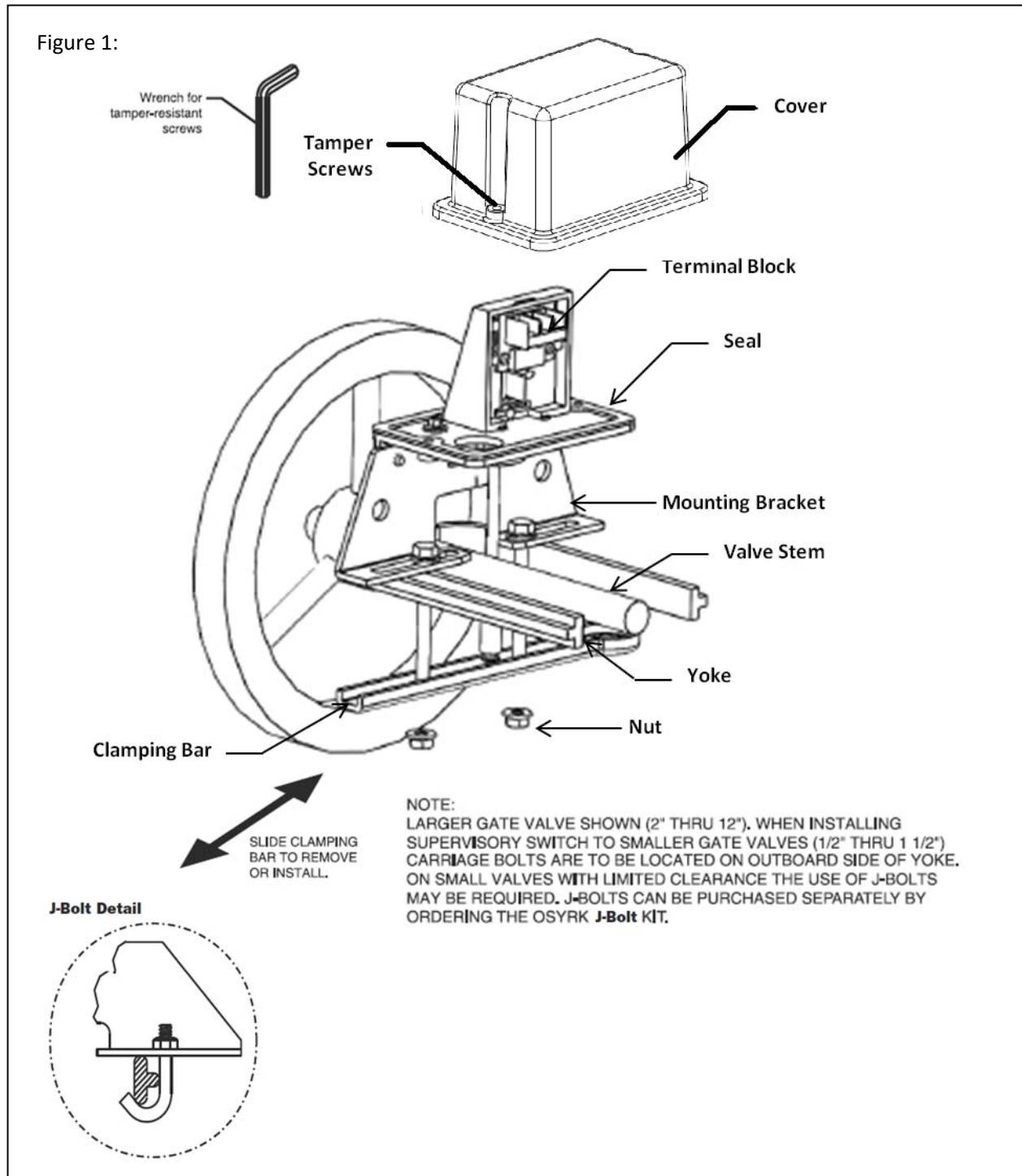
The OSY-1 supervisory switch is equipped with a ground screw inside the switch housing near the conduit for those applications where grounding is required.

For narrow yoke valves, installing the valve with mounting bolts inside the yoke is recommended. However, some valves may have yokes that are too narrow for this arrangement. If this is the case, the bolts can be positioned on the outside of the yoke.

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Limited Clearance Valves **【J-Bolts Kit】**

The OSY switch mounting bracket fits most of the open yoke valves used in the fire protection systems. However, some of these valves, especially those less than 1-1/2" in diameter, have irregularly shaped yokes or such limited clearances that the clamping bar cannot be installed properly and/or it causes the valve to bind. If this is the case, the use of J-bolts is required to attach the OSY to the valve (refer to Fig#2), J-bolts can be purchased separately by ordering the OSYRK for the J-bolts kit.



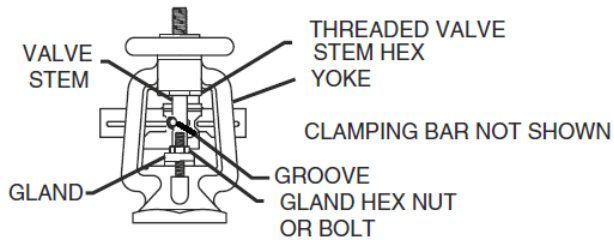
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Installation Instructions

See Figures 1 and 2, as required, while performing the procedure that follows.

Perform step 1 on valves 1-1/2" in diameter and smaller only. Proceed directly to step 2 if the switch is being installed on a valve larger than 1-1/2" in diameter.

Figure 2:



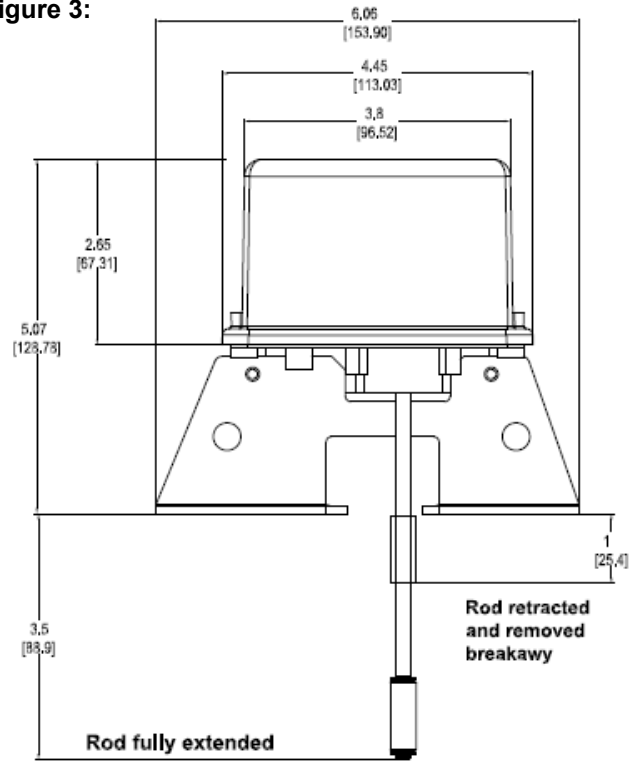
1. Remove and discard the two "C-clips" and "roller" from the actuating lever.
2. Set the valve to its fully open position. Remove the OSY-1 Supervisory Switch from the carton and adjust the position of the retaining nuts to provide sufficient bolt length for the yoke thickness of the valve.

Position the switch on the valve with the bolts on the inside (preferably) or outside of the yoke, depending on clearances. Adjust the position of the OSY-1 as far as possible from the valve gland and in a location where the actuating lever contacts the unthreaded section of the valve stem (if the valve stem is already grooved, proceed directly to step 6). Mount the OSY-1 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 stem, 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.

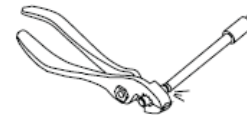
NOTE: If trip rod length is excessive, loosen the locking screw and remove the trip rod from the trip lever. Using pliers, break off one inch long as Figure 3 and Figure 4. Reinstall trip rod and repeat Step 3 procedure.

Figure 3:



Breaking Excessive Rod Length

Figure 4:



4. Mark the point on the valve stem where the actuating lever contacts the valve stem.
5. Remove the OSY-1 by loosening the nuts and sliding the clamping bar, remove the OSY-1 from the valve and set it aside.
(a) Valves 1-1/2" in diameter and smaller only.

Use a 1/4" untapered round file to file a groove 1/8" minimum deep 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.

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(b) Valves larger than 1-1/2" inches in diameter only.

Use a 3/8" or 1/2" untapered round file to file a groove 1/8" minimum deep 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.

6. Mount the switch loosely with the actuating lever centered in the groove. When the switch is in position on the valve, slide the open end of the clamping bar onto the bolts as Figure 1.

7. Adjust the length of the lever by loosening the screw, sliding the lever in or out, as needed and retightening the screw.

8. Adjust the supervisory switch position on the valve so that the micro-switch is depressed (COM and NC terminal circuit is open) when the actuating lever is in the groove with the valve in the full open position. The COM to NC circuit should close within two turns when the valve is operated from the FULL OPEN towards the CLOSED position.

9. Tighten the nuts securely with a wrench and check the operation of the OSY-1 as in step 8. If necessary, reposition the OSY-1 and test is again.

10. Wire the supervisory switch as shown in Figure 5.

11. Replace the OSY-1 cover and tighten the tamper-resistant cover screws with special wrench provided. Store this wrench in a secure location.

12. Test the operation of the OSY-1 by closing the valve with two full turns. The circuit between COM and NC should indicate a closure during this procedure. If it does not, readjust the supervisory switch and actuator position until the switch activate when the valve is operated.

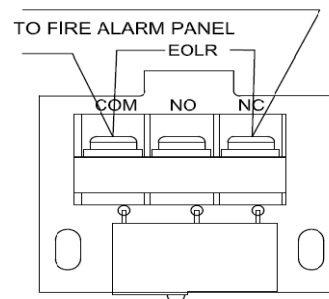
Testing

Test the operation of all supervisory switches before they are placed into service and at least semiannually, or as required by the authority having jurisdiction.

NOTE: Notify the proper authorities that the supervisory switches are undergoing maintenance and, therefore, will be temporarily out of service. Disable the system or zone undergoing testing to prevent unwanted alarms.

Field Typical Electrical Connections:

Figure 5:



Ordering Information:

Model	Part Number	Description	Shipping Weight
OSY-1	6220101	One set SPDT contacts	0.82kg