Introduction

A gravity return limit switch is a device that has an extremely low operating torque. This switch is intended to be used in order for the gravity to act on the actuator lever. Gravity returns the switch (once it has been operated to the non-operating position) when the lever is rotated in either direction continuously. The device provides 180° of switch-on time and 180° of switch-off time.

The operating head and the switch unit that are used on this type of device are unique and can only be used with one another. Operating heads or switches from other styles of devices cannot be interchanged with these devices.

Mounting

Position the conduit entering the switch such that any fluid inside the conduit does not drain into the switch enclosure. Apply sealing compound to conduit threads to help prevent against entrance of fluids through the threads.

The base can be mounted by using one of these two methods:

1. Two #10-32 tapped holes are provided for rear mounting.

2. Two clearance holes for #10 screws are provided for front mounting.

Wiring

The pressure type connector terminals in the base accept 3.31 mm² (12 AWG) and smaller solid or stranded wire. For proper tightening, it is suggested that nothing smaller than 0.823 mm² (18 AWG) is used. Before you insert the wire under the pressure plates, strip the insulation approximately 9.52 mm (3/8 in.). Tighten all pressure plate terminal screws, whether used or not, to avoid interference with the switch cover.

A grounding screw is in the terminal base enclosure near the conduit opening. The grounding screw has a self-lifting pressure plate and a wire barrier. The proper installed position of the ground wire is between the pressure plate and the wire barrier in a direction that is parallel to the edge of the casting. Be sure that the ground wire does not interfere with the gasket or with the switch portion of the device.

After wiring has been completed, check that all wires are in the wiring cavity of the terminal block so they don't interfere with the switch when it is plugged into the terminal block. Recheck all wiring terminal screws for tightness.

IMPORTANT

For switches that have been factory wired, check the wire color and their position in the terminal block for proper circuit hookup.

When the switch has been plugged into the terminal block, securely tighten the two cover screws to compress the body gasket.
**Actuator Head Positioning**

The actuator head can be placed in any of four positions on the switch body. Loosen the four captive head screws. Place the head in the desired position and securely tighten the four screws (see Figure 1).

*Figure 1 - Actuator Head Positions*

**Lever Arm Positioning**

Screwdriver slots are provided on each end of the operating shaft, which can be used to keep the shaft from rotating while adjusting the position of the lever arm. Loosen the screw, which secures the lever-arm clamp assembly, to the operating shaft. Position the shaft so that in the nonoperating state the circuit between terminals one and two are open and between three and four are closed. If the shaft is positioned with the circuit functions reversed (in the nonoperating state), the circuit between terminals one and two are closed and the terminals between three and four are open. The switch cannot function as a gravity return device in this configuration.

**Lever Arm Rod Length Adjustment**

The effective lever arm length can be varied by loosening the screw, which secures the rod in the clamping block.

**Waste Electrical and Electronic Equipment (WEEE)**

At the end of life, this equipment should be collected separately from any unsorted municipal waste.