



# INSTALLATION DATA

## 6000 SERIES

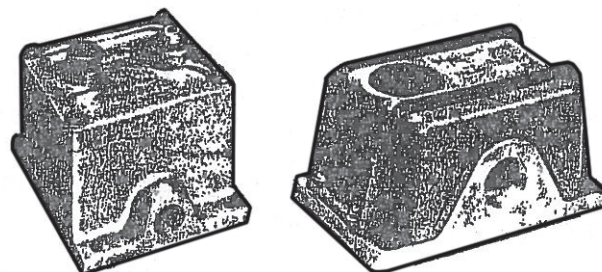
### VIBRATION SWITCHES

The Robertshaw® vibration switch is designed to protect rotating and reciprocating equipment against serious damage in the event malfunctions occur which maybe detected as an increase in vibration. Both amplitude and frequency of vibrations are so that an increase over normal in either will actuate the vibration switch. When the vibration level of a machine protected by a vibration switch exceeds normal by a preselected amount, an internal switch is actuated providing a shut-down circuit before costly damage occurs. An audible or visual warning system may also be wired into the switch to signal when a malfunction has occurred. Falling bearings, broken blades and similar malfunctions cause increased imbalance or high frequency vibrations, detectable with the vibration switch. It is designed for maintenance-free service in permanent installations.

Two models of the vibration switch are available. 6000-00 vibration switch conforms to specifications shown and is enclosed in a general purpose housing which meets weather resistant NEMA 4 specifications.

The 6000-10 vibration switch conforms to specifications shown and is enclosed in a housing for use in hazardous locations. Housing meets Class 1, Groups C & D, and Class 2, Groups E, F & G hazardous area classifications.

If the vibration switch installation location is not sheltered, a 6090-002 rainshield should be ordered separately and used to protect the device. In locations where moisture condensation within junction boxes is a problem a 6090-003 heating resistor may be wired inside the switch cover to provide continuous heat end circulation of air.



### SPECIFICATIONS

Range	0 to 4.5G continuous adjustment
Accuracy	≈5% of full range up to 300 Hz
Reset coil	see ordering information
Switch action	see ordering information
Contact rating	
SPDT	7 Amp max., 460V AC max., 50/60 Hz resistive load 0.5 Amp max., 120 VDC max., resistive load 1 Amp max., 48 VDC max., resistive load 2 Amp max., 24 VDC max., resistive load 5 Amp max., 12VDC max., resistive load
DPDT	5 Amp max., 240V AC max., 50/60 Hz resistive load
Temperature limits	-40°F to 200°F
Weight	2.5 lbs. weather resistant 6.0-lbe. hazardous area model

### ORDERING DATA

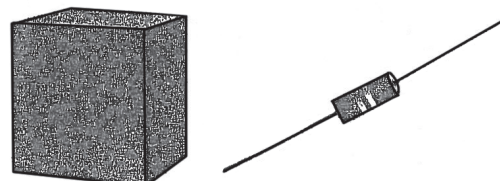
UNI-LINE® ORDER No.	REPLACES MODEL	SWITCH ACTION	RESET COIL VOLTAGE	HOUSING TYPE
6000-002	366-A2	SPDT	24 VDC	WEATHER RESISTANT NEMA 4
6000-004	366-A4	SPDT	48 VDC	
6000-005	366-A8	SPDT	117V AC/VDC	
6000-007	366-D2	DPDT	24 VDC	
6000-008	366-D4	DPDT	48 VDC	
6000-009	366-D8	DPDT	117V AC/VDC	EXPLOSION PROOF FOR HAZARDOUS AREA USE CLASS 1 GROUPS C AND D CLASS 11, GROUPS E, F AND G
6000-102	365-A2	SPDT	24 VDC	
6000-104	365-A4	SPDT	48 VDC	
6000-105	365-A8	SPDT	117V AC/VDC	
6000-107	365-D2	DPDT	24 VDC	
6000-108	365-D4	DPDT	48 VDC	
6000-109	365-D8	DPDT	117V AC/VDC	

**WEATHER RESISTANT HOUSING**  
This housing is a general purpose weather resistant enclosure meeting NEMA Type 4 Specifications.

**HAZARDOUS AREA HOUSING**  
This housing is an explosion proof housing that meets Class 1, Groups C and D and Class 11, Groups E, F, and G hazardous area classifications.

### ACCESSORIES AND REPLACEMENT PARTS

UNI-LINE® ORDER No.	DESCRIPTION	COMMENT
6090-002	RAINSHIELD	ALL MODELS
6090-003	HEATING RESISTOR, 117V AC/VDC	USED WITH 6000 SERIES ONLY
6090-004	RUBBER GROMMET FOR RESET BUTTON	USED WITH 6090-009 COVER
6090-006	HEATING RESISTOR, 24 VDC	USED WITH 6000 SERIES ONLY
6090-009	WEATHER RESISTANT COVER	MEETS NEMA-4 SPECIFICATIONS
6090-010	117V AC/VDC COIL	ALL MODELS
6090-023	COVER GASKET	USED WITH 6090-009 COVER



**6090-002 RAINSHIELD** - A protective metal shield for use with SS6000 vibration switch. Designed for unsheltered installations.

**6090-003 HEATING RESISTOR** - Designed to provide continuous heat inside the switch cover. This will also provide air circulation and help moisture condensation.

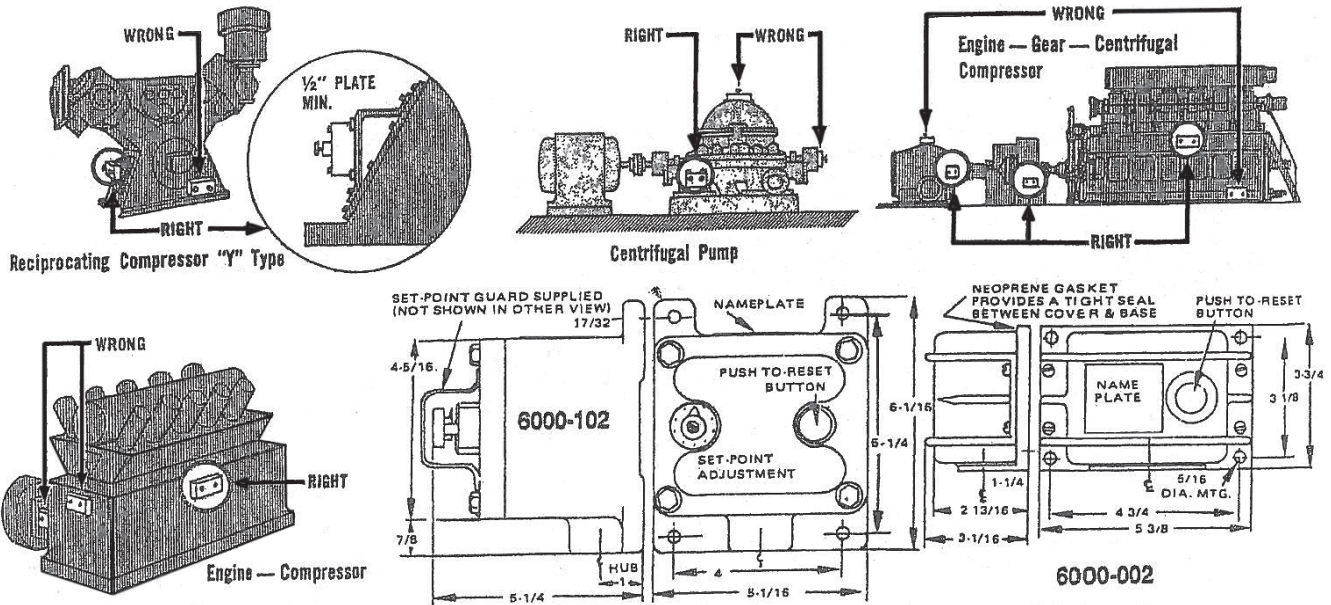
**CAUTION**

THIS DEVICE SHOULD BE INSTALLED BY A QUALIFIED SERVICE TECHNICIAN WITH DUE REGARD FOR SAFETY AS IMPROPER INSTALLATION COULD RESULT IN A HAZARDOUS CONDITION.

## MOUNTING

LOCATIONS: The 6000 vibration switch detector may be located in any non-hazardous outdoor, unprotected or indoor area. The housing is designed to meet the requirements of NEMA-4 watertight construction.

In locations where moisture condensation within junction boxes is a problem, a two-watt resistor may be placed across terminals 6 and 8 inside the cover and wired to continuously provide heat and circulation of air.

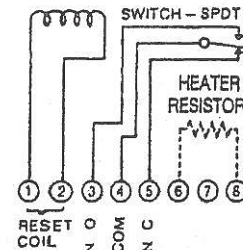


## WIRING

Switch shown in normal or reset position - reverses on actuation from increased vibration.

Standard coil voltages: 12, 24, 48, 115V D.C.

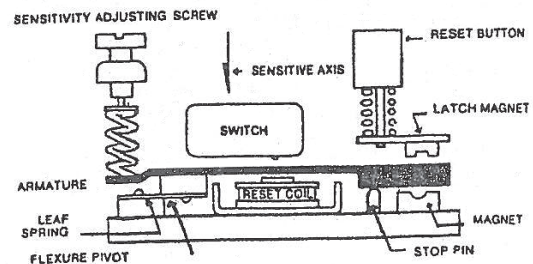
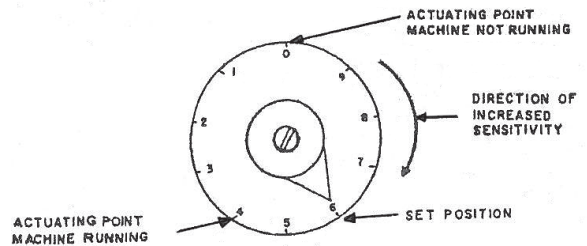
Heater resistor installed across terminals 6 & 8 to prevent condensation in housing where climate conditions require. (Optional supplies only when specified)



## SENSITIVITY ADJUSTMENT

The 6000 vibration switch detector is adjusted by a simple, three step procedure as described below. In making the adjustment, the cover must be removed.

- With the equipment not running, back off the adjusting screw counterclockwise (CCW) two turns and press reset button. Then turn screw slowly clockwise until actuation occurs. This is the ZERO VIBRATION POINT, or actuating point, with the machine not running. The trip point for zero (no vibration) of the detector will occur at different points depending on its mounting orientation with respect to gravity. A mark should be made with lead pencil or other convenient means to permanently record this "zero point". Subsequent measurements are made relative to this point.
- With machine running, back off adjusting screw one turn CCW and reset. If it will not reset, back screw off two turns CCW, etc. Again turn screw slowly clockwise until actuation occurs. The difference between the two actuating points in "a" and "b" is the normal vibration level in divisions. One dial division is 0.1G; one full revolution is 1.0G.
- Back off screw CCW from the last position in "b" to the desired or shutdown level. The exact amount must be determined from experience.



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