SQUARE D
Instruction Bulletin

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Raleigh, NC, U.S.A.

Industrial Vacuum Switches
Type/Tipo/Typ GAW
Class/Classe/Klasse 9016

USE LIMITATIONS

Pressure Ratings

NOTE

If the vacuum actuators are exposed to system or surge positive pressures greater than the maximum pressure rating printed on the device nameplate, leakage from the actuator and/or a change of operating set points may result.

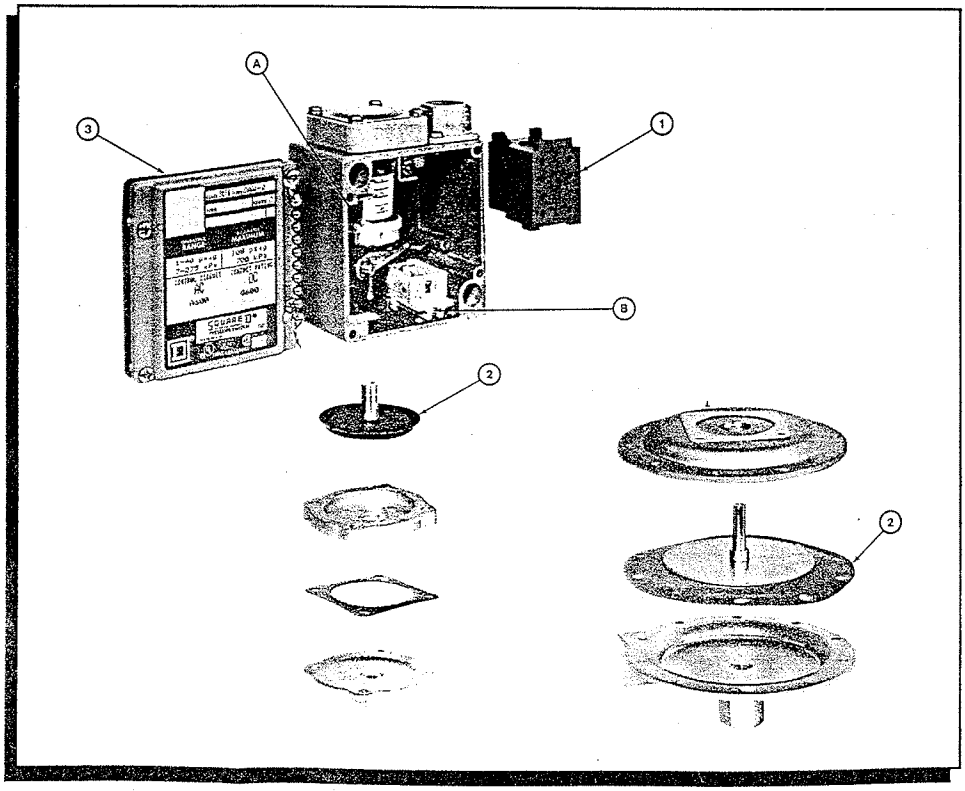
Maximum Allowable Pressure is the maximum pressure, including surges, to which a pressure switch may be exposed for brief or extended periods of time without altering the performance characteristics of the switch. Periodic retorquing of actuator mounting screws to 8-10 in-lb is recommended.

Temperature Ratings

These devices are continuous use rated as below, provided that the media fluid does not freeze and the conditions of application do not give rise to the formation of frost or ice inside the pressure switch

Table 1

	Ambient		Pressure Media	
	C	F	C	F
Minimum	-25	-10	-25	-10
Maximum	+85	+185	+120	+250



⚠ WARNING

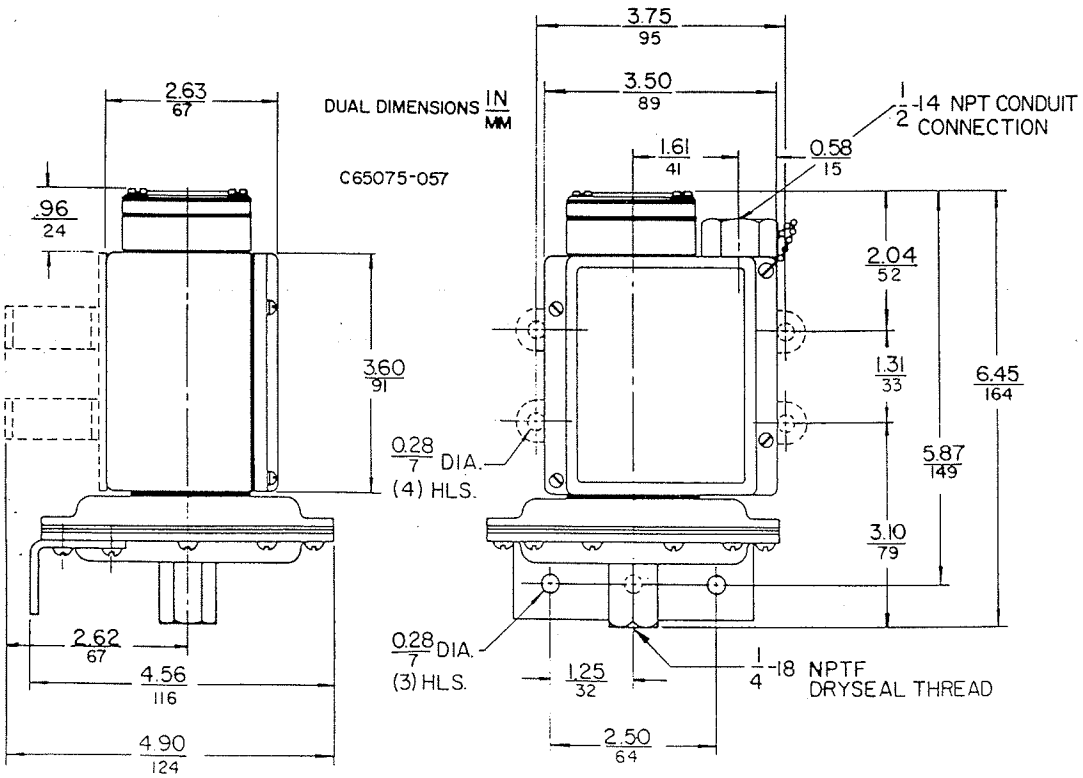
HAZARDOUS VOLTAGE
CAN CAUSE SEVERE INJURY OR DEATH

To reduce the hazard of electrical shock always disconnect power from the circuit before installing the vacuum switch or exposing the electrical terminals for maintenance.

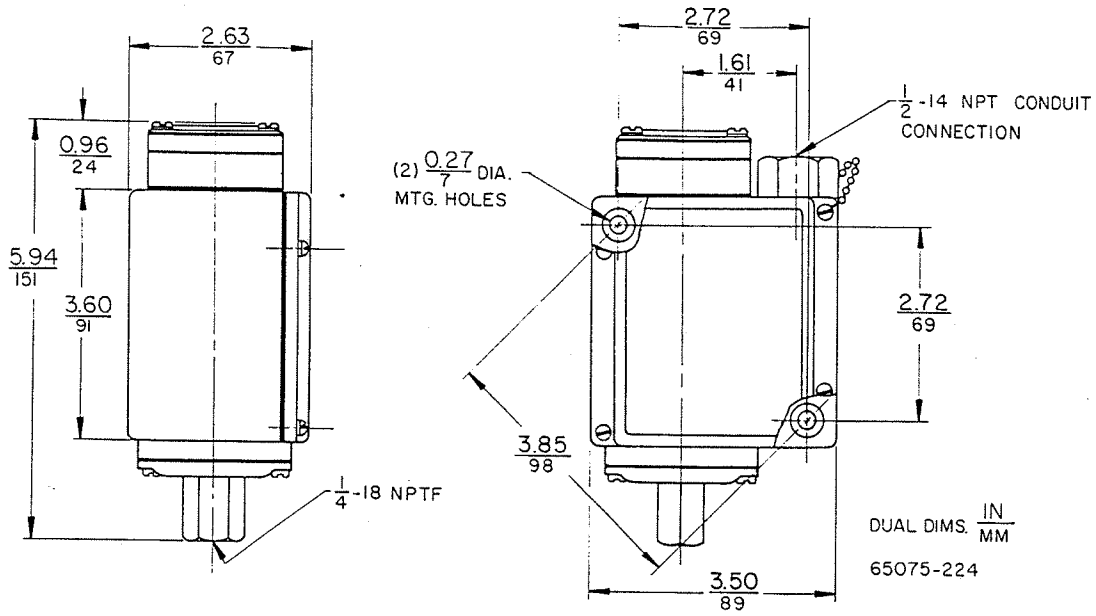
MOUNTING

Do not mount the switch by its vacuum connector only. Securely support the switch using 1/4 inch diameter mounting screws thru the mounting holes shown in the drawing. After the switch has been securely attached by the mounting holes, connect the vacuum system piping to the switch. When connecting the piping to the switch, do not apply leverage thru the actuator.

For type GAW, the standard pressure connection is 1/4-18 NPTF, the dryseal thread should seal against a new external 1/4 NPT thread without the use of sealing tape or compounds. Alternate pressure connections include: Form Z which is 1/4-18 NPT external thread, Form Z16 which is 1/2-14 NPT external and 1/4-18 NPTF internal thread. Form Z18 which is 7/16-20 UNF-2A.



TYPE GAW 1, 21



TYPE GAW 2, 22

WIRING

Class 9016 Type G vacuum switches are suitable for #12, 14, 16 AWG or 1.0-2.5mm solid or stranded copper wire. Tighten terminal screws to 6-9 in-lbf (0.7-1 Nm). They are not suitable for use with aluminum wire. Grounding (earthing) provision is located front-center in the mechanism enclosure and marked ⏚.

The single pole, double throw snap switch contains two (2) double break elements (1 N.O. and 1 N.C.) that must be used on circuits of the same polarity.

The double pole, double throw snap switch contains two electrically separated sets of contact elements allowing use on circuits of opposite polarity. Each set contains two double break contact elements (1 N.O. and 1 N.C.) that must be used on circuits of the same polarity.

SET POINT ADJUSTMENTS

The vacuum switch is set at the factory to the operating point(s) marked on the outside of the mechanism housing. It is good practice to cycle the switch to determine actual operating points before proceeding with readjustment. Refer to the illustration on page 1 for location of adjustment.

Range Adjustment

The range adjustment may be used to set the decreasing set point and must be set first. To increase operating points; with the switch mounted as shown in the illustration on page 2 and facing the switch, place a flat bladed screwdriver in the slots of range adjustment nut (A) and rotate from left to right.

Differential Adjustment

An independent adjustment of the set point on increasing pressure is available. This adjustment must be performed after the decreasing set point has been adjusted. Turn adjusting screw (B) counter clockwise to raise the set point on increasing vacuum. The decreasing set point is not affected by this adjustment.

REPLACEMENT PARTS

Note: When ordering any of these replacement parts, Class, Type, and Form of switch on which the replacement is to be used must be specified with the order.

Table 2

Item	Description	Class	Order Type	Form	Used On
1	Snap Switch Assembly	9998 9998	PC 315 PC 315		Types 1,2 Types 21,22
2	Diaphragm Assembly	9998 9998	PC 233 PC 295		GAW-1,21 GAW-2,22
3	Cover Assembly	9998	PC 317		All