

Your Company Name / Logo	PRESSURE SWITCH CALIBRATION SOP	Doc no: SOP INST 006	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To verify that pressure switches operate at the specified set point with acceptable repeatability and deadband.

2. Scope

Mechanical and electronic pressure switches used for alarms, interlocks and trips.

3. References

- Alarm and trip set point list
- Switch manufacturer manual
- SIS proof test procedure where the switch is part of a SIF

4. Responsibilities

- Instrument technician: carries out the work and records results.
- Instrument engineer or supervisor: reviews and approves the records.
- Operations: grants the permit, isolates the process and returns the equipment to service.

5. Safety precautions

- Work only under a valid permit to work and follow the site isolation (lockout tagout) procedure.
- Wear the PPE required for the area: safety helmet, glasses, gloves and safety shoes as a minimum.
- In hazardous areas use certified or intrinsically safe test equipment, or obtain a gas free certificate and hot work permit.
- Inform the control room before starting, and before returning the instrument to service.
- A switch in a trip circuit must be bypassed under the approved bypass procedure before testing, and the bypass removed afterwards.

6. Tools and equipment

- Pressure source with reference gauge or calibrator
- Continuity tester or multimeter
- Tools for set point adjustment

7. Prerequisites

- Set point, direction (rising or falling) and tolerance taken from the controlled alarm and trip list.

8. Procedure

8.1 Test

- 8.1.1 Isolate and vent the switch, connect the pressure source.
- 8.1.2 Connect the continuity tester across the contact used in the circuit (NO or NC).
- 8.1.3 Increase pressure slowly near the set point; record the pressure at which the contact changes (trip).
- 8.1.4 Decrease pressure until the contact returns; record the reset value.
- 8.1.5 Repeat for three trials.

8.2 Adjustment

- 8.2.1 If the trip value is out of tolerance, adjust the range screw, lock it, and repeat three trials.
- 8.2.2 Check the deadband; adjust if the switch has an adjustable differential.

8.3 Functional check

- 8.3.1 Reconnect and, with the bypass still in place, trip the switch and confirm the alarm or trip status in the control system.
- 8.3.2 Return the switch to service and remove the bypass with operations approval.

9. Acceptance criteria

- Trip within the set point tolerance on every trial.
- Repeatability within the specified limit; deadband acceptable for the application.
- Correct alarm or trip indication in the control system.

10. Records

- Pressure switch calibration report (free template: instrumentationblog.in/downloads/templates/pressure-switch-calibration-report/)
- Alarm and trip set point list (free template: instrumentationblog.in/downloads/templates/alarm-and-trip-list/)

11. Approval

	Prepared by	Reviewed by	Approved by
Name			
Signature			
Date			

This procedure is a generic template. Adapt it to your site permit system, the manufacturer instructions and your quality system before use.