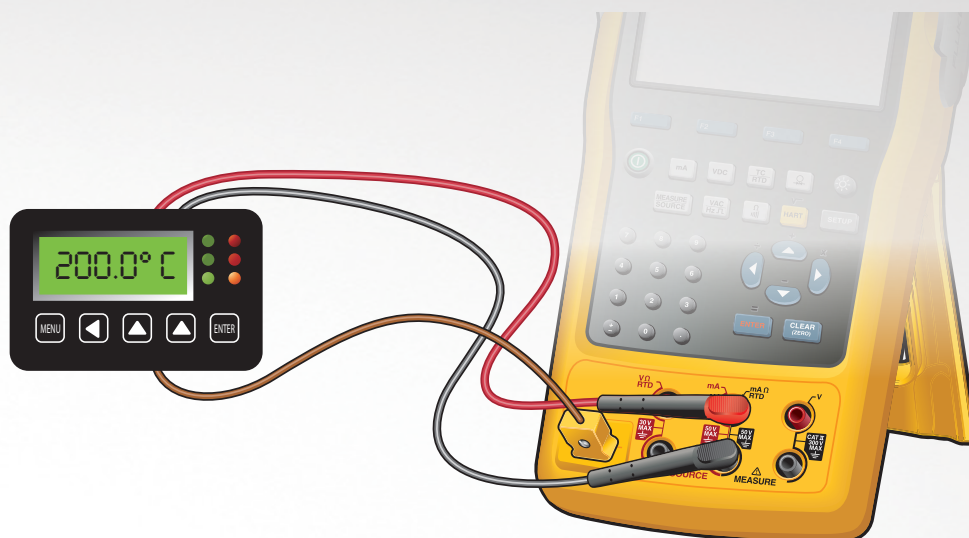


TECH TIPS

- When testing the temperature switch, the applied temperature should agree with the temperature displayed on the controller or switch's display. If it does not agree, the device's input A/D may need adjustment per manufacturer's procedure.
- When testing a switch with damping (delay of output change for a change on the input) set, it might be necessary to test the switch manually by slowly changing the temperature in small tests.
- When testing a mechanical temperature switch (no external sensor), use a field temperature bath calibrator for best results.
- To test live switch contacts switching 24 V dc or 120–240 V ac, select a calibrator that can measure these live voltages, such as the Fluke 75X family of Documenting Process Calibrators. Most other temperature calibrators can only measure continuity changes when testing switches.



To perform the test:

To use a thermocouple simulator to test a switch with a thermocouple input:

- STEP 1** Disconnect the process measurement sensor.
- STEP 2** Connect the mini-connector from the test wires to the TC source connection of the calibrator (figure above).
- STEP 3** Connect the calibrator resistance measurement terminals to the switch contacts to measure continuity.
- STEP 4** Set the calibrator to source/simulate the correct thermocouple type and to measure resistance.
- STEP 5** Configure the calibrator for the switch test describing the expected setpoint temperature, allowable deviation and expected deadband values.
- STEP 6** Run the test and evaluate the test results.
- STEP 7** Adjust the switch as needed and repeat the test, confirming that the adjustment was successful and the switch is performing as expected.

Additional resources

For more in depth information about this application check out these videos and application notes from Fluke.



Testing, troubleshooting, calibrating process temperature devices webinar
Testing a temperature switch with the Fluke 754



Process and temperature switch applications with documenting process calibrators
Temperature calibration application note
Fluke temperature calibrators deliver high accuracy, speed, and convenience