

POWER SENSOR TEST SET

TYPES PST-1 AND PST-1-1

FOR TESTING POWER SENSOR TRIP DEVICES

TYPES PS-1, PS-1A, PS-1A-1

INTRODUCTION

The Types PST-1 and PST-1-1 Power Sensor Test Set is a portable unit designed to facilitate on-site testing of Types AK-25/50/75/100 and AKR-50 low-voltage power circuit breakers equipped with the Power Sensor solid-state overcurrent trip device.

The initial Test Set Model is designated PST-1 and is rated for source voltages between 115 and 125 Volts, 60 Hertz. The later model, designated PST-1-1, offers improved performance on source voltages below 115 Volts. Its operating range is 105-125 Volts, 60 Hertz. Except for their schematic diagrams (Figs. 5 and 6), the following description and test procedures apply to both units.

The Power Sensor Test Set is designed to:

1. Check current pick-up at the various level settings adjustable on the front escutcheon of the Power Sensor Logic Unit.
2. Check the time current characteristics of the long time delay bands. These are selective as maximum-intermediate-minimum on the front escutcheon of the Logic Unit.
3. Test the Logic Unit as a separate item, independent of the breaker and its current sensors.
4. Test the combination of Logic Unit, Power Supply Unit, Magnetic Trip device and associated control wiring while installed in a de-energized breaker. The Power Sensor Trip Device will trip a closed breaker during this test.
5. Check load carrying by applying 0.8 per unit of setting for sufficient time. (500 seconds for minimum time band.)
6. Check time delay bands of the short time and ground fault elements. This procedure provides a rough indication only.

The Test Set does not check the current sensor coils, either as independent elements or as system components. The sensor coils may be checked via high-current, low-voltage testing of the complete

breaker using commercially available high-current test sets.

Factory production tests on the Power Sensor components are performed on accurate sine-wave sources. Distorted input voltages to the Test Set can cause deviations in the timing test results.

CAUTION: BEFORE INSPECTION OR ANY MAINTENANCE WORK IS DONE, BE SURE THAT THE BREAKER IS IN THE OPEN CONTACT POSITION. ALL ELECTRICAL POWER, BOTH PRIMARY AND CONTROL SOURCES, SHOULD BE DISCONNECTED. THE TEST BREAKER SHOULD HAVE BEEN CHECKED BY RECOMMENDED INSTALLATION AND MAINTENANCE PROCEDURES BEFORE STARTING ANY TESTING.

PART I — TEST CONNECTIONS A OR B

A-CONNECTION (FIG. 1)

This connection is used to test the Power Sensor Logic Unit independently of other system components.

1. Connect Plug P1 to the Logic Unit.
2. Connect Plug P3 to engage Plug P4.
3. Set POWER SUPPLY position on the dc source selector switch.
4. Follow Part II – Testing Sequence of these instructions.



Fig. 1. "A" Test Connection
(Tests Logic Unit Only)