

Operating Instructions  
**A.W. Sperry Instruments, Inc.**  
 DIGISNAP™ DIGITAL SNAP-AROUND  
 VOLT-OHM-AMMETER  
 MODEL DSA-7610A WITH AUTO-OFF



## 1 Features

- Limited Lifetime Warranty.
- Auto-Off, turns unit off after 40 min.
- Safety-style test leads.
- Recessed, safety-designed, input jacks.
- Current transformer jaws open simultaneously.
- Electronic overload protection.
- Small-size, light weight.
- Data Hold Switch.
- Instant continuity buzzer.
- Autoranging.

## 2 Specifications

Display: 3-1/2 digit LCD, maximum reading 1999

Range Selection: Autoranging

Overrange Indication: Most significant digit blinks

Sampling Rate: Approx. 2 times per second

Operating Environment: 0°C to +40°C at 80% max. relative humidity.

Storage Environment: -20°C to +60°C at 75% max. relative humidity.

Conductor Size: Approx. .90" (23 mm) max.

Power Source: Two AWS B-6 button-type battery (IEC LR-44, NEDA 1166A)

Battery Life: 100 hours typical with LR-44. Use SR-44 for longer life.

Battery Indicator: "BAT" symbol shows to indicate low battery.

Dielectric Strength: 2000V AC for one minute between electrical circuit and housing case or metal section of transformer jaws

Frequency Response: 50/60Hz

Dimensions: 6.87" (H) x 1.61" (W) x 1.1" (D)  
175mm (H) x 41mm (W) x 28mm (D)

Weight: Approx. 7 oz. (200 g) battery included.

Ranges:

AC Current (average responding, calibrated in RMS of a sinewave).

Range	Accuracy	Overload Protection
200A / 300A	50 / 60Hz $\pm$ (1.5% rdg + 4dgt)	500 Aac max. for 1 minute

AC Voltage (average responding, calibrated in RMS of a sinewave).

Range	Accuracy	Overload Protection
200 V / 500 V	50 / 60Hz $\pm$ (1.2% rdg + 4dgt)	750 Vac max. for 1 minute

Resistance

Range	Accuracy	Overload Protection
2000 Ohm	$\pm$ (1.2% rdg + 4dgt)	500 Vac continuous

Continuity Buzzer sounds at <600 ohms

Note: Specification accuracies specified at 13°C to 33°C, 80% maximum relative humidity.

### Packaging:

The Model DSA-7610A comes complete with: One set TL-52 Test Leads (one Prod, one Alligator connected to UL-1244 Type safety shielded male banana jacks), Two 1.5V Button-Type Batteries (NEDA# 1166A) AWS part# B-6 , C-65 Carrying Case and Form #198 Operating Instructions.

Optional Accessories: Jaw Adapter Clamp Model A-1, Energizer Model E-1, Multi-Tran Models MT-1000 and MT-3000 and a wide variety of Test Leads: TL-5, TL-6, TL-42, and TL-48.

### 3 Safety Precautions

The following safety precautions must be observed to insure maximum personal safety during the operation, service and repair of this meter:

1. Read these operating instructions thoroughly and completely before operating your meter. Pay particular attention to WARNINGS which will inform you of potentially dangerous procedures. The instructions in these warnings must be followed.
2. Always inspect your meter, test leads and accessories for any sign of damage or abnormality before every use. If any abnormal conditions exist (eg. broken test leads, cracked cases, display not reading, etc.), do not attempt to take any measurements. Refer to Return for Repair section.
3. Never ground yourself when taking electrical measurements. Do not touch exposed metal pipes, outlets, fixtures, etc., which might be at ground potential. Keep you body isolated from ground by using dry clothing, rubber shoes, rubber mats, or any approved insulating material.
4. To avoid electric shock use CAUTION when working with voltages above 40 Vdc or 20 Vac. Such voltages pose a shock hazard.
5. Never exceed the maximum allowable input value of any function when taking a measurement. Refer to the specifications on page 2 for maximum inputs.
6. Never touch exposed wiring, connections or any live circuit when

7. Do not attempt to operate this instrument in an explosive atmosphere (i.e. in the presence of flammable gases or fumes, vapor or dust).
8. When testing for the presence of voltage, make sure the voltage function is operating properly by reading a known voltage in that function before assuming that a zero reading indicates a no-voltage condition. Always test your meter before and after taking measurements on a known live circuit.
9. Calibration and repair of any instrument should only be performed by qualified and trained service technicians.
10. Do not attempt calibration or service unless trained and another person, capable of rendering first aid and resuscitation is present.
11. Do not install substitute parts or perform any unauthorized modification of the instrument. Return the instrument to A.W. Sperry Instruments for service and repair to insure that safety features are maintained.

## 4 Operation

Before making any measurements always inspect the instrument and all accessories being used for any signs of damage or defects. Do not attempt to take any measurements if abnormal conditions exist. Instead refer to section 6 (Return for Repair).

### CAUTION!

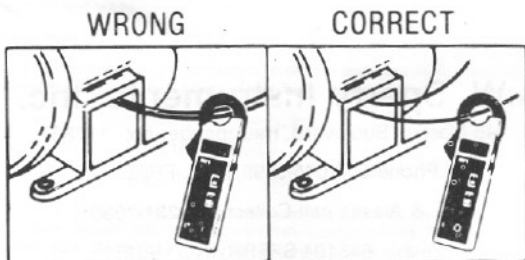
Before attempting to use this meter, be certain to read this operating instruction thoroughly and completely. Failure to follow these instructions may result in electrical shock, instrument damage and/or damage to equipment under test.

## 4.1 AC Current Measurements

### WARNING!

This instrument is designed to take current readings on circuits with a maximum voltage above ground not exceeding 500 Vac. Using it on circuits above 500 Vac poses a shock hazard to the user.

- (1) Turn the instrument on by sliding the OFF/ON switch to the ON position.
- (2) Set the range switch to the Amp "A" position.
- (3) Press the trigger to open the transformer jaws and clamp onto one conductor only (Fig.1). Read the current directly on the display. It is recommended that the conductor be placed at the center of the closed jaws for maximum accuracy.



## 4.2 AC Voltage Measurements

### WARNING!

This instrument is designed to take voltage readings up to a maximum of 500 Vac. The "COM" terminal voltage should not exceed 500 V measured to ground potential. Do not exceed these maximums.

- 1) Insert the red test lead into the "VOLT" terminal of the instrument and the black test lead into the "COM" terminal.
- 2) Set the range switch to the Voltage "V" position.
- 3) Connect the prod tips to the circuit under test (Fig. 2) and read the voltage directly on the display.

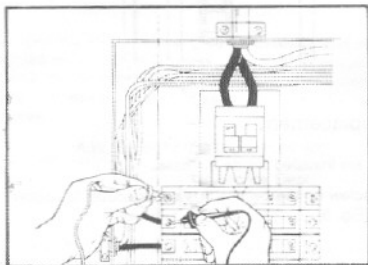


Fig. 2

## 4.3 Resistance/Continuity Measurements

### WARNING!

Attempting resistance or continuity measurements on live circuits can cause electrical shock, damage to the instrument and damage to the equipment under test. Resistance measurements must be made on de-energized (DEAD) circuits only for maximum personal safety. The electronic overload protection installed in this instrument will reduce the possibility of damage to the instrument but not necessarily avoid all damage or shock hazard.

- 1) Test the circuit to make sure it is de-energized. Refer to section 4.2 on how to test for voltage.
- 2) Set the range switch to the ohm range position. Insert the red test lead into the "OHM" terminal and the black test lead into the "COM" terminal.
- 3) With the test leads open the most significant digit will blink with the test leads shorted, the buzzer will sound. "1"000
- 4) Connect the prod tips to the circuit under test and read the

## 4.4 How to Use Data Hold

- (1) Simply press the Data Hold Switch. This allows easy readings in dimly lit or crowded cable areas (Fig. 4). Press again to resume readings.

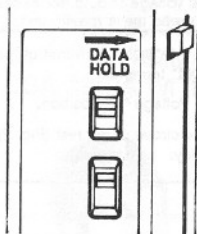


Fig. 4

## 5 Battery Replacement

- (1) The batteries are installed inside the case.
- (2) Remove the screw on the back of the battery cover for battery replacement (Fig. 5).

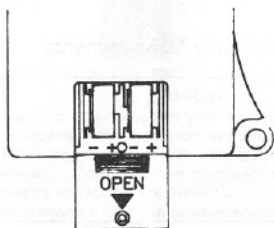


Fig. 5

## 6 Return for Repair

Before returning your instrument for repair make sure the failure to operate is not caused by

- 1) Weak or de-energized battery
- 2) Broken test leads
- 3) Data Hold is on

If all of these conditions are checked to be fine and your instrument still does not operate properly then send it back freight prepaid to:

A.W. Sperry Instruments, Inc.

245 Marcus Blvd.

Hauppauge, NY 11788

include all accessories and a note explaining what is wrong with the instrument. Should you require an estimate please indicate "ESTIMATE ONLY" on your note. Be certain to include your return address and day time phone number should we need to contact you.

## LIFETIME LIMITED WARRANTY

The attention to detail of this fine snap-around instrument is further enhanced by the application of A.W. Sperry's unmatched service and concern for detail and reliability. These A.W. Sperry snap-arounds are internationally accepted by craftsmen and servicemen for their unmatched performance. All A.W. Sperry's snap-around instruments are unconditionally warranted against defects in material and workmanship under normal conditions of use and service; our obligations under this warranty being limited to repairing or replacing, free of charge, at A.W. Sperry's sole option, any such A.W. Sperry snap-around instrument that malfunctions under normal operating conditions at rated use.

### REPLACEMENT PROCEDURE

Securely wrap the instrument and its accessories in a box or mailing bag and ship prepaid to the address below. Be sure to include your name and address, as well as the name of the distributor, with a copy of your invoice from whom the unit was purchased, clearly identifying the model number and date of purchase.

A.W. SPERRY INSTRUMENTS INC.

ATT: Customer Service Dept.  
245 Marcus Boulevard  
Hauppauge, NY 11788

The warranty is not applicable if the instrument has been: misused, used, subjected to loads in excess of specifications, has had unauthorized repair or has been improperly assembled or used.

**A.W. Sperry Instruments, Inc.**

245 Marcus Boulevard, Hauppauge, NY 11788