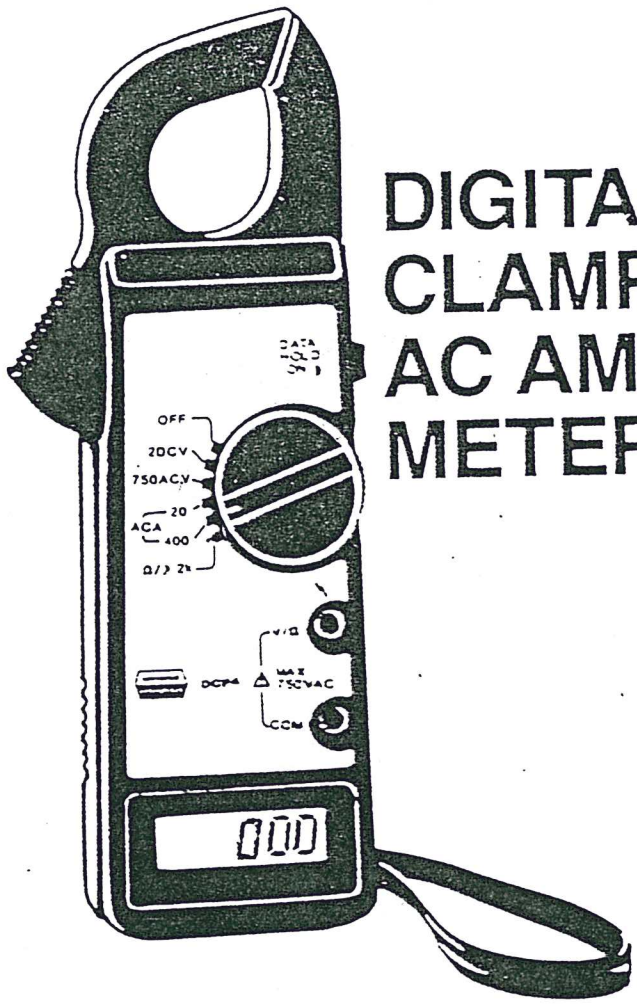


**universal  
enterprises**

**D4CP**



**DIGITAL  
CLAMP-ON  
AC AMP  
METER**

**UNIVERSAL ENTERPRISES, INC.**

(503) 644-8723



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## **DCP4 OPERATING INSTRUCTIONS**

**WARNING:** OBSERVE ALL SAFETY PRECAUTIONS WHEN MEASURING HIGH CURRENTS AND VOLTAGES. TURN OFF POWER TO THE CIRCUIT UNDER TEST, SET THE DCP4 CONTROLS, CONNECT THE TEST LEADS TO THE DCP4 AND THEN TO THE CIRCUIT UNDER TEST. REAPPLY POWER.

The DCP4 is a precision electrical test instrument. Take this opportunity to read these instructions and familiarize yourself with the DCP4, its features and operation.

### **FEATURES**

- Easy to read 3½ digit LCD display
- Low Battery Indication: "LO BAT" on LCD display
- Data Hold: "D-H" displayed on LCD when activated
- Ruggedized drop proof construction
- Tear drop jaw design
- Slide away battery compartment cover
- 19mm standardized input jack spacing to accommodate TA1 temperature adaptor
- Measures up to 400 AC amps
- Overload protection on all functions and ranges

## SPECIFICATIONS

### Ranges:

AC AMPS: 0-20,400A

DC VOLTS: 0-2V

AC VOLTS: 0-750V

OHM: 0-2K

CONTINUITY BUZZER: On 2K ohm range only,  
less than 30 ohms

### Accuracy:

AC AMPS:  $\pm 1.5\%$  of reading,  $\pm 4$  LSD

DC VOLTS:  $\pm 0.8\%$  of reading,  $\pm 1$  LSD

AC VOLTS:  $\pm 1.2\%$  of reading,  $\pm 4$  LSD

OHM:  $\pm 1\%$  of reading,  $\pm 2$  LSD

### General:

Jaw Opening:  $1\frac{1}{8}$  inches

Display:  $3\frac{1}{2}$  digit LCD

Sampling Time: 0.4 seconds

Operating Temperature:  $0^{\circ}$  to  $50^{\circ}\text{C}$  ( $32^{\circ}$  to  $122^{\circ}\text{F}$ )

Operating Humidity: 80% max R.H.

Power Supply: 9 volt battery (NEDA 1604)

Battery Life: Approx. 200 hours in continuous use

Dimensions: HWD 7.13x2.63x1.25"  
(181x69x32mm)

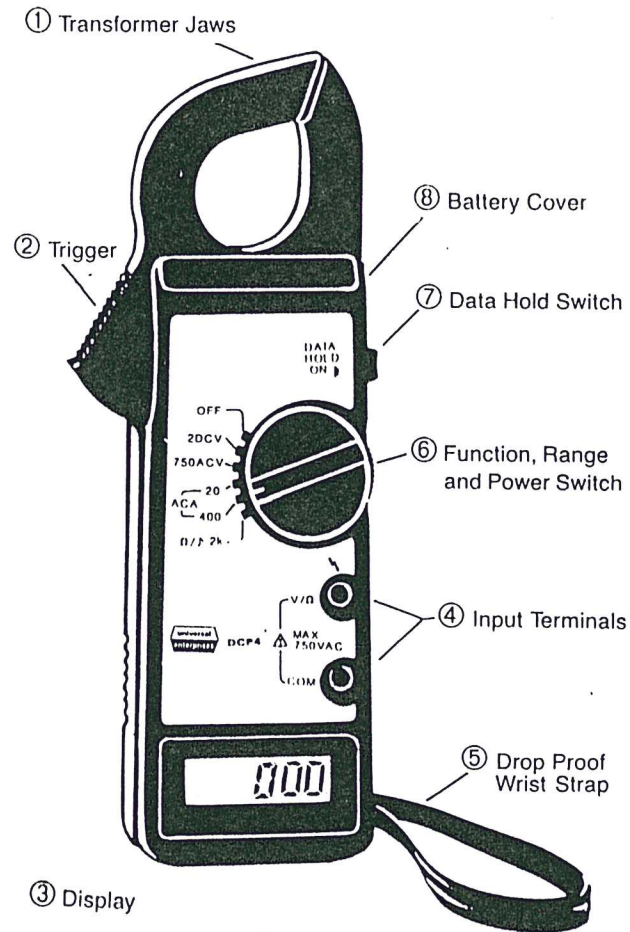


Fig. 1

**1. Transformer Jaws:**

Designed to pick up the AC current flowing through the conductor.

**2. Trigger:**

Press the lever to open the transformer jaws. When the pressure on the lever is released, the jaws will close again.

**3. Display:**

3½ digits, decimal points, "LO BAT" and "—" marks are displayed on the LCD panel.

**4. Input Terminal:**

The black test lead is always connected to the "COM" input jack and the red test lead is always connected to the "V" input jack when measuring ACV, DCV, OHMS and  $\Omega$ .

**5. Drop-Proof Wrist Strap:**

Prevents the instrument from slipping off the hand while in use.

**6. Function, Range and Power Switch:**

Rotary Switch is used to select the measurement range and function of the signal under test.

**7. Data Hold:**

Hold display reading for all functions and ranges.

**8. Battery Compartment:**

Slide cover off for battery replacement.

**PRECAUTIONS AND PREPARATIONS FOR MEASUREMENTS**

1. Ensure that the 9V battery is connected correctly to its snap terminal and placed in the battery compartment.

2. Ensure that the DATA HOLD switch is in the "OFF" position.

3. Select the correct Function and Range.

4. Install the test leads in the proper input jacks.

5. Select the proper measurement range by starting at the largest anticipated value (for instance, 1000 V) and progressively selecting lower ranges until the measurement falls within the proper range.

6. Remove either of the test leads from the circuit under test when changing the measurement range.

7. Operate the instrument only in the ambient temperature range of 0-50°C (32-122°F) and less than 80% relative humidity.

8. Do not exceed the maximum rated voltage of each range and input terminal.

9. Always switch the power to its "OFF" position when the instrument is not in use. Remove the battery if the instrument is not to be used for a long period of time.

**MEASURING PROCEDURE**

**DC Voltage Measurement**

WARNING: To avoid the risk of electrical shock, instrument damage and/or equipment damage, input voltages must not exceed 2 volts DC. Do not attempt to take any unknown voltage measurements.

1. Connect BLACK test lead into "COM" input jack.

2. Connect RED test lead into V/ $\Omega$  input jack.

3. Set the rotary switch to the "2DCV" position.

4. Connect test lead probes into circuit under test. The maximum DC voltage the DCP4 can measure is 2 volts.

### AC Voltage Measuring

WARNING: To avoid the risk of electrical shock, instrument damage and/or equipment damage, input voltages must not exceed 750 volts Peak AC. Do not attempt to take any unknown voltage measurements.

1. Connect BLACK test lead into "COM" input jack.
2. Connect RED test lead into V/ $\Omega$  input jack.
3. Set the rotary switch to the ACV 750 position.
4. Connect test lead probes into circuit under test.

### Resistance Measurement

CAUTION: Turn test circuit power off and discharge all capacitors before attempting in-circuit resistance measurements.

1. Connect BLACK test lead into "COM" input jack.
2. Connect RED test lead into V/ $\Omega$  input jack.
3. Set the rotary switch to the  $\Omega$ / $\uparrow$  2K position.
4. Connect test lead probes into circuit under test or across unknown resistor. The maximum resistance the DCP4 can measure is 2000 ohms.

### AC Current Measurement

CAUTION: The instrument is overload protected up to 400 ACA for up to 1 minute. Do not attempt to make any unknown current measurements. Do not exceed the maximum current that can be measured on each range.

1. Make sure that the "DATA HOLD" switch is not on.
2. Determine the highest anticipated ampere (20A, 400A) on the range scale and position the rotary switch.

3. Press the trigger to open the transformer jaws and clamp one conductor only. It is impossible to make measurements when two or three conductors are clamped at the same time.

### Data Hold Measurement

1. When the DATA HOLD switch is on it will hold the readings on all functions and ranges.

### BATTERY REPLACEMENT

WARNING: Before attempting to replace the battery, first disconnect the test leads from the circuit, then disconnect the test leads from the instrument.

1. When the left corner of the LCD display shows LOBAT, approximately 20% of the battery life remains. It is necessary to replace the battery. In spec. measurements may still be made for several hours after the LOBAT appears.
2. Remove test leads.
3. Turn power "OFF".
4. Slide the battery cover (10) Fig. 1, away from the instrument and remove the battery.
5. Replace with 9V battery and reinstall the cover.

### ACCESSORIES

### STOCK NO.

Alligator clips .....	AAC
Battery 9V (NEDA #1604) .....	AB9
Carrying case .....	AC114
Line splitter .....	ALS1
Test leads .....	ATL50

### RETURNING FOR REPAIR

Before returning your instrument for repair, please make a quick check to insure the failure is not due to one or more of the following:

1. Low or dead batteries
2. Open test lead(s)

### LIMITED ONE YEAR WARRANTY

This product is warranted to the purchaser against defects in material and workmanship for one year from the date of purchase.

What is covered: Repair parts and labor, or replacement at the company's option. Transportation charges to the purchaser.

What is not covered: Transportation charges to the company. Damages from abuse or improper maintenance, see operating instructions. Any other expense, consequential damages, incidental damages, or incidental expenses, including damages to property. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

How to Obtain Warranty Performance: Attach to the product your name, address, description of problem, phone number and proof of date of purchase. Package and return to:

Service Center



8030 SW Nimbus • Beaverton, OR 97008  
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Implied Warranties: Any implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to one year from date of purchase.

To the extent any provision of this warranty is prohibited by federal or state law and cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### UNIVERSAL ENTERPRISES, INC.

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### CAUTION

To eliminate possibility of injury to operator and damage to the instrument and equipment, the following procedure is recommended. Exercise care and caution on all ranges, particularly the voltage ranges, and follow all standard published safety rules. Mis-use, abuse and carelessness cannot be prevented by any written word and is fully the operator's responsibility.