# USING A CLAMP ON AMP/MULTIMETER PART I
# MEASUREMENT SELECTION

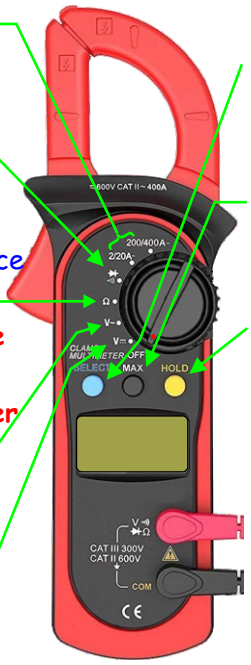
This is the range of settings for measuring current in AMPERES.

This is the range testing diodes or for the continuity of a circuit. The choice is made by pushing the select button.

This is the range of settings for measuring resistance in ohms . The symbol for OHMS is Ω . **There can be NO VOLTAGE at the points you are measuring** or you'll blow a fuse inside the meter. Before taking a measurement **Always test the meter leads by touching them together** and making sure the reading is either 0 or very low.

This is the range of settings for measuring **VOLTS AC**. The symbol for VOLTS AC is **V~**.

This is the range of settings for measuring **VOLTS DC**. The symbol for VOLTS DC is **V⎓** .




This button is used only to select diode or continuity tests.

This button will hold the maximum reading for all voltage and current tests and is very useful for motor testing.

This button will hold the reading when it is pressed and can be used on any test.

## SYMBOLS USED

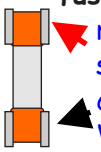
- V⎓ DC VOLTAGE
- V~ AC VOLTAGE
- Ω RESISTANCE (OHMS)
- DIODE TEST
- CONTINUITY
- 2/20A~ 2-20 AMP AC
- 200/400A~ 200-400 AMP AC

# USING THE AC VOLTAGE SCALES

## BE SURE POWER IS ON BEFORE TESTING FOR VOLTAGE!

AC VOLTS

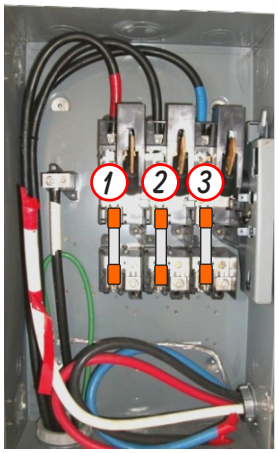

**TEST #1**
**fuse condition**



reading should be close to 0 Volts when the fuse is good.

**TEST #2**
**voltage present at the main panel**

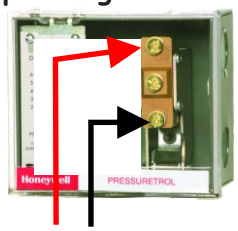
Place the meter lead on 1 and touch the other lead to 2 and 3. Do the same on 2, and 3. Between each terminal, there should be voltage readings of the line voltage (208-240 on 3 phase or, 110-130 single phase)




**TEST #3**
**voltage present at contactor coil**

Determine whether the contactor is AC and be sure that it should be energized while taking the voltage test. The voltage reading should be close to the rated voltage for the contactor coil.

**TEST #4**
**steam pressure switch operating condition**




The AC voltage reading should be close to 0 **V** until the pressure reaches the set point of the switch. Then it will read the system operating voltage.

## NOTES

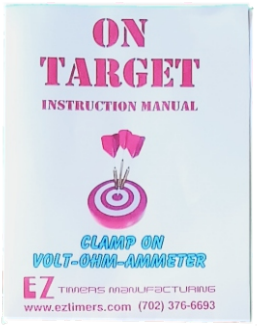
1. VOLTAGE TESTING REQUIRES THE POWER TO BE ON.

2. CHECK THE METER LEADS BY FIRST TESTING AN ELECTRICAL OUTLET YOU KNOW IS GOOD.

3. WHEN RUNNING THE TESTS SHOWN HERE THE COLORED ARROWS INDICATE WHERE THE TIPS OF METER LEADS SHOULD BE PLACED. THE POSITION OF THE RED AND BLACK LEADS ARE INTERCHANGEABLE.

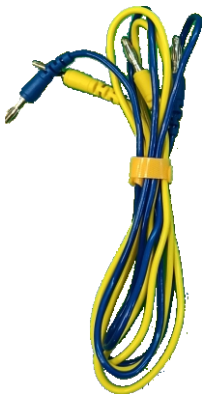
# ON TARGET

## CLAMP ON AMP/MULTIMETER KIT




INSTRUCTION MANUAL

LONG INSULATION PIERCING PROBE



AUXILIARY LEADS

ALLIGATOR CLIP

WIRE GRABBER

GENERAL USEAGE METER LEADS

ROBUST CHEMICAL RESISTANT CARRY CASE


**$130**

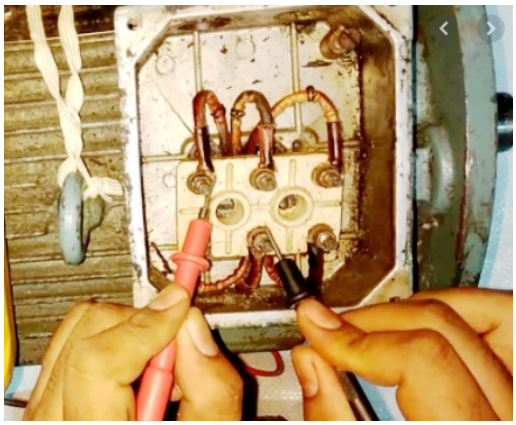
**ON TARGET**

CLAMP ON AMP/MULTIMETER

# USING THE OHMS-RESISTANCE SCALE

## BE SURE POWER IS OFF BEFORE TESTING FOR OHMS-RESITANCE!

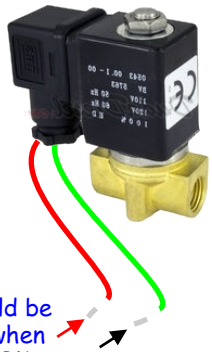
RESISTANCE IN OHMS

TEST #1-motor winding condition

1. Set the meter on the resistance-ohm scale.
2. Measure from each motor winding to the motor frame. The reading should be O.L on the Meg Ohm scale (MΩ). If it's not that indicates a shorted motor winding.
3. Read between any two winding, the reading should be very low (2-10Ω), the important thing is they should be fairly close in resistance. If the readings are different by more than about 5 ohms, it likely indicates trouble.

TEST #2
solenoid coil condition



reading should be 40-400Ω when the coil is OK

### NOTES

1. BE SURE POWER IS OFF BEFORE TESTING FOR OHMS-RESISTANCE.

2. Check the meter leads and battery before running tests by touching the ends of the meter leads together. readings should be 000, when not touching should be 0.L .

3. When running the tests shown here the colored arrows show where the tips of the meter leads should be placed. The positions of the red and black leads are interchangeable.

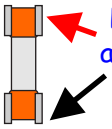
# USING THE CONTINUITY SCALE

CONTINUITY

## BE SURE POWER IS OFF BEFORE TESTING FOR CONTINUITY!


Use the select buton to toggle between diode or continuity testing.

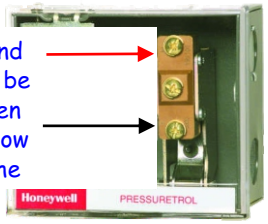
TEST #1
fuse condition

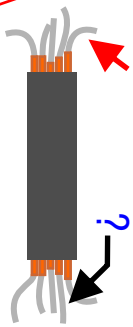


Buzzer should sound and reading should be close to 00Ω when the fuse is good.

TEST #2
steam pressure switch

Buzzer should sound and reading should be close to 00Ω when the pressure is below the set point of the switch.



TEST #3
wire identification
using continuity

When you have a multi-wire cable and you need to identify an individual wire, place a meter lead on the wire and touch the other lead to each wire on the opposite end of the cable. The buzzer will sound and the reading should be close to 00Ω when the leads are on the same wire.

### NOTES

1. BE SURE POWER IS OFF BEFORE TESTING FOR CONTINUITY.

2. Check the meter leads and meter before running tests by touching the ends of the meter leads together. Readings should be 00Ω when touching and OL. when not touching.

3. When running the tests shown here the colored arrows show where the tips of the meter leads should be placed. The positions of the red and black leads are interchangeable.

# EZtimers Manufacturing

bruce@eztimers.com
www. eztimers.com
(702)376-6693

## STOP PAYING TO HAUL SEPARATOR WATER

**REPLACE THAT ZEROWASTE OR GALAXY**


## SAHARA II

**SEPARATOR WATER MISTER**

*SO RELIABLE, YOU'LL FORGET IT'S EVEN THERE*

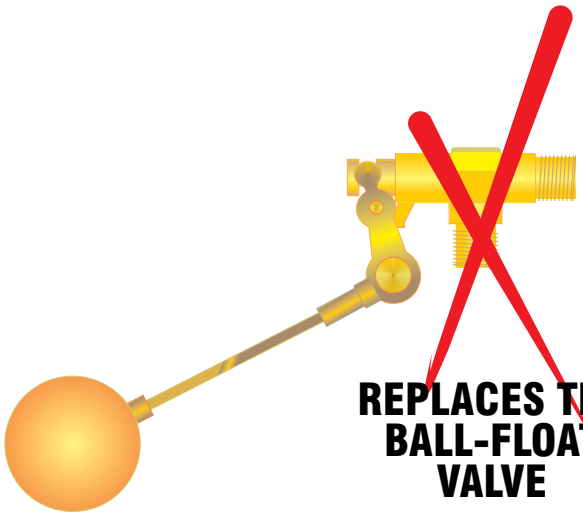
**$2,295**

*MODELS FOR PERC SLIGHTLY HIGHER

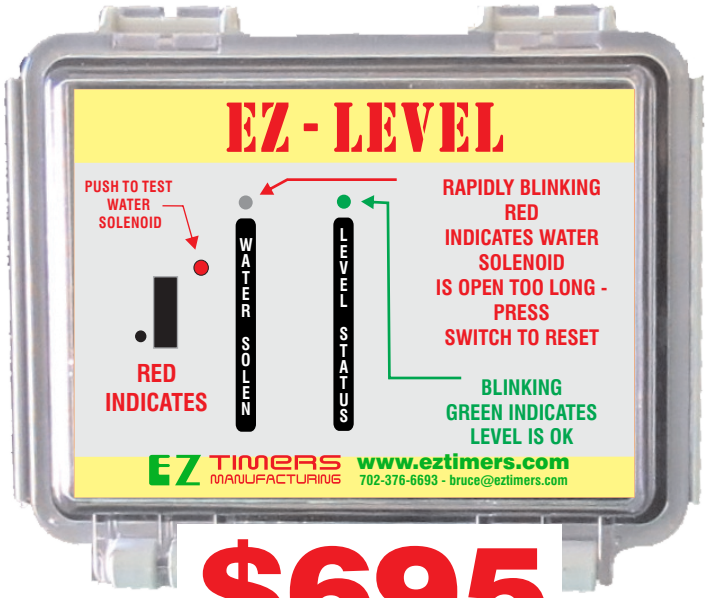
- **2 YEAR TOTAL WARRANTY**
- **Easy installation all parts included**
- **Complies with environmental regulations**
- **No costly filter cartridges uses inexpensive granulated carbon**

# EZ - LEVEL

**ELECTRONIC LEVEL CONTROL**



**REPLACES THE BALL-FLOAT VALVE**




**$695**

*REQUIRES 24 VAC SOLENOID

## END THOSE TROUBLESOME BALL FLOAT VALVE HASSLES

- **Reduce boiler down time**
- **Reduce water costs**
- **Reduce sewage costs**
- **Reduce boiler scaling**
- **Reduce piping damage**
- **Reduce service calls**