



Operating Instructions
AV40
CTP – to – 40kV
Audible-Visual



CAUTION

The equipment covered in these operating instructions should be used by qualified employees, trained in and familiar with the safety-related work practices, safety rules and other safety requirements associated with the use of this type of equipment. These instructions are not intended as a substitute for adequate training, nor do they cover all details or situations which could be encountered in relation to the operation of this type of equipment.

WARNING

Use appropriate length live line tool for the voltages being worked and maintain minimum approach distances as outlined in OSHA 1910.269, Table R-6. Do not let live line tool fittings become grounded in any way. This will damage meter and may cause personal injury.

NOTICE

Before operating this equipment, read, understand and follow all instructions contained in this manual. Keep instructions with equipment.

WARNING

Unit shall be tested before and after each use on a known voltage source. Failure to do so could result in false negative indications.

Design and Function

The AV40 is a combination direct contact / non-contact voltage indicator with an audible and visual alarm to indicate the presence of voltage, with an operating range from Capacitive Test Point detection to 40kV transmission voltage. Activation thresholds are greater than 50% of voltage rating on selector switch, dependent on proximity to energized or grounded objects.

Example: 40kV position activation threshold is +20kV p-to-g at minimum approach distance.

A 12 position switch is used to select various functions and voltage levels as follows:

| Position | Description |
|----------|---|
| Off | Unit Off for Storage and Transit |
| CTP | Capacitive Test Point Voltage Detection |
| 120V | Direct Contact on 120V system |
| 7.2 | Voltage Sensing on 7.2kV URD system |
| 14.4 | Voltage Sensing on 14.4kV URD system |
| 20 | Voltage Sensing on 20kV URD system |
| 2.4 | Voltage Sensing on 2.4kV Overhead system |
| 7.2 | Voltage Sensing on 7.2kV Overhead system |
| 14.4 | Voltage Sensing on 14.4kV Overhead system |
| 20 | Voltage Sensing on 20kV Overhead system |
| 40 | Voltage Sensing on 40kV Overhead system |
| Test | Test basic meter function by sounding horn and lights |

Note: In the test position the voltage indicator should give a loud audible alarm and bright visual indication. If not, replace the 9 volt battery behind the live line tool attachment threaded into the meter housing.

Voltage Indication in the “CTP” Position

Designed for use as a direct contact voltage indicator for Elbows that feature Capacitive Test Points, it may also be used as a hand held contact voltage indicator on **insulated** secondary voltages below 600 volts. It will indicate the presence of secondary voltages between 120 volts and 600 volts.

1. Turn selector switch to the **Test** position to test voltage indicator for proper operation. See Note, page 3

2. Turn the selector switch to the **CTP** position.
3. Attach voltage indicator to appropriate length live line tool for voltage being tested.
4. Make direct contact with the capacitive test point. Audible-visual alarm indicates presence of voltage
5. Turn selector switch to the **Test** position to re-test voltage indicator.

Caution: In the **CTP** position the audible-visual alarm only indicates the presence of voltage but does not indicate the actual voltage present. To confirm the presence of nominal or induced voltage prior to installing grounds, re-test the line or equipment utilizing an all-purpose utility meter such as a PD25 or PD50.

If there is any doubt about the voltage indicator alarms in the **CTP** position, the line or equipment shall be considered energized and appropriate safety precautions taken, i.e. confirm visual open gaps, tag outs, hold orders and sources of induced voltage.

Non-Contact Voltage Indication URD & OH Positions

1. Turn selector switch to **Test** position to test voltage indicator for proper operation, See Note, page 3
2. Attach voltage indicator to appropriate length live line tool for voltage being tested.
3. Turn selector switch to appropriate voltage range.
4. For Overhead application bring the unit up to the OSHA minimum approach distance for the line voltage being detected. Audible-visual alarm indicates presence of voltage within the activation threshold and voltage range selected, See Chart, page 3
5. For Underground application bring the unit up to the bushing insert on the transformer. Audible-visual alarm indicates presence of voltage within the activation threshold and voltage range selected, See Chart, page 3
6. No audible-visual alarm indicates the voltage is below the threshold values for the selected position, See Chart, page 3
7. Turn the selector switch to the **Test** position to re-test the voltage indicator.



Unit shall be tested before and after each use on a known voltage source. Failure to do so could result in false negative indications.

Testing Meter on Known Voltage

1. Turn selector switch to **Test** position to test voltage indicator for proper operation, See Note, page 3
2. Attach voltage indicator to appropriate length live line tool for voltage being tested.
3. Turn selector switch to the 7.2kV URD voltage position.
4. Place the 3kV power supply on a flat, sturdy surface.
5. Turn the power to the supply on.
6. With the probe tip, make contact with the plunger switch side of the power supply and apply pressure to the switch.
7. If the meter is functioning correctly, you will get a positive voltage indication from the meter. If you do not get a positive voltage indication, check battery power on the tester and the meter and try again, if no indication is acquired, do not use the meter and contact technical support.
8. After testing is complete. Turn off the power supply and return it to its storage case and the meter is now tested and ready for normal use.

Alarms and results will vary due to field condition including, but not limited to, conductor proximity, size and orientation of system components in the area, both energized and grounded. As with all voltage detector devices, a false positive can occur when both voltage indicator electrodes (probe tip and live line tool attachment) are at the same potential. The AV40 should be used as a secondary means to confirm the status of a circuit after standard operating procedures such as visual open gaps, hold orders and tag outs render the circuit de-energized. If there is any doubt about the audible-visual alarm under any circumstances, the line or equipment shall be considered energized and proper safety precautions shall be taken.

PARTS & ACCESSORIES

| PART NO. | DESCRIPTION |
|----------|-----------------------------------|
| AGA | Quick Change to Grip All Adapter |
| AUN | Quick Change to Universal Adapter |
| AES | 15 – 25kV Elbow Adapter |
| ABS | 15 - 25kV Bushing Adapter |
| HSL | 2' Standard Handle |
| HEL | 2' Extension Handle |
| CBS | Small Canvas Bag |
| AUG | Plastic Universal Grip-all |
| AHP | Hook Adapter |
| ASP | Straight Probe Adapter |
| 6VB | 6V Battery for Power Supply |
| BSW | Small Waterproof Case |
| PS3 | 3kV Power Supply |
| HHPS | Hand Held Power Supply |



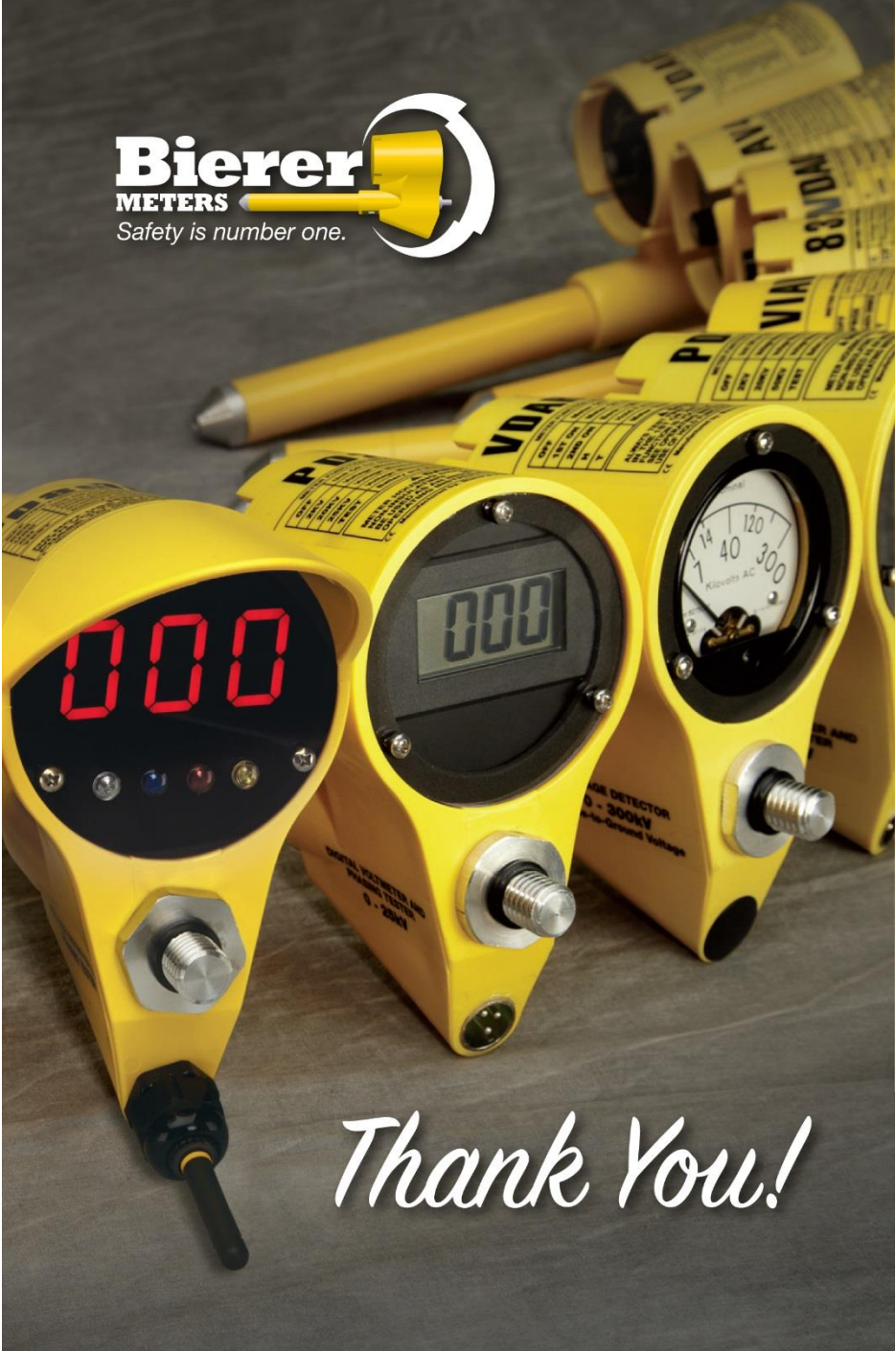
Technical & Service

Bierer & Associates Inc.
 Manufacturing & Repair
 10730 Farrow Rd.
 Blythewood SC 29016
 Tel: (803) 786-4839
 Fax: (803) 786-5457
www.bierermeters.com



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METERS

Safety is number one.



Thank You!