



Operating Instructions
AV-40DC
0 – to – 500kV
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.

Design and Function

The AV-40DC is a direct contact voltage indicator with an audible and visual alarm to indicate the presence of voltage, with an operating range from 120V secondary voltage to 40kV Overhead voltage. Activation thresholds are greater than 50% of voltage rating on selector switch, dependent on proximity to energized or grounded objects.

Example: 69kV position activation threshold is +20kV p-to-g.

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
URD 7.2	Direct Contact on 7.2kV URD system
URD 14.4	Direct Contact on 14.4kV URD system
URD 20	Direct Contact on 20kV URD system
OH 2.4	Direct Contact on Overhead 2.4kV system
OH 7.2	Direct Contact on Overhead 7.2kV system
OH 14.4	Direct Contact on Overhead 14.4kV lines
OH 20	Direct Contact on Overhead 20kV lines
OH 40	Direct Contact on Overhead 40kV lines
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 hand held non contact voltage indicator for single phase overhead lines, it may also be used as a direct contact voltage indicator on underground capacitive test points.

1. Turn selector switch to the **Test** position to test voltage indicator

- for proper operation. See Note, page 2.
2. Turn the selector switch to the **CTP** position.
 3. Attach the hook to the probe tip.
 4. Holding unit in bare hand, point towards the overhead conductor. Audible-visual alarm indicates presence of voltage

Turn selector switch to the **Test** position to re-test voltage

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.

Direct Contact Voltage Indication all Positions

1. Turn selector switch to **Test** position to test voltage indicator for proper operation, See Note, page 2.
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 use the hook probe and make direct contact with the conductor. Audible-visual alarm indicates presence of voltage within the activation threshold and voltage range selected, See Chart, page 2.
5. For Underground application use the bushing adapter and plug unit into bushing insert on the transformer. Audible-visual alarm indicates presence of voltage within the activation threshold and voltage range selected, See Chart, page 2.
6. For Secondary application use the low voltage probe adapter and make direct contact to conductor. Audible-visual alarm indicates presence of voltage within the activation threshold and voltage range selected, See Chart, page 2.
7. No audible-visual alarm indicates the voltage is below the

threshold values for the selected position, See Chart, page 2.

8. Turn the selector switch to the **Test** position to re-test the voltage indicator.

⚠️ 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.

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 AV-40DC 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.



Safety is number one.

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