

INSTRUCTION SHEET FOR ENERGIZED CABLE SENSOR

DESIGN

The Energized Cable Sensor consists of an amplifier designed to give a meter reading when the small AC voltage between the semi-conductive sheath and the concentric neutral of an energized URD cable is applied to the test probe.

This unit is housed in a sturdy weatherproof case with jacks for the ground lead and test probe. The jack for the ground lead also serves as a switch, as the batteries are disconnected from the circuit when the plug is removed from the jack. Also located on the panel is a push-button test point. By touching the test probe to this point and depressing the button, the condition of the batteries, test lead, and circuit can be verified. The meter should read in the green portion of the scale, if the pointer falls below the green portion, the batteries should be replaced. Two nine-volt batteries are required. Touching the alligator clip to the test point, while the probe is depressing it will cause the meter to return to zero thus checking the continuity of the ground lead.

OPERATION AND USE

To determine if an underground cable is energized, visually inspect the condition of the unit and leads. Plug the test lead and ground cable in their appropriate jacks, test the function of the unit (see above), unit should be tested before and after use. In heavily loaded areas the neutral of a de-energized cable may be carrying enough current to cause a voltage difference between individual strands of the concentric neutral: Place hose clamps around the cables on both sides of the test probe approximately 8 inches apart to equalize the voltage and provide a true identification by this instrument. Attach alligator ground clip to the concentric neutral between the hose clamps of the cable being tested and touch the probe firmly against the semi-conductive jacket, being careful not to contact the concentric neutral wires with the probe. A deflection of the pointer above "0" indicates the cable is energized. If the pointer does not move, probe in several places to insure that the cable is, in fact, de-energized.

When testing several cables in close proximity to one another, be sure that the alligator clip is connected to the concentric neutral of the cable being tested. Currents carried by the neutrals, whether energized or not, may create enough voltage difference between neutrals to cause deflection of the meter.

Elbow terminations without test points may be tested with the instrument. Simply attach the clip to the concentric neutral at the elbow and touch the elbow with the probe. However, since the instrument is of such high sensitivity as to detect a voltage difference between a de-energized elbow and the concentric neutral, testing the cable itself may give more consistent results.

If the transmitter of a C403-0547 Cable Fault Locator is available, it may be connected to the de-energized cable. The pulses from this transmitter when picked up by this instrument at some distant point, makes identification easy.

This instrument can be used on secondary cables if enough capacitive coupling is available between the probe and the conductor. Usually, laying the probe on the jacket parallel to the conductor is sufficient, particularly if the jacket is damp. It is not necessary to connect the ground lead to a ground when testing secondary cable.

NOTE: Because of the wide variety and difference in the construction of the cables in use, it is impossible to say how well this instrument will work on all cables of this type. Therefore, it is suggested that it be tried on all energized cable of the type being tested to be sure that the make up of the cable is such that it will work.

POINTS TO REMEMBER

1. When touching the probe against the semi-conductive jacket, be careful not to contact the concentric neutral wires.
2. On excessively muddy or wet cable, dry with rag for best results.
3. If the cable is to be cut, use of a Cable Spiker C600-1626 is recommended.

FOR AUTHORIZED REPAIRS

RETURN TO:

M.W. BEVINS COMPANY

9903 EAST 54TH STREET

TULSA, OK 74146

(918) 627-1273

FAX (918) 627-1294

www.mwbevinsco.com

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