Bierer METERS
Safety is number one.

Operating Instructions
Three Phase
Identification System ™

MADE IN USA

⚠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 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 tools for the voltage being worked and maintain minimum approach distances as outlined in OSHA 1910.269, Table E-6. Do not let live line tool fittings become grounded in any way. This may result in equipment damage, personal injury and/or death. Do not hold meter probe with bare or insulated hand, minimum live line tool length is 2 ft 1in.

Meter housing and any attachments shall be considered **non-insulating**. Meter should **NOT** be used as an insulating tool. The high voltage probe(s) shall be wiped clean prior to each use with a silicone impregnated cloth and kept clean and free of contaminates to prevent tracking on the outside of the probe, which could affect accuracy of the meter and/or failure, resulting in equipment damage, personal injury and/or death.

NOTICE

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

DESIGN and FUNCTION

The 3 phase ID machine is designed to identify up to 3 shielded conductors before and after the center conductor is exposed while maintaining single or multiple ground connections. This unique tool features a transmitter module that produces 3 different signals and a passive receiver consisting of a current transformer with an audible/visual handheld display to indicate the correct phase conductors. This device will significantly reduce previously needed coordination resulting in time savings and eliminates safety concerns by maintaining ground connections during the entire process. The transmitter module is powered by two Milwaukee lithium-Ion M18 batteries and incorporates cam lock connectors to quickly interface different attachments such as C style, ball socket, and alligator clamps.

Set-up Procedure for:

Identifying shielded conductors before cut is made

1. Isolate conductor(s) to be tested at all possible connections, test for absence of voltage and apply grounds at all location(s).
2. Install charged and tested batteries into Transmitter unit.
3. Remove grounds at location of Transmitter.
4. Install and attach respective leads to all phase conductors.
5. Red on Phase 1A.
6. Yellow on Phase 2B.
7. Blue on Phase 3C.
8. Green on Ground.
9. Turn machine on.
10. Two sets of LED's should indicate continuity (solid) and applied signal (blinking) for each phase.

Identifying shielded conductors after cut is made

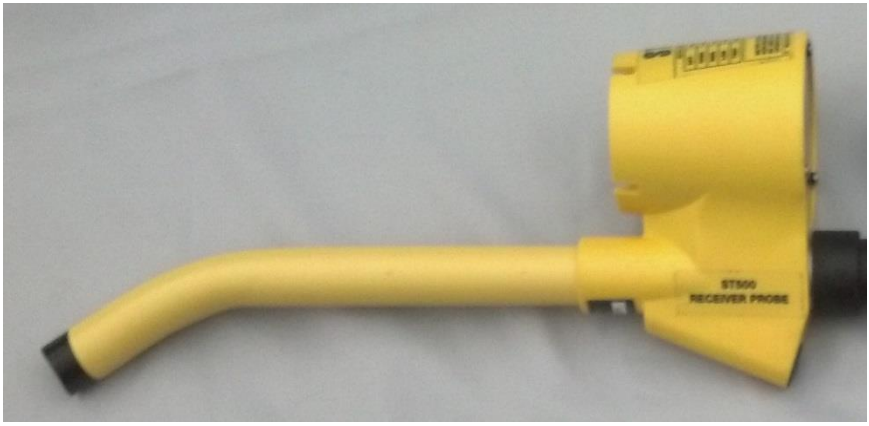
1. Attach jumper(s) from center conductor(s) to ground. Do not attach jumper(s) to concentric of the cable(s) to be identified.
2. Install charged and tested batteries into sender.
3. Install and attach respective leads to all phase conductors.
4. Red on Phase 1A.
5. Yellow on Phase 2B.
6. Blue on Phase 3C.
7. Green on Ground.
8. Turn machine on.
9. Two sets of LED's should indicate continuity (solid) and applied signal (blinking) for each phase.

IDENTIFY CABLE USING STRCV

1. Follow the “Set-up Procedure” outlined on page 3.
2. Ensure the power light is on, the blue pulse lights are pulsing, and the corresponding continuity lights are illuminated. If the corresponding continuity light is not on, turn the unit off, check your connections and try again.
3. Turn the STRCV on and place the tip on the wire close to the transmitter to verify cable and direction of the pulse.
4. At the test site, slowly approach the cable with the tip of the STRCV. And identify the cable with the pulse going in the same direction and the correct pulse sequence to identify each phase. The sequence is as follows

a. Phase 1A: Beep – Off – Beep
b. Phase 2B: Beep, Beep – Off – Beep, Beep
c. Phase 3C: Beep, Beep, Beep – Off – Beep, Beep, Beep

5. After testing is complete remove all equipment and restore cable to its original condition.



IDENTIFY CABLE USING DAVR RECEIVER

1. Follow the “Set-up Procedure” outlined on page 3.
2. Ensure the power light is on, the phase pulse lights are pulsing, and the corresponding continuity lights are illuminated. If the continuity light is not on solid after the first pulse, turn the unit off, check your connections and try again.
3. Plug the Q110D into the DAVR receiver.
4. Attach receiver clamp on to horn box, clamp around each phase cable to be identified. The clamp must be oriented with the arrow towards GROUND or away from the sender.
5. Listen for beeping and a corresponding light that will indicate phase. If no indication is detected rotate sensitivity knob forward until you can hear the signal and/or light. The following repeating patterns will indicate phase.

a. Phase 1A: Beep – Off – Beep
b. Phase 2B: Beep, Beep – Off – Beep, Beep
c. Phase 3C: Beep, Beep, Beep – Off – Beep, Beep, Beep

6. After testing is complete remove all equipment and restore cable to its original condition.

IDENTIFY CABLE USING ACDM RECEIVER

1. Follow the “Set-up Procedure” outlined on page 3.
2. Ensure the power light is on, the blue pulse light is pulsing, and the green short continuity light is illuminated. If the red open light is on, turn the unit off, check your connections and try again.
3. Plug the CT into the ACDM receiver.
4. Clamp the CT around the cable at the source so the red arrow faces away from the transmitter on the cable. (Pointing towards the grounded end of the cable.)
5. If the colored cable is attached to the center conductor and the green cable is attached to the ground the needle should deflect in the Green area on the meter. If not, check your connections and make sure the red arrow on the CT is pointing away from the transmitter.
6. At the test site location, clamp the CT around each of the cables, so the red arrow is facing towards the grounded end of the cable.
7. The same deflection in the green area and the same number of repeating deflections means you’ve identified the phase the unit is attached to. The number of deflections on the line determines the phase as follows.

a. Phase 1A: Bounce – Pause – Bounce
b. Phase 2B: Bounce, Bounce – Pause – Bounce, Bounce
c. Phase 3C: Bounce, Bounce, Bounce – Pause – Bounce, Bounce, Bounce.

8. After testing is complete remove all equipment and restore cable to its original condition.

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Bierer
METERS
Safety is number one.
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Thank You!