



# Operating Instructions

## DCI-100-CT

### Cable Identifier



## 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.

## NOTICE

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

## ▲ DANGER ▲

**DO NOT ATTACH TO ENERGIZED SOURCE.**

## ▲ WARNING ▲

**Make sure the battery is removed any time unit is not in use or stored in the bag. Failure to do so could result in a fire hazard.**

## ▲ WARNING ▲

**Always install and remove the CT with the unit off.  
Never clamp CT around a conductor until connected to unit.**

## Limitation of Warranty and Liability

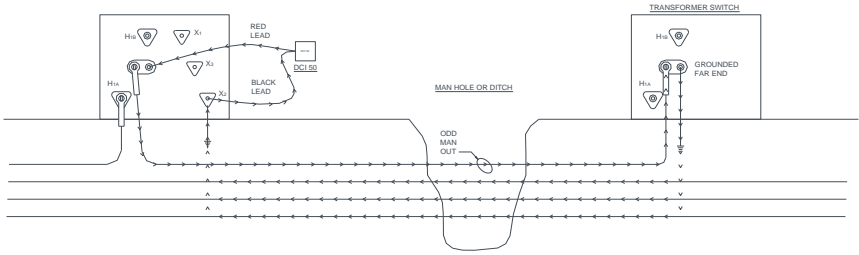
Bierer & Associates Inc. warrants this product to be free from defects in workmanship and material, under normal use and service conditions for a period of one year from date of shipment.

Due to continuous product improvement and development, Bierer & Associates Inc. reserves the right to modify product designs and specifications without notice.

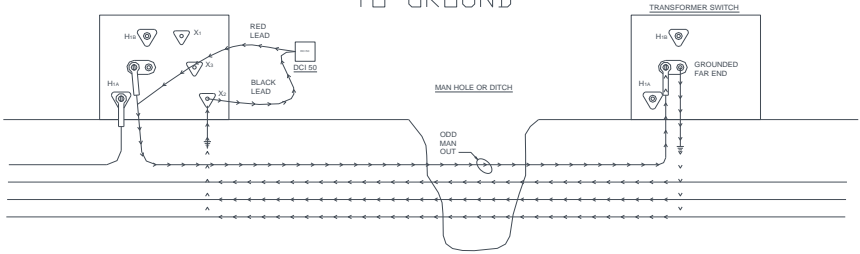
It is impossible to eliminate all risks associated with the use of high voltage electrical devices including this device. Risks of serious injury or death are inherent in working around energized electrical systems. Such risks include but are not limited to variations of electrical systems and equipment, manner of use or applications, weather and environmental conditions, operator mentality, and other unknown factors that are beyond the control of Bierer & Associates Inc.

Bierer & Associates Inc. does not express or imply to be an insurer of these risks, and by purchasing or using this product you **AGREE TO ACCEPT THESE RISKS. IN NO EVENT SHALL Bierer & Associates Inc. BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.**

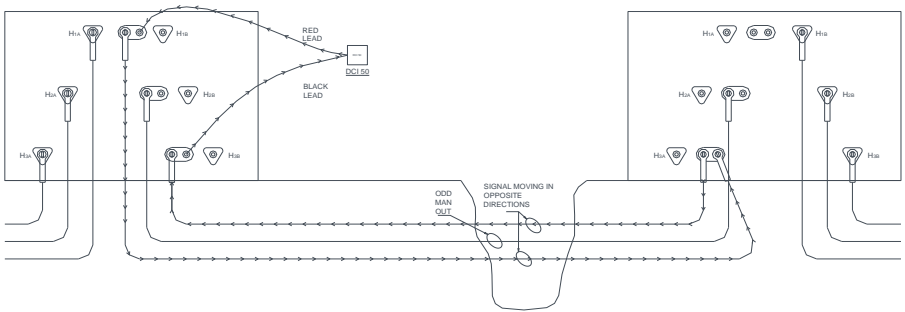
### 1. CONDUCTOR TO GROUND



### 2. ISOLATED CONCENTRIC TO GROUND



### 3. CONDUCTOR TO CONDUCTOR



**Diagram 1**

## Design and Function

The DCI-100 Cable identifier is used to identify isolated, de-energized URD cables. The unit features a transmitter with 2 alligator clips and is powered by 2 Milwaukee, 18V, rechargeable batteries. The unit has 5 LEDs for power, low battery, pulse operation, short/ open continuity. An optional CT input can be used when there is excessive neutral current on the cable being tested. The unit outputs a short duration current pulse that can be detected using one of the receivers. The receivers available are the STRCV, the AVR receiver, and the ACDM.

### DCI100 TRANSMITTER SET-UP AND TEST

1. Make sure the unit is off.
2. Press the button on the front of the 18V Milwaukee Batteries. if there is less than 2 lights, recharge the battery before operation
3. Install the batteries by sliding the batteries into the battery holders.
4. Make sure the alligator clips are not touching and turn the unit on.
5. The power, and open continuity light should be illuminated and the pulse light should blink on and off approximately once per second.
6. Turn the unit off.
7. Connect the two alligator clamps together.
8. Turn the unit on.
9. The power and short continuity lights should be illuminated and the pulse light should be blinking.
10. Turn off the unit.

### DCI100 TRANSMITTER INSTALLATION

1. Isolate section of cable to be tested at near end and ground on far end.
2. Verify voltage is not present on cable being tested using an OSHA approved test device such as a Bierer voltage detector.
3. . Install DCI100 as shown in Diagram 1, #1.
4. Turn unit on.



## **IDENTIFY URD CABLE USING STRCV**

1. Follow the “DC TRANSMITTER SET-UP AND TEST” Procedure outlined on page 4.
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. 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. Only the cable with the pulse pointing in the same direction is the correct cable. Other cables may show a pulse present but will be harder to pick up and will pulse in the wrong direction.
5. After testing is complete remove all equipment and restore cable to its original condition.



# **IDENTIFY URD CABLE USING AVR RECEIVER**

The AVR receiver is a passive audio/visual receiver that will indicate single light or single beep to indicate the correct cable.

1. Follow the “DC TRANSMITTER SET-UP AND TEST” Procedure outlined on page 4.
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 AVR 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. Adjust the sensitivity knob till a clear positive indication is observed.
6. The Receiver will indicate a beep or blinking if the unit is installed correctly.
7. At the test site, Clamp the CT onto the cable so the red arrow points to the grounded end of the cable.
8. The correct cable will indicate either a beep or blinking light.
9. All other cables should have no indication. If more than one positive indication is detected, reverse the clamp and test again.
10. After testing is complete remove all equipment and restore cable to its original condition.



# **IDENTIFY URD CABLE USING ACDM RECEIVER**

The ACDM Receiver is a handheld analog receiver that indicates a needle movement representation of the direction & pulse strength applied to the cable.

1. Follow the “DC TRANSMITTER SET-UP AND TEST” Procedure outlined on page 4.
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 red cable is attached to the center conductor and the black cable is attached to the ground the needle should deflect in the Green area on the meter. If not, check your connections on the DCI100 and the 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 means you’ve identified the same cable that the DCI100 is attached to. Any other deflection means you are not on the correct cable.
8. After testing is complete remove all equipment and restore cable to its original condition.



## CT USE INSTRUCTIONS

The CT is used to ensure the pulse being created will always be produced at the peak of any excessive neutral current.

### **WARNING** ▲

**Always install and remove the CT with the unit off.  
Never clamp CT around a conductor until connected to unit.**

1. With power off of the unit, plug the CT into the back of the transmitter.
2. Clamp the CT around the neutral between the cable and the common neutral. The unit will do the rest
3. When removing, always turn the unit off first and remove the CT from the cable before unplugging from the unit.



### Technical & Service

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

