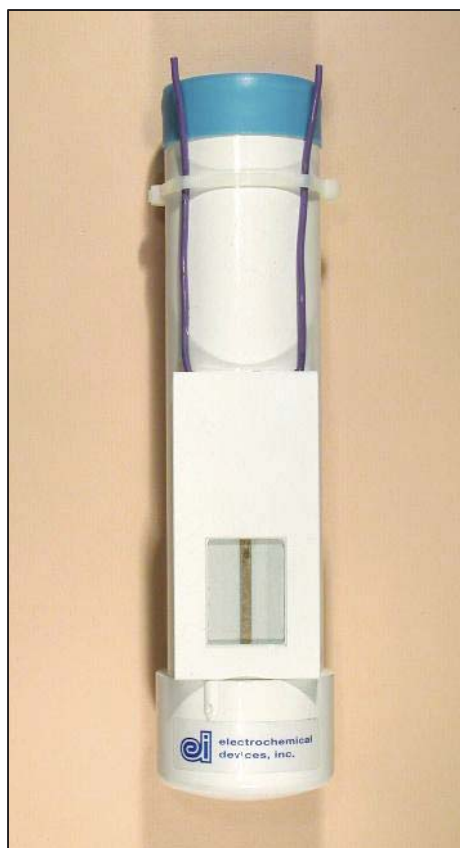


Model UC

Underground Cathodic Protection Coupon

Featuring

- Patented concentric coupon design removes nearly all soil IR drop error in current-on measurements
- Easily fitted to the base of a test station riser or used in a stand-alone configuration when fitted with the optional internal zinc reference electrode
- Potential measurements are made through the riser tube with either portable or permanent reference electrodes



Specifications:

1 ½ sq. in. (10 sq. cm.) exposed steel surface
2 inch (nom.) PVC pipe construction
Size - 2 1/2 inches dia. x 11 inches long
(6.4 cm x 28 cm long)
Shipping weight - 6 lb (2.8 kg)

Lead Wires

10 feet (3 m) of #14 AWG RHW is standard.
Other wire lengths and types are available

Housing End Styles

Style A (shown in photo) is installed at the base of a test station riser as shown in drawing UCASY-4. A zinc reference electrode can be installed in the housing as an option.

Style B (see drawing UCASY2) can be installed remote from a test station. It is only available with the optional internal zinc reference electrode.

The **Model UC** Underground Cathodic Protection Coupon is fitted to the base of a test station riser. It is designed to allow essentially IR-Drop free measurements with CP current on. The amount of IR-Drop error included in a current-on measurement is negligible and can therefore be ignored in routine measurements. Refer to NACE paper 05039, available on our web site, for quantitative performance data. Many factors contribute to the magnitude of IR-Drop error at any particular site; therefore it is recommended that each installation be calibrated separately.

U.S. Patent 6,060,877 – Produced under license.

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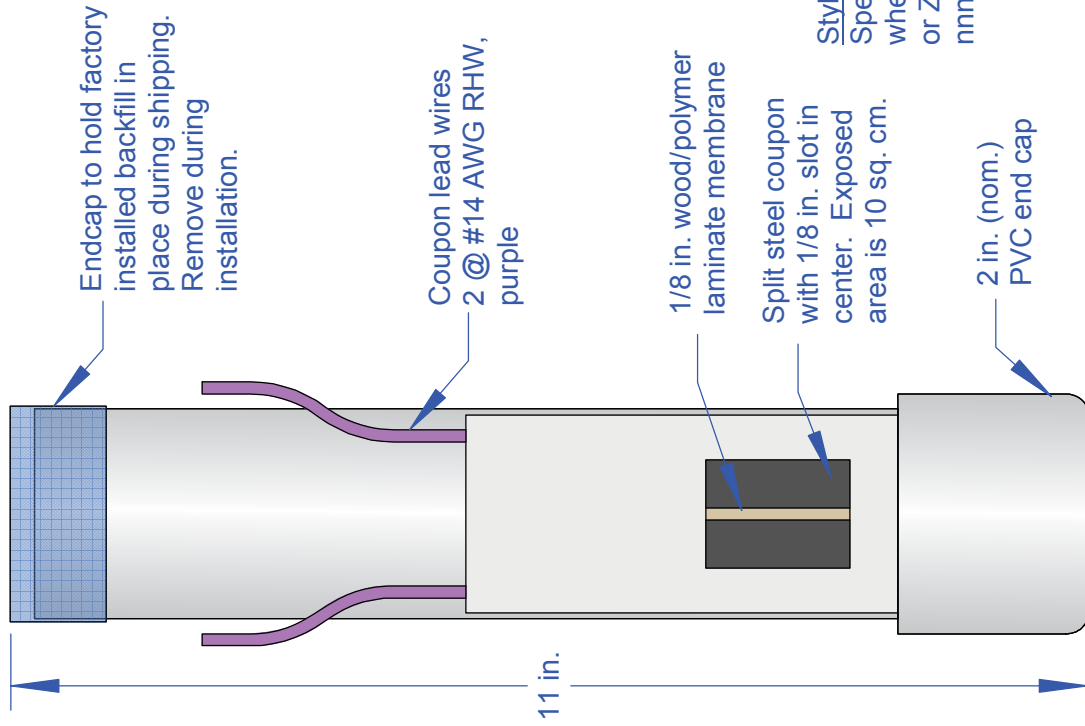
Address: P.O. Box 31; Albion, RI 02802-0031

*U Series
Underground
Reference
Electrodes*



Style A - Test Station Foot

Use Style A when the coupon can be located at the base of a test station. This style may be ordered with or without the optional zinc reference.

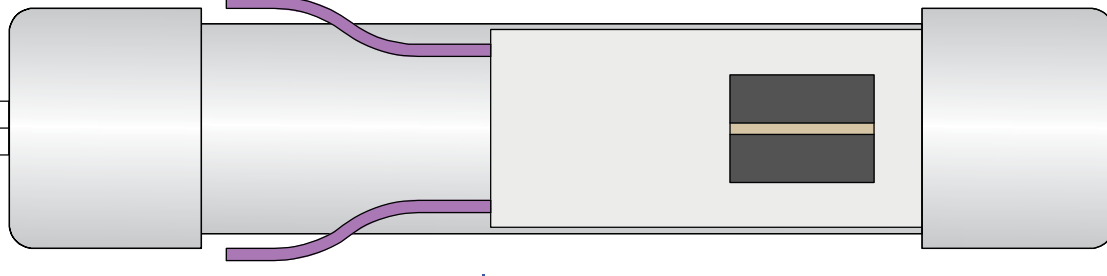


Style A

Specify as EDI Model UCA-xxx-LWnnn where xxx is BDG for no contained reference and ZIN for the optional zinc reference and nnn is lead wire length in feet.

Note: If no lead wire length is specified, 10 feet (3 meters) will be supplied (LW010).

Zinc lead wire #14 AWG RHW white

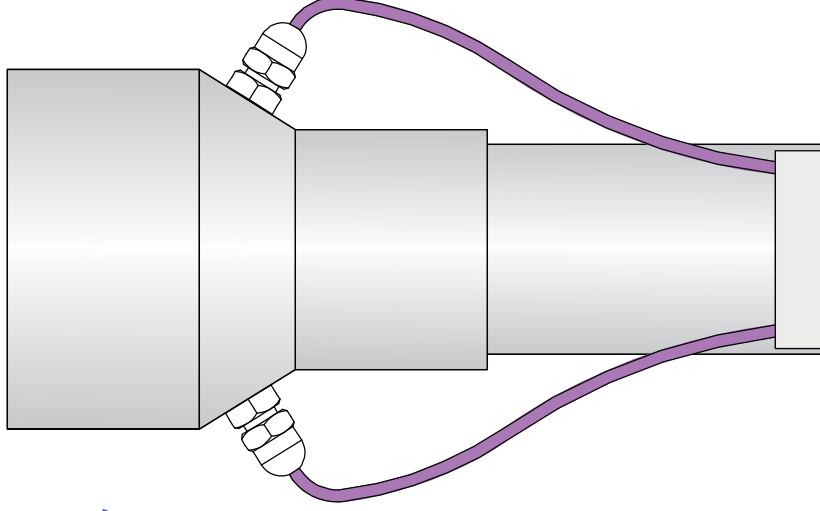


Style B - Self-contained

Use Style B when coupon is to be located remote from a test station. Style B is only available with a zinc reference electrode.

Style B Specify as EDI Model UCB-ZIN-LWnnn where nnn is lead wire length in feet.

Optional 3 in. to 2 in. reducer with strain reliefs. This simplifies passing coupon wires to the inside of the riser tube. Other size reducers are available.



electrochemical devices, inc.
PO Box 31, Albion, RI 02802 401-333-6112

Concentric Coupon Assembly



Model UC-BDG – Underground CP Coupon

The Model UC-BDG Underground Cathodic Protection Coupon is designed to minimize IR-Drop error in measurements made with CP current on. With this unit the amount of IR-Drop error included in a current-on measurement is negligible and, therefore, can be ignored in routine measurements. Since many factors contribute to the magnitude of IR-Drop error at any particular site, it is recommended that each installation site be calibrated separately.

Installation – Style A

1. Remove the yellow protective label covering the steel coupons and place the coupon assembly in a position reasonably close to the structure being monitored. Be sure to orient the coupon assembly vertically with the protective plastic cap at the top. Experience and testing indicate that it is best to face the CP coupon directly toward the structure. Place local soil around the coupon as backfill; make sure no rocks larger than a centimeter in diameter are within a centimeter of the metal plates. Tamp the backfill to ensure it is in good contact with the coupons.
2. Remove the protective plastic cap from the top of the coupon assembly. Cement a PVC coupling or reducer to the top of the assembly using PVC cement. Cement riser pipe to the coupling.
3. Fill the riser with either screened local soil or a slurry consisting of 25% bentonite and 75% sand or fine fill. A reduced diameter reference electrode, such as an EDI Model US, can be placed in the riser pipe prior to filling. If this is done, then the riser fill must consist of the bentonite slurry.
4. Complete the installation by capping the top of the riser pipe as desired. One of the two wires from the coupon is to be connected to the structure through an interruptible shunt, such as EDI Model UI-MS or equivalent. The other coupon wire is connected to a meter when making potential measurements.

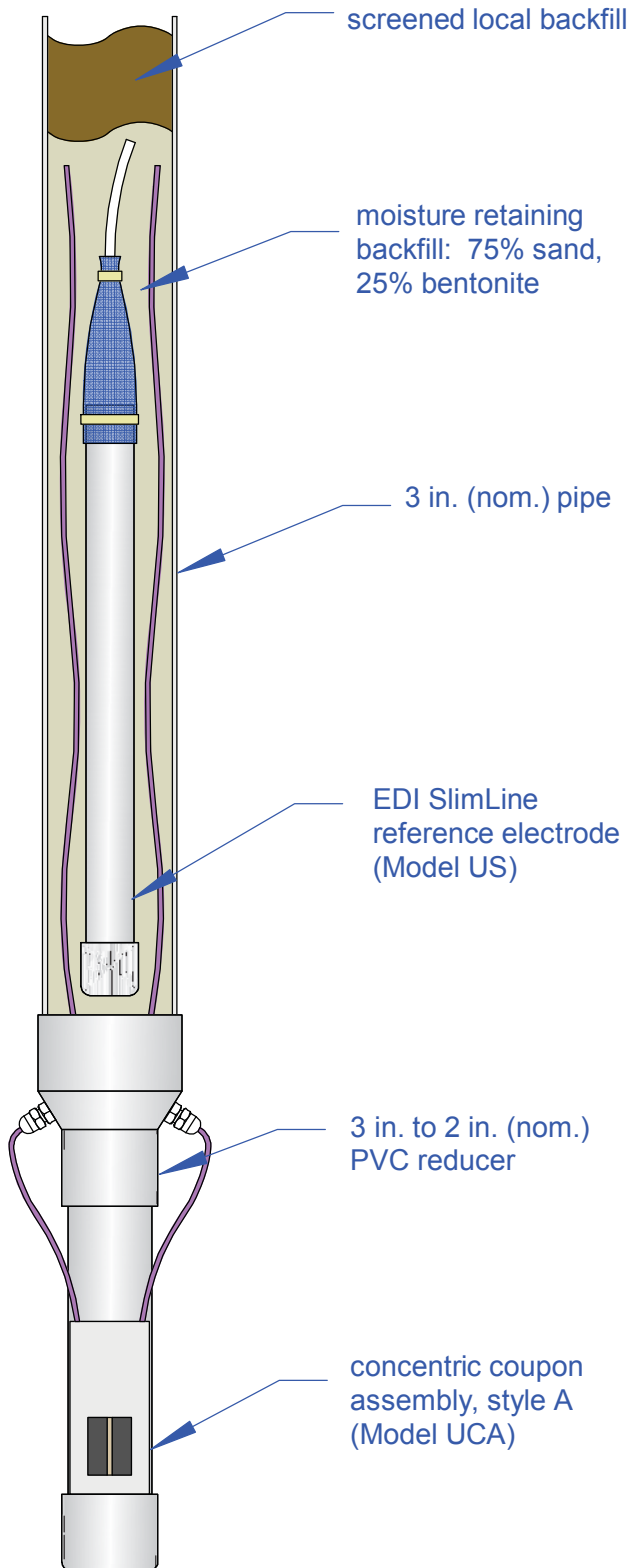


Installation – Style B

Style B coupons have a self-contained zinc reference. They can be placed at any orientation and located remote from test stations. After removing the yellow protective label, follow the backfill instructions in Step 1 above.

Measurements

In order to minimize IR-Drop error in potential measurements, all such measurements on Style A coupons must be made with either a permanent reference electrode contained in the riser pipe or a portable reference electrode contacting the riser fill. In some areas, it may be necessary to moisten the fill to increase its conductivity to an acceptable level. Measurements on Style B coupons are made using the self-contained zinc reference. To determine the amount of IR-Drop error, first measure the potential of the coupon with the shunt wire connected to the structure. Then determine the IR-Drop error by disconnecting the shunt from the structure and note the instantaneous voltage drop. In most installations the instantaneous voltage drop (IR-Drop error) will be sufficiently small that it can be neglected in future measurements.



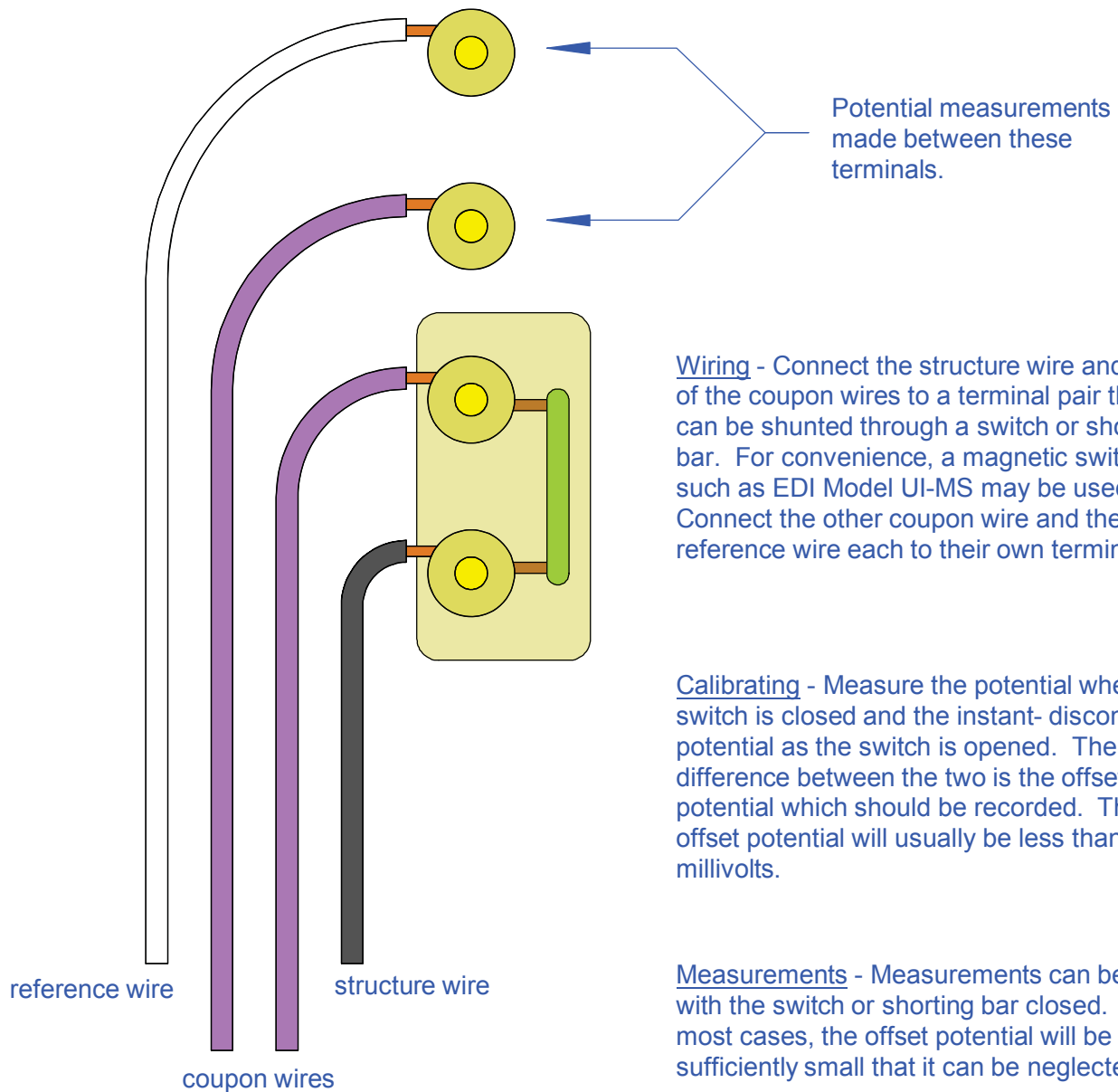
Cement a PVC coupling and riser tube to coupon housing. Place a suitable reduced diameter reference electrode inside riser tube. Fill the space between reference and riser tube with moisture retaining backfill; wet with potable water. Top with screened local backfill.

Transfer coupon wires to inside the riser tube by passing them through the strain reliefs on the reducer.

Measurements may be made with either the permanent reference electrode or with a portable reference electrode placed on the local backfill in the riser tube.

Installing a Permanent Reference in Coupon Riser

| | |
|----------------|-------------|
| SCALE | 1/5 |
| DRAWN BY | FJA |
| DATE | 01 AUG 2011 |
| DRAWING NUMBER | UCASY - 4 |



Wiring connections - Concentric CP Coupon

SCALE NONE

DRAWN BY FJA

DATE 29 JUL 2011

DRAWING NUMBER UCASY - 5



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