

# Model UC – Underground CP Coupon

## Typical Applications

- Any underground structure requiring potential readings with minimal IR drop error

## Featuring

- Unique split coupon design permits current-on readings with minimal IR drop error
- Easily fitted to the base of a test station riser
- Potential measurements can be made with 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)

## Terminations (twin leads)

SW - 10 feet (3 m) of #14 AWG THHN  
LWnnn - nnn feet #14 AWG THHN  
CWnnn - nnn feet of custom wire

## Model Designation

Specify as EDI Model UC-BDG-yy  
yy = Termination type

## Measurements

Measurements can 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. Either Cu/CuSO<sub>4</sub> or Ag/AgCl references may be used.

## Design Compatibility

The **Model UC-BDG** Underground Cathodic Protection Coupon is fitted to the base of a test station riser. It 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 will be very small (typically, less than 20 mV) 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 recommend that each installation be evaluated separately.

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

## electrochemical devices, inc.

**Sales office:** P.O. Box 355; Belmont, MA 02478-0003  
**Tel:** 617-484-9085 **Fax:** 617-484-3923  
**Main office:** P.O. Box 31; Albion, RI 02802-0031  
**Tel:** 401-333-6112 **Fax:** 401-333-9724

*U Series  
Underground  
Reference  
Electrodes*



# Model UC-BDG – Underground CP Coupon

## *Installation Instructions*

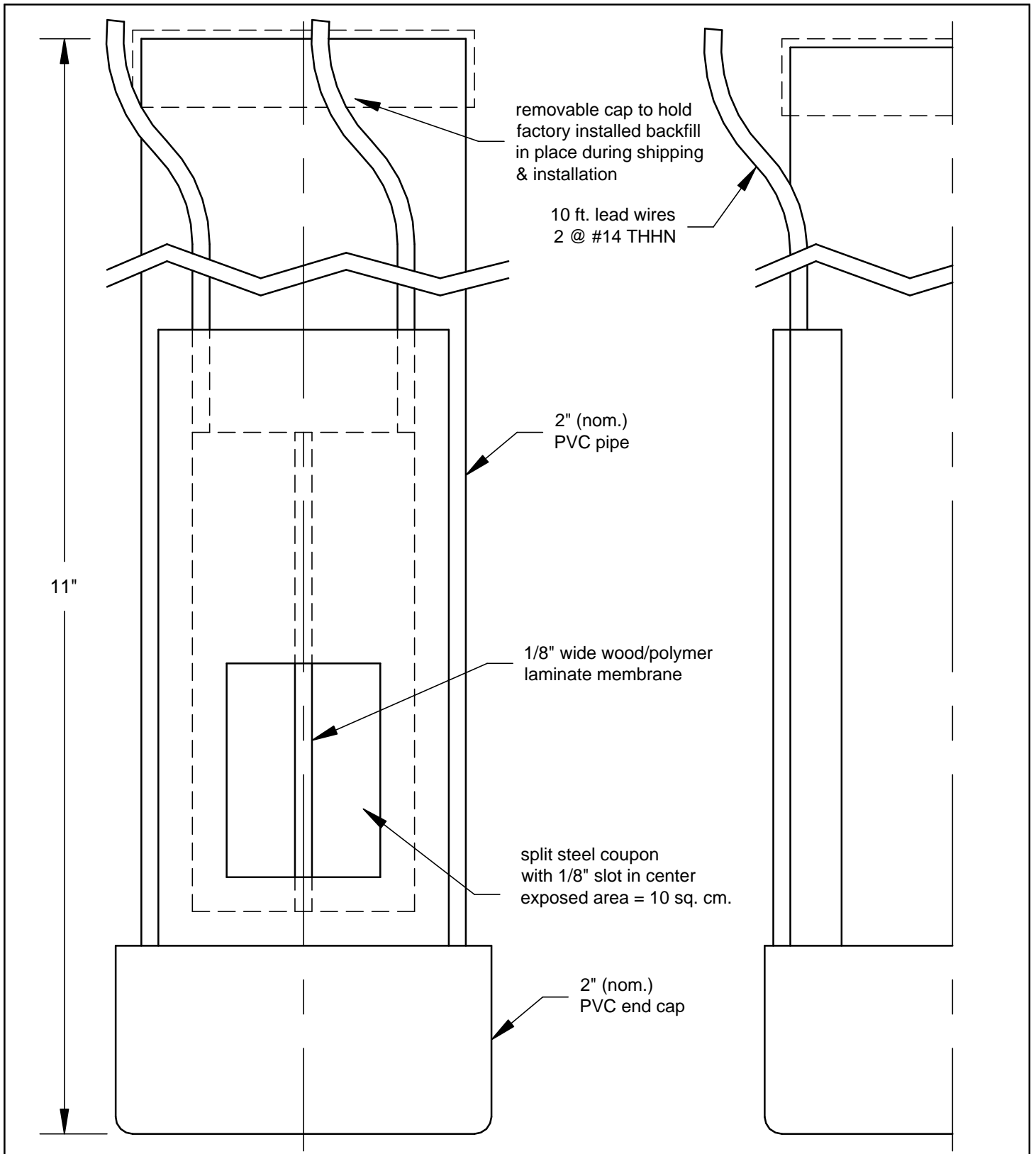
The Model UC-BDG Underground Cathodic Protection Coupon is designed to minimize IR-Drop error in measurements made with CP current on. With this unit the amount of IR-Drop error included in a current-on measurement will be very small (typically, less than 20 mV) and, therefore, can be ignored in routine measurements. Since many factors contribute to the magnitude of IR-Drop error at any particular site, it is recommended that each installation be evaluated separately.

## Installation

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. 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 2 inch PVC coupling to the top of the assembly using PVC cement. Cement a 2 inch PVC riser pipe to the coupling. Note: if a different size riser is preferred, replace the coupling with an appropriately sized PVC reducer.
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-sand 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. The other coupon wire is connected to a meter when making potential measurements.

## Measurements

In order to minimize IR-Drop error in potential measurements, all such measurements 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. 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.



Specify as EDI Model UC-BDG-SW  
See EDI drawing UX07ASY for other coupon sizes

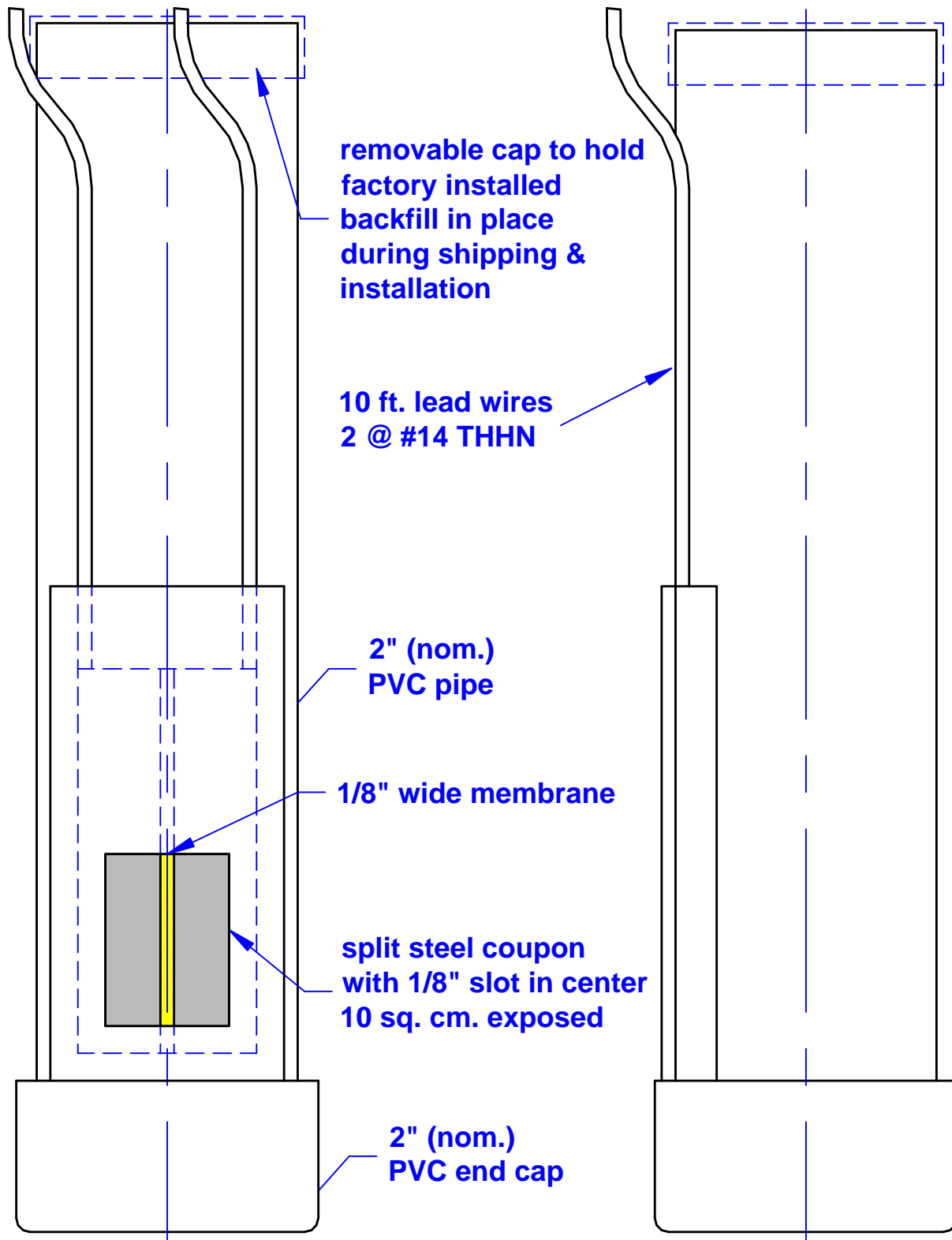


electrochemical devices, inc.  
PO Box 31, Albion, RI 02802 401-333-6112

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## Split Coupon Assembly



## Test Station Split Coupon Assembly