

## IR-FREE STATIONARY UNDERGROUND REFERENCE ELECTRODES *IR-Free Porous Ceramic -- Coupon Reference Electrode*

**The IR-Free Coupon Reference Electrode is designed to provide IR-Free ON & OFF Potential measurements of Underground Protected Structures without the need to interrupt rectifier(s) or be concerned with other common interference such as neighboring CP systems, transit systems, etc.**

### **Features**

- **High Sensitivity.** The electrode's large 28 in<sup>2</sup> (182 cm<sup>2</sup>) earth contact surface area classifies it as a high sensitivity reference, many times more sensitive than conventional electrodes. The cell will maintain earth contact long after others produce no output. Because of its inherently low cell resistance, readings are achieved faster and with greater accuracy.
- **Broad Moisture Range.** Ideally suited for environments with wide moisture variations. Variations in soil moisture from arid to moist do not affect electrode life. The electrode will not degenerate in arid soils during dry seasons. It will reactivate when moisture returns to the soil.
- **Moisture Retention Porosity.** Special interface technology enhances measurement stability as the environment becomes dry.
- **Unlimited Shelf Life.** Dry solid state technology allows the electrode to be stored indefinitely. It activates when employed.
- **Long Service Life.** Service design life is 30 years.
- **Two Types.** Both Zinc-Zinc Sulfate (Zn/Zn SO<sub>4</sub>) and Silver-Silver Chloride (Ag/AgCl) types are available. The AgCl should be chosen where environmental chloride concentrations are >200 ppm and the ZnSO<sub>4</sub> when chlorides are <200 ppm. Copper Sulfate Electrodes are available as a special order but are not recommended since any copper sulfate ion migration to the steel coupon can cause measurement error.
- **SPECIFICATIONS:**



Pictured with a 10 cm<sup>2</sup> Coupon

|                             |   |
|-----------------------------|---|
| Active Cell Area:           | Approx. 1.5" (3.8 cm) Ø x 6" (15.2cm) Long  |
| Earth Contact Surface Area: | 28 in <sup>2</sup> (182 cm <sup>2</sup> ) Tubular Ceramic with color-coded end caps.  |
| Coupon Size:                | 1, 10 or 100 cm <sup>2</sup> Coupon Surface Area  |
| Lead Wire:                  | 50' of 3-Conductor Cable<br>For nonstandard cable lengths specify length.<br>For cable suitable for pulling through conduits, consult CerAnode. |
| Stability:                  | +/- 5 Millivolts with 3.0 Microamp load.  |
| Operating Temperature:      | 32° to 135° F (0° to 57.2° C)   |

### **Electrodes Are Color Coded for Quick Identification.**

- BLUE -- CerAnode Model CRE-AG-7 -- Silver-Silver Chloride (Ag-AgCl)
- RED -- CerAnode Model CRE-ZN-7 -- Zinc-Zinc Sulfate (Zn-ZnSO<sub>4</sub>)