



CORROSION MITIGATION INSTRUMENTATION  
2828 FM 758, NEW BRAUNFELS, TX 78130 TEL: (830) 253-5621

## CS-1 MAG ANODE SIMULATOR PRODUCT INSTRUCTIONS

The Model CS-1 is a portable, adjustable current supply capable of delivering up to 1.5 amps of DC current depending on load conditions. The output voltage is fixed at 1.7 volts DC making the CS-1 ideal for use as a magnesium anode simulator. The CS-1 has a digital display to show the amount of current impressed and to check the internal DC battery level.



Control panel description:

On / OFF –

Used to turn the CS-1 current and panel meter on and off.

For convenience in the field, the CS-1 Mag Anode Simulator uses 4 replaceable “D” cell batteries to provide current and a replaceable 9 volt battery for the meter display. For best performance Tinker & Rasor recommends the use of alkaline batteries.

Battery Replacement:  
See photo below.



- Remove two screws with Phillips-head screwdriver.
- Remove front face panel be mindful of the wires connecting the face panel to the instrument.
- Replace the Four “C” Cell Batteries. T&R #010-025 and One 9 Volt Battery.
- T&R #010-007
- Repeat steps in reverse to complete battery replacement.

AMPS / VOLTS – To select value to be shown on the digital display. Select AMPS to display current and VOLTS to display the battery level.

**NOTE:** The output of the CS-1 is regulated at 1.7 volts DC. The "**VOLTS**" position of the selector knob indicates the status of the internal "D" cell batteries. Replace "D" cell batteries when the display indicates 1.0 volts or less



CORROSION MITIGATION INSTRUMENTATION  
2828 FM 758, NEW BRAUNFELS, TX 78130 TEL: (830) 253-5621

## **CS-1 MAG ANODE SIMULATOR**

### **PRODUCT INSTRUCTIONS**

**CURRENT ADJUST** – Use to adjust the current applied to the pipe and / or structure.  
**USE:**

Using the supplied cables, connect the test lead from the negative (Black) connector on the side of the CS-1 to the pipe or structure under test. Connect the positive (Red) connector from the side of the CS-1 to a good earth ground.

Turn the CS-1 on.

Turn the AMPS / VOLTS switch to AMPS.

The current can now be adjusted to the desired level. The current output can be read on the digital display. Once the CS-1 is satisfactorily connected to the pipe, a pipe-to-soil potential can be conducted to view the results of the connection.

The CS-1 simulates one (1) magnesium anode on the system. It should be possible, based upon the results of the pipe-to-soil survey to extrapolate how multiple magnesium anodes would affect the system.

### **WARRANTY**

Ninety day warranty on Parts and Labor.

### **TECHNICAL SUPPORT**

If you require assistance with the CS-1 or any Tinker & Rasor product please call (830) 253-5621 Monday- Friday 7:30 a.m. to 4:00 p.m. central time or e-mail Tinker & Rasor.

### **REPAIR**

Tinker & Rasor strongly suggests Tinker & Rasor perform all repairs. Tinker & Rasor must perform all warranty work. Many of the CS-1 components may not be readily available to outside repair agencies. All repairs are turned around in 24 hours. See below.

### **SHIPPING INSTRUCTIONS**

All instruments being returned for repair should be sent PREPAID to the address below:

|                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------|
| Ship Via Courier (UPS, FedEx,<br>DHL, etc)<br>Tinker & Rasor<br>ATTN: SERVICE<br>2828 FM 758<br>New Braunfels, TX 78130 |
|-------------------------------------------------------------------------------------------------------------------------|

Include with shipment information the nature of the problem, purchase order, serial number and return delivery address, email and phone number. Immediate service is guaranteed!

104-174

**Web:** [www.tinker-rasor.com](http://www.tinker-rasor.com)

**E-mail:** [Info@tinker-rasor.com](mailto:Info@tinker-rasor.com)