











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

## PRODUCT INSTRUCTIONS

### MODEL SR-2 SOIL RESISTIVITY METER

When connected, the DL-1 can be started and then stopped with each location where a test is run. The TRAC software will show all the tests that were conducted, with each start/stop data set represented as a unique sequence.

#### BATTERIES

The Model SR-2 has an internal 12volt, rechargeable battery and a replaceable 9volt battery.

If the internal 12v battery is low, the LED test indicator blink. This LED is located just above the **PUSH TEST** button. If this LED is lit, the instrument needs to be charged.

The battery charger plugs into the panel face of the Model SR-2, just above the **RANGE SELECTOR** switch. A **CHARGING INDICATOR** LED will light when the battery is being charged. The AC battery charger should fully charge the battery on an overnight charge. (8 – 10 hours).

Because the **PUSH TEST** button must be held down to operate, the unit cannot be left on and the battery drain is minimal.

The 9v battery may need to be replaced. The battery is accessed from the outside of the case. As you face the instrument, look on the Right side, below the panel level. You will see a black plastic battery holder. Using a small screwdriver or finger nail in the slot along the bottom, lift up and pull out the battery drawer. Replace the 9v battery, observing polarity.

In older units, up to Serial # 1097, to replace the 9v battery, the panel must be removed from the case. Two screws hold the panel to the case, one each side of the outside of the case (Left and Right). The screws are just below the panel level. Remove the screws and lift the panel off the case. The overlay membrane switch adheres to the case itself, and this will make the panel difficult to remove. Lift up and rotate the panel into the lid of the case. You will see the 9v battery clipped to a bracket. Carefully remove the battery connector and replace battery. Observe polarity when reconnecting the battery connector. Set panel back into place and replace screws.

#### CHARGING

The Model SR-2 comes with an AC (wall) battery charger. The charger automatically recognizes and uses 110v AC or 240v AC. The charger comes with the standard North American 110v wall plug. An adapter or different (local) cable is required to use with 240v AC.

Input: AC100 – 240V, 50/60Hz

Output: DC14.4V, 1.5A

#### REPAIR

Tinker & Rasor repair department has a 24-hour turn around on most repairs.

If you need to send an instrument in to our repair department, please visit us online and fill out our Repair Form, or call us for address information.

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

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

#### WARRANTY:

This instrument is warranted against manufacturer defect for a period of ninety (90) days from purchase date. Please fill out and send in your Warranty Card, found inside the instrument lid.



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#### SPECIFICATIONS:

- SR-2 resistivity measurement range
  - 4 PIN Method 0.1  $\Omega$  to 3.3 M $\Omega$ .
  - 2 PIN Method 0.03  $\Omega$  to 10 M $\Omega$
- Accuracy of measurements of 10% or better.
- Overload circuit that helps the user to identify the correct measurement range.
- Measurement results displayed on a LCD display.
- Unit operates from a 12V rechargeable battery.
- Soil Resistivity meter can be recorded on DL-1 data logger.
- Has Low Battery Voltage indicator.
- LED charging light indicator.

#### ACCURACY:

The reading accuracy is  $\pm 10\%$  on full range and  $\pm 5\%$  on 85% of measurement range, which can be verified by a decade box as required by ASTM G 57 – 95a Standard.

The instrument operates at 97Hz  $\pm 10\%$  AC current as defined by the ASTM G 57 – 95a standard to prevent electrode polarization. The internal circuitry is designed in such way that it will reject any common mode noise and external EMI interference.

#### EXTERNAL REFERENCES:

- ASTM G57-95a Standard can be obtained by visiting [www.astm.org](http://www.astm.org).
- AASHTO T-288 a Standard can be obtained by visiting [www.transportation.org](http://www.transportation.org)
- NACE Internationals, "Peabody's Control of Pipeline Corrosion, Second edition", pages 84, 105 can be obtained by visiting [www.nace.org](http://www.nace.org)



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### MODEL SR-2 SOIL RESISTIVITY METER

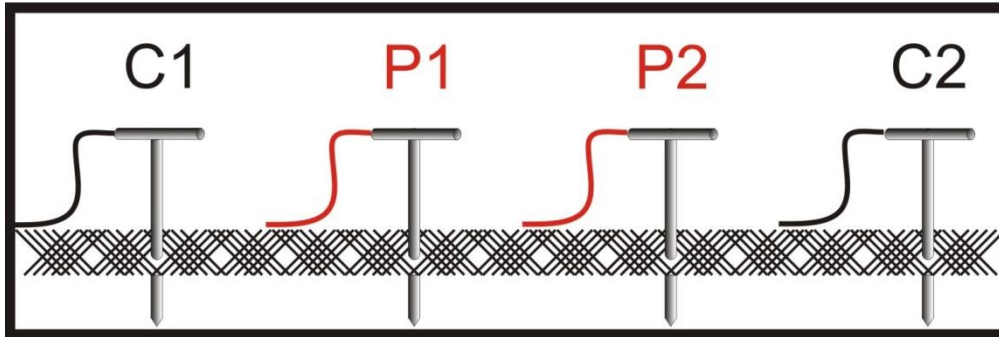
#### TROUBLESHOOTING:

PROBLEM	CAUSE	SOLUTION
LCD Meter shows "0000" or a negative number "-1234"	<p>P1 or P2 connection error is the most likely cause.</p> <p>Another possible cause is a condition where the top soil is very dry, and the underlying soil is very wet.</p>	<p>Remove the cable for P1 from the instrument panel. LCD display reading should change.            If no change, P1 has a bad connection to the soil.</p> <p>If the reading did change, remove the P2 cable from the instrument panel. LCD display reading should change.            If no change, P2 has a bad connection to the soil.</p> <p>If the reading does not change, reset pin P1 in the ground and repeat test. If no change, reset P2 and repeat test.            If no change, check connections between cable and pin, and cable on SR-2 for faults.</p> <p>If still no change, try moving all pins to a different line along the survey path. Perhaps moving only three or four inches one way or the other.</p> <p>Adding water around where the pins enter the soil might be useful as well.</p>
LCD Meter shows 1_ _ _ at each position of the <b>RANGE SELECTOR</b> switch	Soil resistance is out of range of SR-2. (Above 3 MOhm resistance)	<p>Move <b>2 PIN, 4 PIN METHOD</b> switch to <b>2 PIN</b>. If the LCD display shows 1_ _ _ . At all ranges, the connection for C1 or C2 is bad.</p> <p>Check C1 and C2 as described for P1 and P2 above.</p> <p>If no connection problems, the resistance is out of range (&gt; 10 MOhm on 2 PIN, &gt;3 MOhm on 4 PIN)</p>
LCD meter does not come on when <b>PUSH TEST</b> button is pushed.	9volt battery needs to be replaced.	<p>Locate the two black screws on the side of the instrument case. There is one screw on the left and one on the right of the case, just below the panel.</p> <p>Unscrew and remove each screw.</p> <p>Lift panel up and out of case.</p> <p>There may be some resistance, as the overlay adhesive has a bond with the case around the edge.</p> <p>This should not occur within the first year of operation. If it does, we recommend sending the instrument in to our repair department.</p>

#### DIAGRAM 1 (WENNER 4 PIN METHOD):

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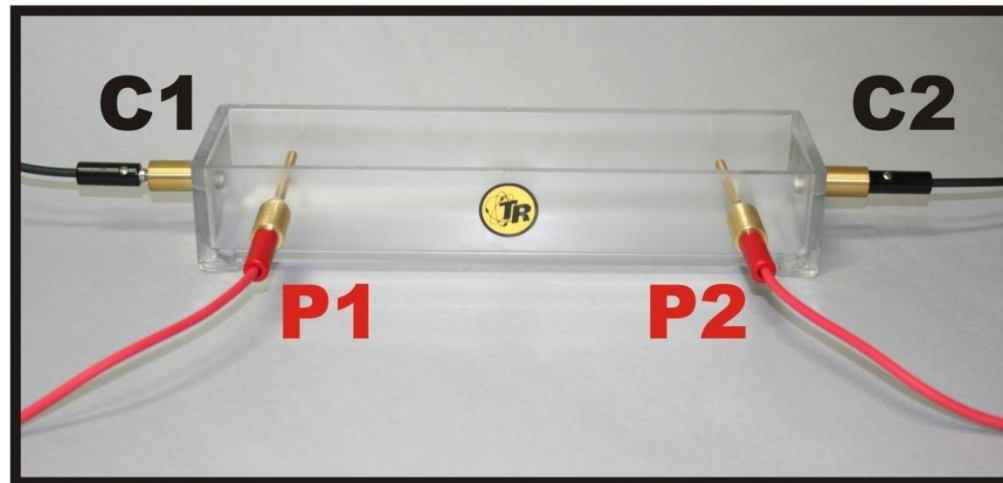
PICTURE 1:





**PRODUCT INSTRUCTIONS**  
**MODEL SR-2 SOIL RESISTIVITY METER**

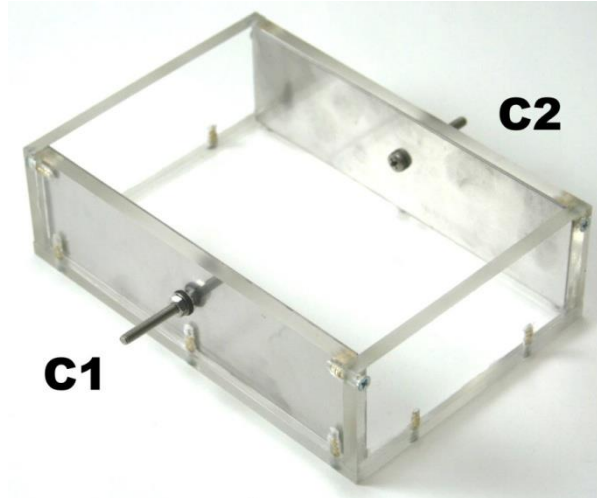
Connection Diagram for using the Model SR-2 with the Model SB-1 Soilbox.



Model SB-1 multiplier for 4 Pin measurements is 1.349.

**PRODUCT INSTRUCTIONS**  
**MODEL SR-2 SOIL RESISTIVITY METER**

Connection Diagram for using the Model SR-2 with the Model SB-2 Soilbox



When using this soilbox, the pin selection switch should be set to “2 PIN” method. As shown below. Model SB-2 multiplier per AASHTO T-288 is 6.67 cm

