

Model UI - Instant Off Sensor



Typical Applications

- Conduct instant off potential measurements on all underground structures including:
 - Pipelines
 - Aboveground storage tank bottoms
 - Underground storage tanks
- Measure relative changes in electrolyte resistivity.

Features

- Can be used with both sacrificial and impressed current cathodic protection systems
- No interrupters needed at the rectifier
- Small sensor area will not distort cathodic protection current field

Description

The **Model UI** probe is designed to come to the same potential as the steel used for buried structures such as pipelines and tanks. An important feature of this sensor is that the exposed area of the probe is similar to that of a holiday in the coating on the structure. This prevents any distortion of the CP current field. Probes with a large exposed area or separate coupons electrically tied to the structure require significant amounts of current to polarize them to the structure potential. In the case of a sacrificial system where anode output is fixed by soil resistivity, this large current demand can adversely affect cathodic protection of the structure.

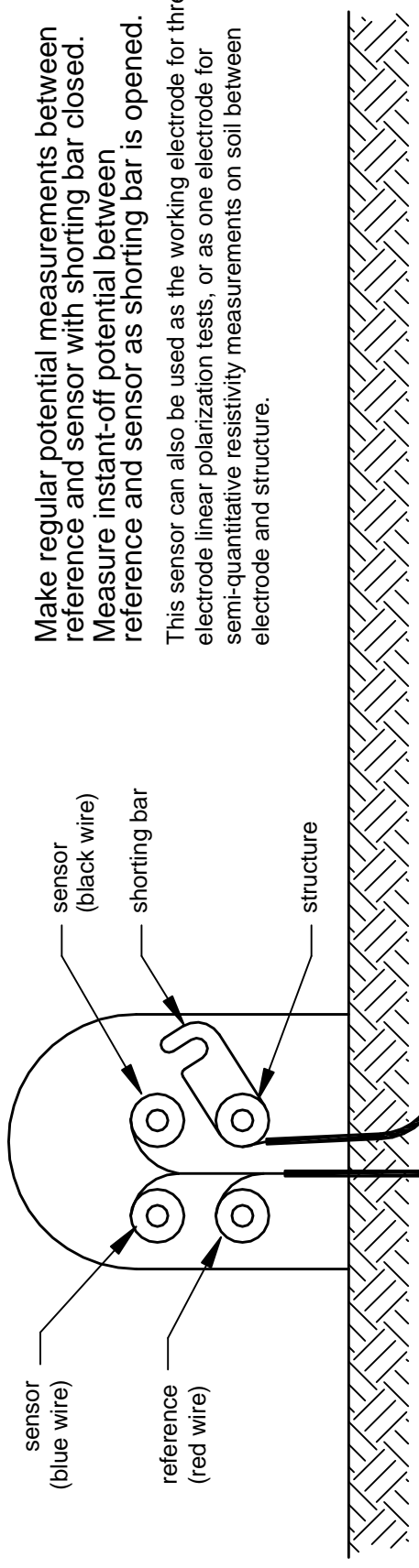
Model UI Instant Off Sensors are fitted to EDI underground references at time of manufacture. The reference should be installed 1 to 3 feet ($\frac{1}{4}$ to 1 m) from the structure and surrounded with the same backfill that surrounds the structure. The probe should be pushed into the backfill so that it is within 6 inches (15 cm) of the reference. At the test station, a shorting bar is placed between the sensor terminal and the structure terminal. Normal potential readings are made between the reference and sensor terminals with the shorting bar connected. The instant off potential is measured between the reference and sensor terminals as the shorting bar is disconnected.

[electrochemical devices, inc.](http://www.edi-cp.com)

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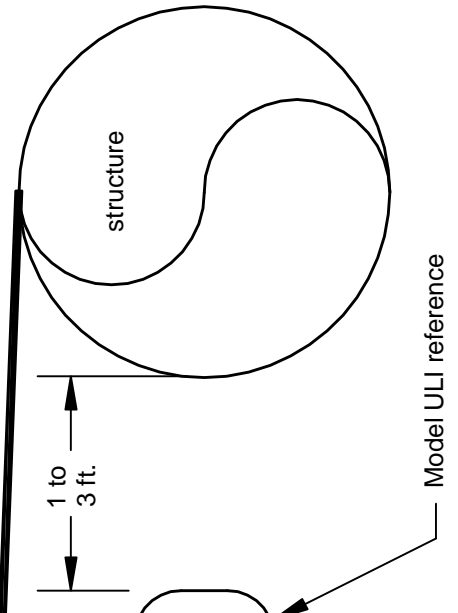
*U Series
Underground
Reference
Electrodes*





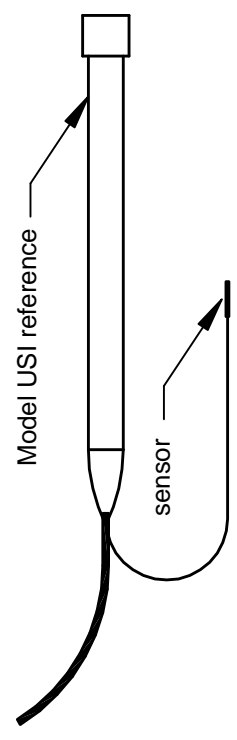
Make regular potential measurements between reference and sensor with shorting bar closed.
 Measure instant-off potential between reference and sensor as shorting bar is opened.

This sensor can also be used as the working electrode for three electrode linear polarization tests, or as one electrode for semi-quantitative resistivity measurements on soil between electrode and structure.



3 conductor cable, #16 AWG
 Neoprene jacket, not shielded
 Blue and black wires to steel sensor
 Red wire to CuSO4 or AgCl reference

18" lead wire



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Instant Off Sensor Installation (Typ.)

SCALE	NONE	DATE	04/14/03	DRAWN BY	FJA	DRAWING NUMBER	UIAPP1
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Instant off sensor virtually eliminates

IR drop during measurements.

This sensor can also be used as the working electrode for three electrode linear polarization tests, or as one electrode for semi-quantitative resistivity measurements on soil between electrode and structure.

