

## LD250 CP MONITORING UNIT FOR BURIED STRUCTURES

### General Description

The LD250 is designed for burial alongside buried steel which is protected by a cathodic protection system using ground bed anodes such as tank bases and pipelines. These units provide monitoring of the steel potential using a combined silver/silver chloride reference electrode and corrosion coupon.

### Specification

50mm diameter silver/silver chloride reference electrode with 4 x 10mm diameter ceramic frits  
6mm thick mild steel plate with a surface area of 11,000mm<sup>2</sup> and double cable connection.  
Input resistant white nylon housing.

Dimensions: Main body 150mm long x 130mm diameter

Reference electrode 90mm long x 50mm diameter

IP68 cable gland.

Cable: Three core 2.5mm<sup>2</sup> copper stranded with rubber core insulation and black outer sheath in synthetic rubber.

### Installation

The LD250 units are calibrated under laboratory conditions before despatch and a calibration certificate for the reference electrode is issued with each unit.

### Pre-installation check

The purpose of this procedure is to check that the electrode potential is stable.

Prepare a solution of 3% salt solution; 30g of sodium chloride (salt) per 1 Lt of water. Remove the cap from the electrode and soak the tip of the electrode in the solution for a minimum of 2 hours and **maximum of 3 hours**. It is important to note that these electrodes must not be left in the solution for excessive periods of time.

After soaking the electrode measure the potential using a calomel electrode (SCE) with a digital voltmeter at 10mohm and 1000mohm input impedance with the SCE connected to the positive/common terminal and record the results. The potentials should be steady and in the range +/- 20mv of the calibrated values.

Once the electrode is checked it should be removed from the solution, the cap carefully replaced and it should be installed within 48 hours.

### Installation Procedure

Prior to installation make a record of the electrode number and remove the red cap. The units should be buried in a conductive backfill alongside the steel structure taking care to ensure good contact with the reference electrode and coupon and avoiding physical damage.

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