

Corrosion Control Equipment

Zinc For the controlling and monitoring of corrosion state specialists equipment is required. Various device are offered by SRCP that are useful for practitioners who design or install cathodic protection systems.

Products provided include:

- Data loggers for Cathodic Protection systems
- Current limitors
- Embedded reference cells

MnO₂ Half Cells

The ERE 20 is a true, long life Reference Electrode manufactured by Force, which can be cast into the cover concrete to check polarised and depolarised potentials of cathodic protection systems and to monitor the corrosion state of reinforcing steel in structures.

Normally installed in newly cast concrete, but the electrode can also be installed in existing structures.

Based on proven battery technology, the ERE 20 is a true half-cell using a manganese dioxide electrode in corrosion resistant steel housing with an alkaline, chloride-free gel. The pH of the gel corresponds to that of pore water in normal concrete, so errors due to diffusion of ions through the porous plug are eliminated. The potential of ERE 20 is virtually independent of changes in the chemical properties of the concrete. It can, therefore, be used in wet or dry concrete, whether exposed to chlorides or to carbonation.

- Control of cathodic protection
- For potential measurements in wet and dry concrete
- Can be exposed to chloride or carbonation
- Does not induce corrosion in steel
- Does not change potential of steel Easy to install in new or old structures

The reinforcing steel to be protected shall be polarised a minimum of 100 mV at anodic locations. When using the polarisation decay method, the decay is determined by interrupting the protective current and monitoring the reinforcement's

Gunning in of ZAP Around a Roll Anode in Concrete



potential measured relative to a stable reference electrode.

When the current is interrupted, an immediate volt-age shift is the result of eliminating the IR-drop and is not to be included in the polarisation measurements. According to EN 12696 the Polarisation Decay should be met within 24 hours.

The long term proven track record of recording stable potentials in concrete the ERE 20 has been used:

- By Virginia Transport Research Council as an integral part of their embeddable corrosivity measurement instrument
- By the National Research Council of Canada in its research on structures on the performance of inhibitors
- in one of Europe largest nuclear power reactors (TVO OL3) for monitoring performance

- In many structures all over the world to monitor cathodic protection and corrosion state of major structures.

Corrosion Loggers

corrPRE manufacture a 4 channel datalogger (channels all galvanically isolated) which is specifically developed for cathodic protection systems.

This datalogger can be integrated independently in both galvanic and impressed current CP systems and has an input impedance of 10 GigaOhm which secures stable reference electrode readings.

It is equipped with a current input for automatic depolarization measurements and within the first 20 seconds of each measuring session logs 10 measurements per second for accurate instant-off readings and valuations.

The standard SD card will log all data in easily accessible files which can be opened with Excell for personalized data analysis.

Corrosion Limitor

One of the most challenging problems impressed current cathodic protection engineers encounter are problems created by considerable variations of current and potential over the structure which is difficult to avoid. These potential variations are mainly caused by:

- Anode resistance variations
- The lineal resistance of the anode feeders cable
- Variations in the electrolyte's resistivity.

corrPRE developed and manufacture the Current Limitor to avoid excessive current outputs by anodes caused by above described problems. The Limitor's current output should be adjusted at a preset value, which should be the same as the anode's "current rating" specified by the manufacturer.

No matter what the anode's resistance and voltage at the anode feeder cable will be (max. 30 Volt), the current flow through the limitor will never exceed the preset current value.



Model 5-50

For 5-50mA ranges (no power required)



Model 50-500

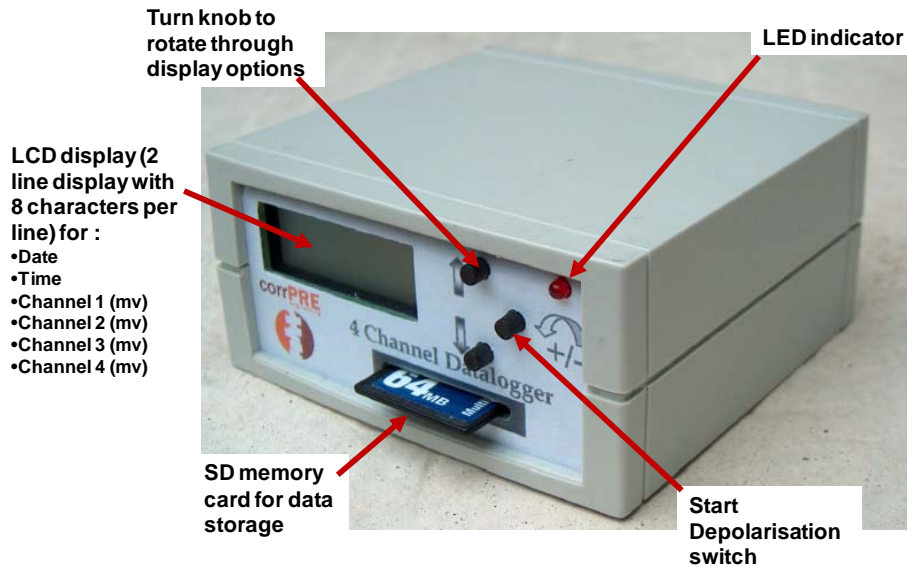
For 50-500mA ranges (no power required)



Model 5-50

For 250-2000 mA ranges (AC powered)

A Simple Logger Specifically fro Cathodic Protection Systems (Galvanic or Impressed Current)



A Simple way to Balance Currents in Impressed Current CP systems

