Overview

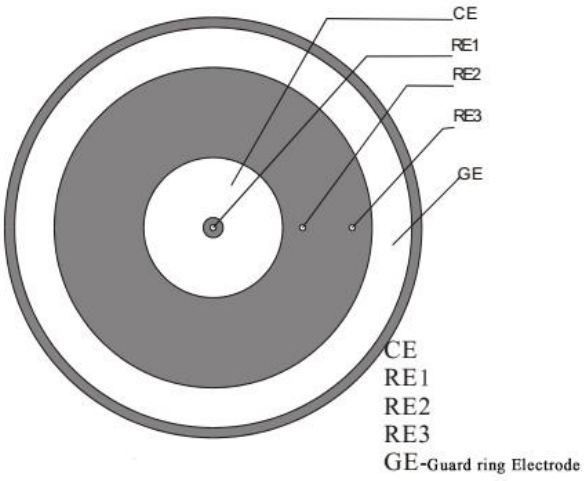
CST700 concrete corrosion monitoring meter is completely controlled by computer. It's suitable for in-situ corrosion test of rebar in concrete of finished building, road, bridge etc.

The instrument is composed of high-quality CMOS and BiFET® integrated circuits. Low power consumption components are employed in key parts. Advanced power supply management system dramatically prolongs the working time of battery. The instrument uses LCD screen and user-friendly menu. Performance stability, structure compactness, and high degree of automation feature it. The built-in RS232 interface can be used to upload historical measurement data to the PC.

Working principle

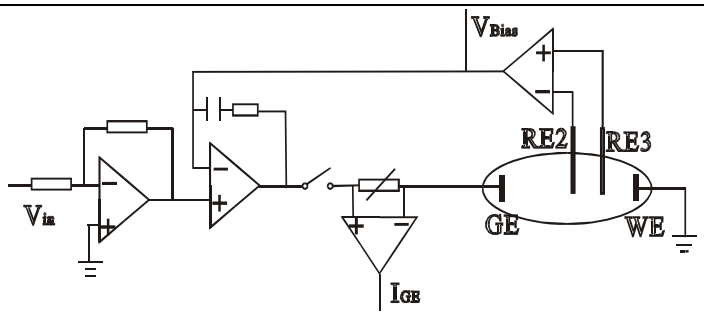
CST700 concrete corrosion monitoring meter employs high-speed & low power consumption MCU and Guard Ring technique(see the pic. 1). Built-in compensation circuit can automatically determine the current compensation coefficient of the guard ring electrode according to the concrete resistivity and open circuit potential(OCP), which dramatically enhances the measuring accuracy of the rebar corrosion rate in concrete and avoids error resulting from over- or under-compensation. Built-in galvanostatic step compensation circuit can directly measure the concrete resistivity.

We apply double-potential feedback circuit design, which can confine the polarization current to CE projection plane. See the pic. 2.



Pic. 1 the guard ring electrode(GE)

We provide two testing cables, one connecting to the guard ring electrode sensor, the other connecting to the rebar by crocodile clamp. Please pay attention to good connection so as to avoid the measuring error resulted from big contact resistance.



pic.2.CST700 working principle

Specifications

Input impedance: $1\times10^{11}\Omega$	Semi-cell potential measuring range:±800mV
Corrosion rate measuring range: 10^{-4}~10.0mm/a	Concrete resistivity:10~100kΩ•cm
Absolute measuring accuracy: ±5%	Clock error: <1min/month
Potential resolution: 0.1mV	Current resolution: 100pA
Power supply: AC 220V/4 AA batteries	Battery life： ~40h
Dimensions(cm): 29.5 ×16.5×20, weight: 3.6Kg	
Environment: temperature -10℃～50℃, relative humidity:≤80%, no corrosive air	

Applications

① measure the corrosion rate of rebar in concrete and concrete resistivity. No need to bury testing probe;

② be applied in corrosion monitoring of rebar in concrete of construction, dam, bridge, and in-situ evaluation of corrosion inhibitor.

Shipment list

CST700 test instrument host x1set

ConCor Tools data analysis software x1set

Gruard ring electrode x1 piece

Power cable x1

Connecting cable x2 pieces

USB cable x1