

Cathodic Protection Remote Data Acquisition Module

The Cathodic Protection Remote Data Acquisition Module is a monitoring device that automatically collects and transmits cathodic protection data from buried steel pipelines and storage tanks. Installed in test posts along pipelines, it connects to reference electrodes and polarization probes to measure key parameters such as ON/OFF-potential, natural potential, and AC interference. Data is sent to the cloud via 4G, NB-IoT, or LoRa and accessible through PC or mobile apps, enabling digital and intelligent pipeline management.

KEY FEATURES

- 1.Enhanced Efficiency and Safety
- 2.Accurate and Reliable Data
- 3.Intelligent Alerts and Decision Support
- 4.Adaptability to Harsh Environments

PRODUCT SPECIFICATIONS

Potential Measurement Accuracy: $\leq \pm 5\text{mV}$
Potential Measurement Range: $-5\text{V} \sim +5\text{V}$ (expandable to $\pm 100\text{V}$)
Input Impedance: $\geq 10\text{M}\Omega$
OFF-Potential Delay: 150ms ~ 400ms adjustable
Acquisition Interval: 1s ~ 72h, remotely configurable
Local Data Storage: ≥ 6 months of data, auto-backfill upon reconnection
Standby Power Consumption: $\leq 100\mu\text{W}$
DC Blocking Voltage: $-2\text{V} / +2\text{V}$ (other thresholds available)
Steady-State AC Current: 45A (rms)
AC Fault Current (30 cycles): 3,500A ~ 15,000A (optional)
Lightning Surge Capacity (8/20 μs): 100kA
Response Time: $\leq 1\mu\text{s}$
Battery Service Life: ≥ 5 years
Operating Temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Protection Rating: IP68

APPLICATIONS

- 1.Cathodic protection potential monitoring for long-distance oil/gas and water transmission pipelines
- 2.Digital management of urban gas pipeline networks and municipal water pipelines
- 3.Corrosion monitoring for petrochemical storage tank bottom plates and buried pipeline networks
- 4.Monitoring of stray current interference areas, such as electrified railways and subway systems

