

# ProSense™

## PRODUCT DESCRIPTION

The intelligent test station is a monitoring device designed for cathodic protection systems. It is primarily used for the automatic measurement and collection of cathodic protection parameters, including native potential, polarized potential, AC interference, and DC interference. The device can be installed and used as an intelligent replacement for conventional test stations, enabling automated collection and management of cathodic protection parameters along pipelines.

In addition to measuring cathodic protection parameters, Advance Technology's intelligent test station can be connected to and drive other industrial sensors. It supports remote transmission, monitoring, and control of measurement signals, providing expanded data acquisition and management capabilities for cathodic protection systems.

## PRODUCT FEATURES

### Power Supply Options

- Supports primary battery, solar power, or AC power supply.

### Communication Compatibility

- Supports RS485/MODBUS RTU communication, 4-20 mA analog signal interface, IoT-based communication, and optical fiber communication.

### Expandable Functions

- Supports temperature, humidity, corrosion rate, and other sensor inputs.

### Remote Data Management

- Enables data access and management via PC and mobile devices.

### Custom Engineering Capability

- Customized functions are available, including integration with UAV-based inspection data.



## INTELLIGENT TEST STATION



## PRODUCT PERFORMANCE

### Monitoring Performance

- Automatically measures CP potential, AC interference, and DC interference.

### Anti-Interference Capability

- Lightning protection and AC-interference-resistant design support stable operation.

### Long-Term Operation

- Ultra-low power consumption with sleep mode enables long-term unattended service.

### Data Reliability

- Local data storage helps prevent data loss during communication failures.

| Reference     | Title                                                                                 |
|---------------|---------------------------------------------------------------------------------------|
| NACE RP0572   | DESIGN, INSTALLATION, OPERATION, AND MAINTENANCE OF IMPRESSED CURRENT DEEP GROUNDBEDS |
| EN 13509:2003 | CATHODIC PROTECTION MEASUREMENT TECHNIQUES                                            |

## PRODUCT PARAMETERS

### Environmental Parameters

|                              |               |                                  |
|------------------------------|---------------|----------------------------------|
| Temperature                  | -25°C ~ +55°C | Customizable                     |
| Relative Humidity            | 0 ~ 100%RH    | Customizable                     |
| Location                     | Indoor        | Outdoor                          |
| Explosion-proof Requirements | NA            | Exd II BT4 / Other customization |
| Installation                 | Pile Type     | Box Type / Wall Type             |

Device Parameters

|                    |                                                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enclosure Material | Galvanized steel, painted steel, stainless steel, cast aluminum, fiberglass, concrete, etc.                                                            |
| Protection Level   | IP55 ~ IP68 optional                                                                                                                                   |
| Size               | Pile Type<br>Φ 108*2000、Φ 108*3000、Φ 140*2000<br>(Various specifications can be customized)                                                            |
|                    | Box Type<br>300x200x150mm, 400x300x150mm<br>500x400x150mm, 600x400x150mm<br>700x600x150mm, 800x600x150mm<br>(Various specifications can be customized) |
| Enclosure Colour   | Light gray, dark gray, bright yellow (Other customized colours also available).                                                                        |
| Inner Terminals    | Brass Terminals and Nuts                                                                                                                               |
| In line mode       | Conduit or cable gland                                                                                                                                 |
| Nameplate          | Aluminum / stainless steel, including manufacturer, production date, equipment material, equipment name, protection level, etc.                        |
| Life               | Continuous service life not less than 10 years under normal operating conditions                                                                       |

Sampling Parameters

|                          |                                                                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General                  | The equipment is highly integrated, and the host adopts modular design. A single module can be repaired or replaced separately.                                                                                               |
| Potential Sampling       | a) Sampling Range: -5.0 V ~ +5.0 V , -20.0 V ~ +20.00 V , -100.0 V ~ +100.0 V; automatic range switching;<br>b) Sampling Precision: $\leq \pm 0.5\%$<br>c) Resolution: 1 mV<br>d) Input Impedance: $\geq 10\text{ M}\Omega$ ; |
| AC Voltage Sampling      | a) Sampling Range: 0 V ~ 10.0 V , 0 V ~ 100.0 V; automatic range switching;<br>b) Sampling Precision: $\leq \pm 1\%$<br>c) Resolution: 0.1 V                                                                                  |
| AC Current Sampling      | a) Sampling Range: 0 mA ~ 10 mA , 0 mA ~ 100 mA; automatic range switching;<br>b) Sampling Precision: $\leq \pm 1\%$<br>c) Resolution: 10 $\mu\text{A}$                                                                       |
| DC Current Sampling      | a) Sampling Range: -1 mA ~ +1 mA , -20 mA ~ +20 mA; automatic range switching;<br>b) Sampling Precision: $\leq \pm 1\%$<br>c) Resolution: 1 $\mu\text{A}$                                                                     |
| Battery Voltage Sampling | a) Sampling Precision: $\leq \pm 1\%$<br>b) Resolution: 0.001 V                                                                                                                                                               |

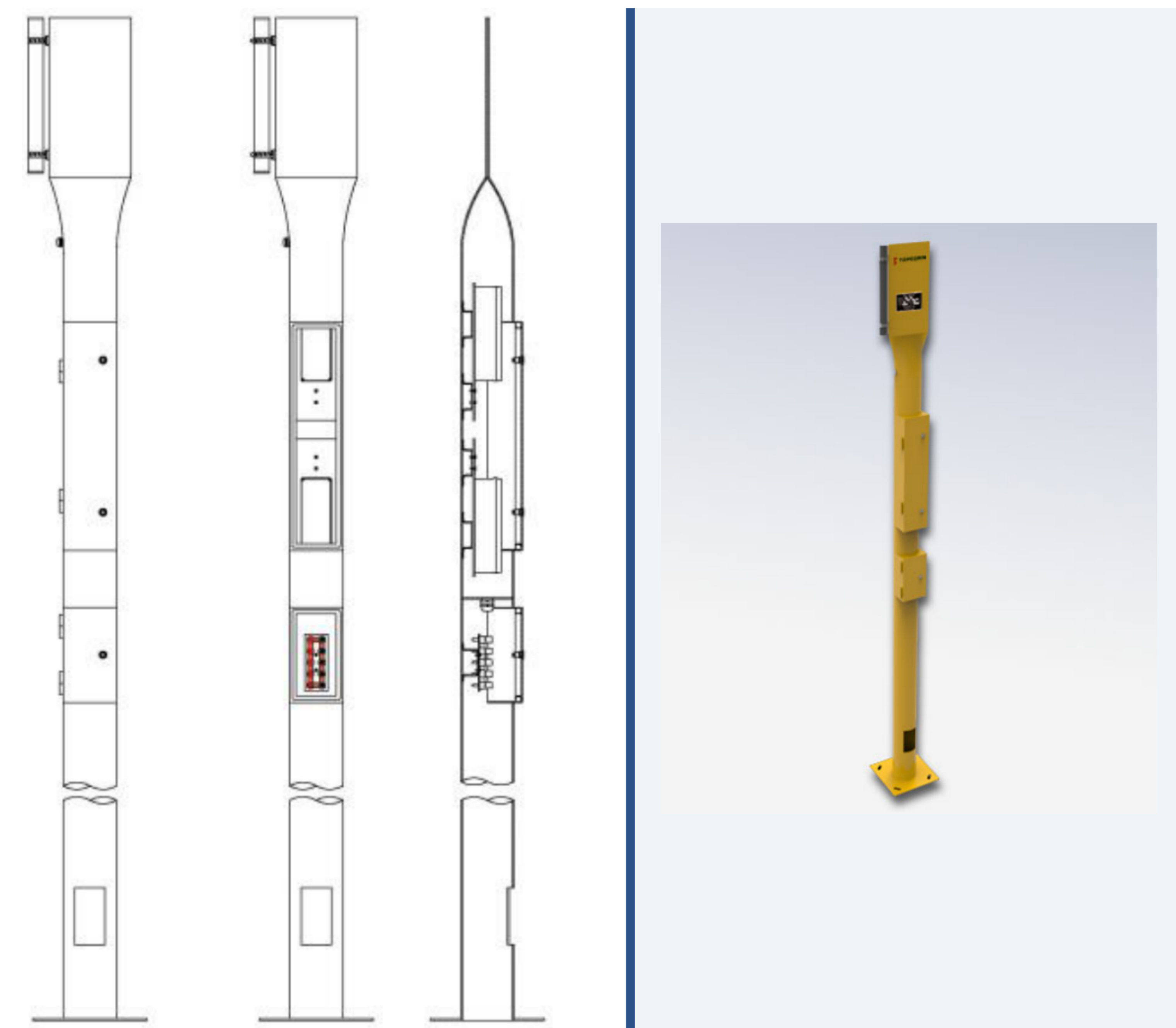
Sampling Parameters

|                                  |                                                                                                                                                                                                                                                                                                              |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication Mode               | RS485/4-20mA/IoT/Optical Fiber                                                                                                                                                                                                                                                                               |
| Continuous Sampling              | 24h continuous sampling working mode supports the minimum sampling interval time of 1s                                                                                                                                                                                                                       |
| Remote Control                   | Through the system software, the working parameters (such as sampling delay time, sampling interval time, continuous sampling time) can be adjusted, and the management and alarm system can be configured according to the standards and specifications.                                                    |
| Power Supply                     | Primary Battery/Solar Power/AC                                                                                                                                                                                                                                                                               |
| Power Dissipation                | The average working current of communication is 500 mA and the average standby working current is 10 $\mu$ A.                                                                                                                                                                                                |
| Communication Failure Protection | It has the data storage function. In the case of communication failure, it can store the running data for more than 1 year to ensure that the data is not lost. When the communication is restored, the data can be automatically uploaded                                                                   |
| Equipment clock                  | The clock error is less than $\pm$ 0.5s per 24h; it can be corrected through the server or GPS module,                                                                                                                                                                                                       |
| Activate monitoring              | When the measuring data exceeds the set standard range, the device uploads an alarm signal and automatically switches to the appropriate sampling range and sampling interval time. When the measuring data is restored to the set standard range, the device automatically returns to the set working mode. |
| Insulating property              | Insulation resistance of > 10 M $\Omega$                                                                                                                                                                                                                                                                     |
| Dielectric strength              | Withstands 1,500 V AC (r.m.s.) for 1 min without breakdown or flashover                                                                                                                                                                                                                                      |

### MODELS AND SPECIFICATIONS

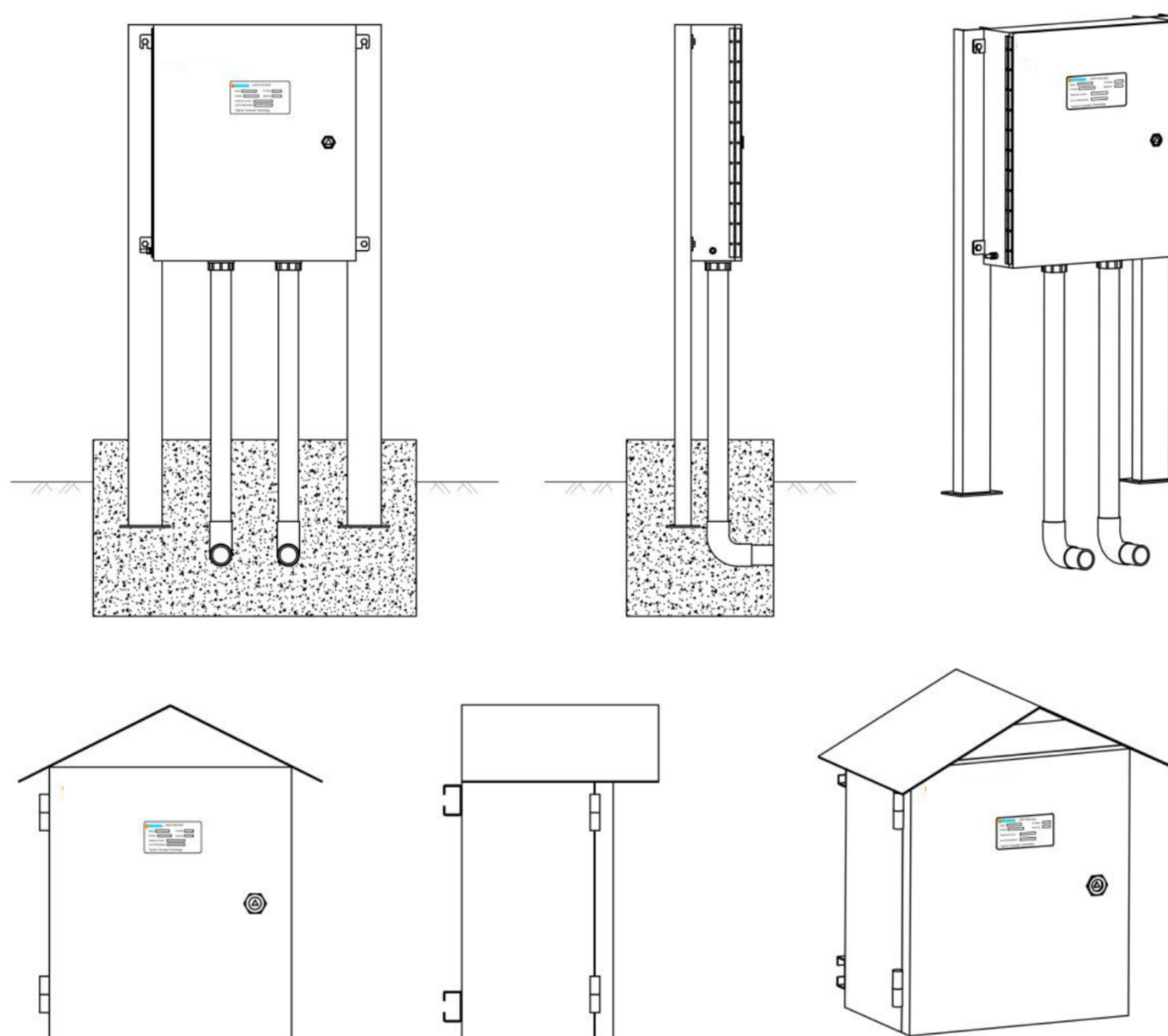
#### Pile Type AT-AP-PT

The pile-type model is mainly used for collecting and remotely transmitting cathodic protection parameters for long-distance pipelines and station areas.



### Box Type AT-AP-BT

The box-type model is mainly used for cathodic protection parameter collection and remote transmission for storage tanks, station areas, offshore platforms, and other structures.



#### Canada

290 North Queen St  
Suite 208,  
Etobicoke, Ontario  
Canada, M9C 5L2

Phone: + 1 416 433 3186

[advance-technology.com](http://advance-technology.com)

[consult@advance-tech.ca](mailto:consult@advance-tech.ca)

For further information, please contact Advance  
Technology.

