

## Earth1006 Remote Monitoring Terminal

### Features

- IP68 protection, dust-proof and water-proof;
- Multiple power supply options are available;
- Wireless transmission, no field wiring;
- Wide range measurement, pressure, temperature, level, flow, image, drain well cover etc.;
- Multi-channel, max. 8-way sensor parameters access;
- Remote setting for collection, transmission and image interval;
- Sensor available with upper and lower limit of threshold value and web real-time warning;
- PC and mobile terminal data application;
- Support customer self-built system and configuration application;
- Provide mounting accessories;
- Solution for underground well.



### Introduction

Earth1006 Remote Monitoring Terminal is a compact device with battery supply, ultra-low power consumption, IP68 protection, wireless communication and various sensor data collection function, in specific circumstance, multiple power supply options are available. It is suitable for the monitoring fields without power supply condition and the harsh environment. It could realize the multi-function including data collection, storage, alarming and transmission for underground water, firefighting water, dam water, water supply and drainage pipeline.

With a wide coverage of wireless network, the product could detect the real-time data of many monitoring sites in a wide range of areas like tap-water pipeline pressure, flow, underground water, agricultural irrigation, dam level, water monitoring, wind, rain, ambient temperature and humidity, air quality monitoring, water flow monitoring, image and firefighting pipeline monitoring, especially suitable for Underground Well detection application in a harsh environment.

### Specifications

#### Power

| Power Supply      | Non-Recyclable Battery  | 12V~28V DC            | 110V~240V AC          | Solar Power                             |
|-------------------|---|-----------------------|-----------------------|---|
| Battery Capacity  | 56Ah/14.4V  | External Power Supply | External Power Supply | 20.8Ah/14.4V<br>Solar Panel: 20W        |
| Battery Lifetime  | 3~5 years (Related to transmission frequency)   | \                     | \                     | More than 1 month<br>(Related to feed ) |
| Feed              | 100mA/14.4V DC  | 100mA<br>/12V~28V DC  | 100mA<br>/12V DC      | 100mA/14.4V DC                          |
| Power Consumption | Sleep Current $\leq 30\mu\text{A}/14.4\text{V}$<br>Transmission Average Current $\leq 50\text{mA}/14.4\text{V}$ |                       |                       |   |

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### Interface Parameters

| Interface | AI                                | DI/PI        | RS485  | Camera |
|-----------|-----------------------------------|--------------|--|--------|
| Count     | 3                                 | 2            | 1  | 1      |
| Signal    | 0V~5V DC/<br>4mA~20mA DC          | Switch/Pulse | ModBus RTU   | \      |
| Notes     | Collection<br>accuracy<br>±0.5%FS | \            | Max.3-ch sensor<br>parametric analysis,<br>It's also used in<br>parameter settings | RS485  |

### Data Transmission

| Communication Mode |  | Standard/Band  | Transmission Distance                   |
|--------------------|--|--|---|
| <b>2G</b>          |  | GSM 850/900/1800/1900MHz   | Global Bands                            |
| <b>Multi-Bands</b> | China  | TDD-LTE B38/B39/B40/B41<br>FDD-LTE B1/B3/B8<br>TD-SCDMA B34/B39<br>WCDMA B1<br>CDMA 1X/EVDO BC0<br>GSM/GPRS/EDGE B3/B8 | Global Bands                            |
|                    | EMEA/<br>Korea/<br>Thailand/<br>India                  | FDD-LTE B1/B3/B5/B7/B8/B20<br>WCDMA B1/B5/B8<br>GSM/GPRS/EDGE B3/B8  |   |
|                    | North America  | FDD-LTE B2/B4/B12<br>WCDMA B2/B5   |   |
|                    | South America/<br>Australia/<br>New Zealand/<br>Taiwan | TDD-LTE B40<br>FDD-LTE B1/B2/B3/B4/B5/B7/B8/B28<br>WCDMA B1/B2/B5/B8<br>GSM/GPRS/EDGE B2/B3/B5/B8                      |   |
|                    | Japan  | FDD-LTE B1/B3/B8/B18/B19/B26   |   |
| <b>NB-IoT</b>      |  | B1/B3/B8/B5/B20/B28  | Global Bands                            |
| <b>LoRa</b>        |  | 433/470/868/915MHz   | ≤5km (According to<br>site environment) |

Wake-up mode: magnetic activation/ timing/ alarm wake-up

Collection interval: 1,5,10,30,60,360,720,1440 minutes optional

Transmission interval: 1,5,10,30,60,360,720,1440 minutes optional

Image interval: 30,60,720,1440 minutes optional

Upload information: sensor data, battery information, network status, self check information

### Data Storage

Local storage, Flash 4 MB (more than 200,000 history storage space)

### Configuration

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Configuration mode: local/remote

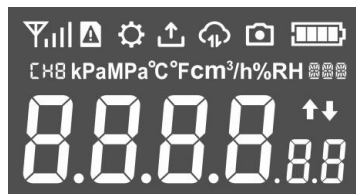
### Environmental Conditions

Operation temp.: -20℃~70℃

Storage temp.: -40℃~85℃

### Display

Segment LCD with backlight



--- Device Status

--- Unit

--- Channel Value/ Alarm Status

### Other Specifications

Protection: IP68

Housing: PA6+30% GF

Installation method: hoop and wall mounting

Outline dimension: 147×262.5×105.5mm

Weight: about 2.3kg

Accessories: fixed support×1, magnetic bar×1, M5 bolt×1, φ8mm expansion bolt×3, φ200mm hoop×2

### System Topology



Above sensors can be used together with Earth 1006. It supports up to 8-way sensors input and the sensors can be selected according to customer's needs. And other sensors are also available.

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## Outline Construction (Unit: mm)

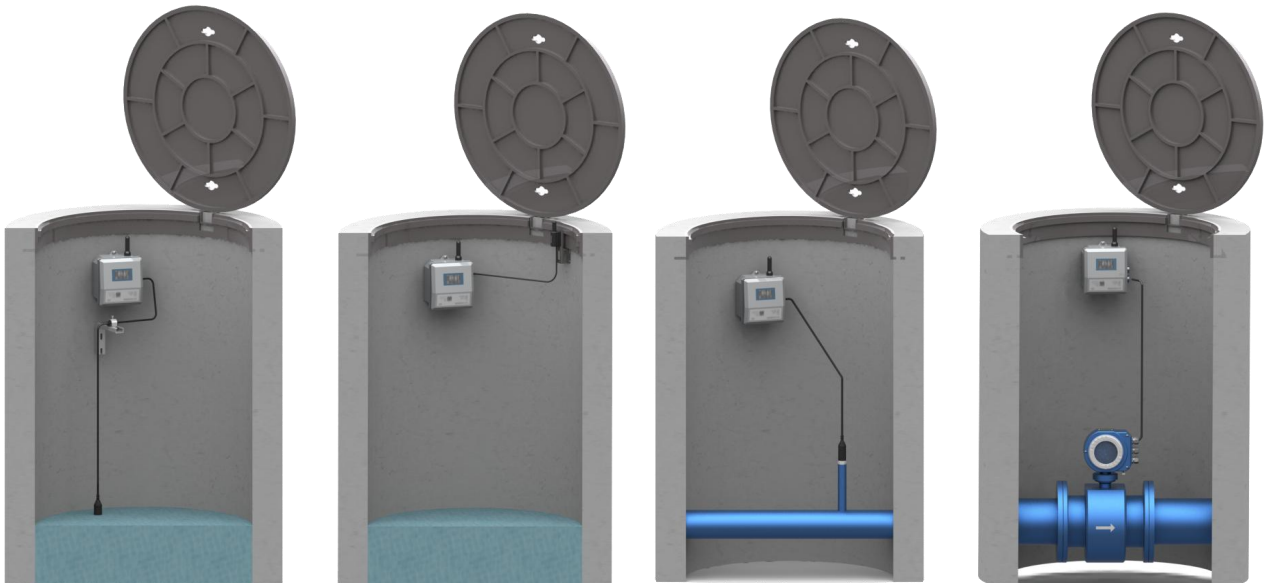


## Installation Method



Earth1006 Remote Monitoring Terminal uses hoop and wall-mounting method which are easy for installation and convenient for maintenance and we also provide installation accessories.

## Underground Well Applications



Level

Well Cover

Pressure

Flow

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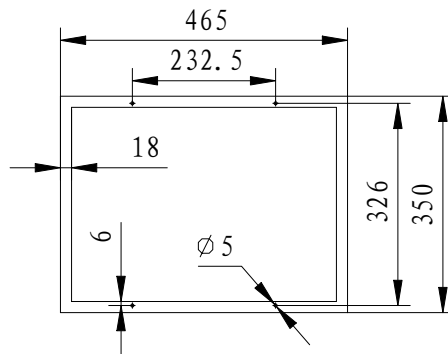
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## Solar Power Application



| Solar Panel Dimension | Solar Panel Weight | Solar Panel Material | Mounting bracket&Pole                        |
|-----------------------|--------------------|----------------------|--|
| 465×350×17mm          | About 2kg          | Monocrystal silicon  | <b>The customer could design and prepare</b> |

## Order Guide

| Earth1006 | Remote Monitoring Terminal |   |
|-----------|----------------------------|---|
|           | Code                       | Communication mode  |
|           | G2                         | 2G  |
|           | GC                         | Multi-Bands in China                                      |
|           | GE                         | Multi-Bands in EMEA/Korea/Thailand/India                  |
|           | GA                         | Multi-Bands in North America                              |
|           | GS                         | Multi-Bands in South America/Australia/New Zealand/Taiwan |
|           | GJ                         | Multi-Bands in Japan                                      |
|           | GN                         | NB-IoT  |
|           | L3                         | LoRa[433MHz](select Earth1004 LoRa wireless router)       |
|           | L7                         | LoRa[470MHz](select Earth1004 LoRa wireless router)       |
|           | L8                         | LoRa[868MHz](select Earth1004 LoRa wireless router)       |
|           | L9                         | LoRa[915MHz](select Earth1004 LoRa wireless router)       |
|           | Code                       | Antenna type  |
|           | A <sub>1</sub>             | Integrated antenna(Suggested)                             |
|           | A <sub>2</sub>             | External suction antenna(Antenna length 3m)               |
|           | Code                       | Power supply  |
|           | B                          | Non-recyclable battery(Suggested)                         |

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|           |    |                |   |   |   |  |
|-----------|----|----------------|---|---|---|--|
|           |    |                |   | D | 12V~28V DC                                  |  |
|           |    |                |   | A | 110V~240V AC 50/60Hz                        |  |
|           |    |                |   | E | 110V~240V AC 50/60Hz External power adapter |  |
|           |    |                |   | S | Solar Power                                 |  |
|           |    |                |   |   | Code  | Software service type  |
|           |    |                |   | M |   | Micro sensor big data platform   |
|           |    |                |   | C |   | Customer self-built application,<br>open database and communication protocol |
|           |    |                |   | R |   | LoRa to RS485,ModBus RTU protocol just provides                              |
|           |    |                |   |   | Code  | SIM card   |
|           |    |                |   |   | S <sub>1</sub>                              | Self-owned SIM card  |
|           |    |                |   |   | S <sub>2</sub>                              | LoRa without card  |
| Earth1006 | G1 | A <sub>1</sub> | B | M | S <sub>1</sub>                              | The whole spec.  |

### Notes

1. Matching sensors are not included in this datasheet. Please purchase them separately.
2. The communication protocol is needed if users choose RS485 interface product.
3. If the user has special requirement, please feel free to contact our company.