**INTRODUCTION**

GRT101 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.

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**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.;
- Muti-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.
## SPECIFICATION

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Non-Recyclable Battery</th>
<th>12V~28V DC</th>
<th>110V~240V AC</th>
<th>Solar Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Capacity</td>
<td>56Ah/14.4V</td>
<td></td>
<td></td>
<td>20.8Ah/14.4V</td>
</tr>
<tr>
<td></td>
<td>External Power</td>
<td>External Power</td>
<td>Solar Panel: 20W</td>
<td></td>
</tr>
<tr>
<td>Battery Lifetime</td>
<td>3~5 years (Related to transmission frequency)</td>
<td>\</td>
<td>\</td>
<td>More than 1 month (Related to feed)</td>
</tr>
<tr>
<td>Feed</td>
<td>100mA/14.4V DC</td>
<td>100mA/12V~28V DC</td>
<td>100mA/12V DC</td>
<td>100mA/14.4V DC</td>
</tr>
</tbody>
</table>

### Power Consumption

- **Non-Recyclable Battery**
  - 12V~28V DC
  - 110V~240V AC
  - 20.8Ah/14.4V Solar Panel: 20W

### Interface

- **AI**: 300V~5V DC / 4mA~20mA DC
- **DI/PI**: 2 Switch/Pulse
- **RS485**: 1 ModBus RTU
- **Camera**: 1

### Signal

- **0V~5V DC / 4mA~20mA DC**
- **Switch/Pulse**: Max 3-ch sensor parametric analysis, It's also used in parameter settings
- **RS485**: \ 

### Notes

- **Collection accuracy ±0.5%FS**
- **Transmission Average Current ≤50mA/14.4V**

### Communication Mode

- **Standard/Band**
- **Transmission Distance**

### 2G

- **Global Bands**

### Multi-Bands

- **China**: TDD-LTE B38/B39/B40/B41 FDD-LTE B1/B3/B8 TD-SCDMA B34/B39 WCDMA B1 CDMA 1X/EVDO BC0 GSM/GPRS/EDGE B3/B8
- **EMEA/Korea/Thailand/India**: FDD-LTE B1/B3/B5/B7/B8/B20 WCDMA B1/B5/B8 GSM/GPRS/EDGE B3/B8
- **Japan**: FDD-LTE B1/B3/B5/B8/B18/B19/B26

### NB-IoT

- **B1/B3/B8/B5/B20/B28**

### LoRa

- **433/470/868/915MHz**

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

### Configuration:

- **Operation temp.**: -20 °C ~ 70 °C
- **Storage temp.**: -40 °C ~ 85 °C
- **Segment LCD with backlight**

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Device Status
Unit
Channel Value/Alarm Status

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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 GRT101. 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.

OUTLINE CONSTRUCTION

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### ORDER GUIDE

<table>
<thead>
<tr>
<th>GRT101</th>
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<th>Notes</th>
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<tr>
<td>Communication mode</td>
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<td></td>
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<td>2G</td>
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<td></td>
<td>GC</td>
<td></td>
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<td>Multi-Bands in China</td>
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<td>GE</td>
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<td>Multi-Bands in EMEA/Korea/Thailand/India</td>
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<td>GA</td>
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<td>Multi-Bands in North America</td>
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<td>GS</td>
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<td>GJ</td>
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<td></td>
<td>A2</td>
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<td>External suction antenna(Antenna length 3m)</td>
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<td>Non-recyclable battery(Suggested)</td>
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<td>8V–28V DC</td>
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<td>110V–240V AC 50/60Hz</td>
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<td>110V–240V AC 50/60Hz External power adapter</td>
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<td>Solar Power</td>
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<td>Software service type</td>
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<td>Customer self-built application, open database and communication protocol</td>
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<tr>
<td>SIM card</td>
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<td>The whole spec</td>
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</table>

**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.