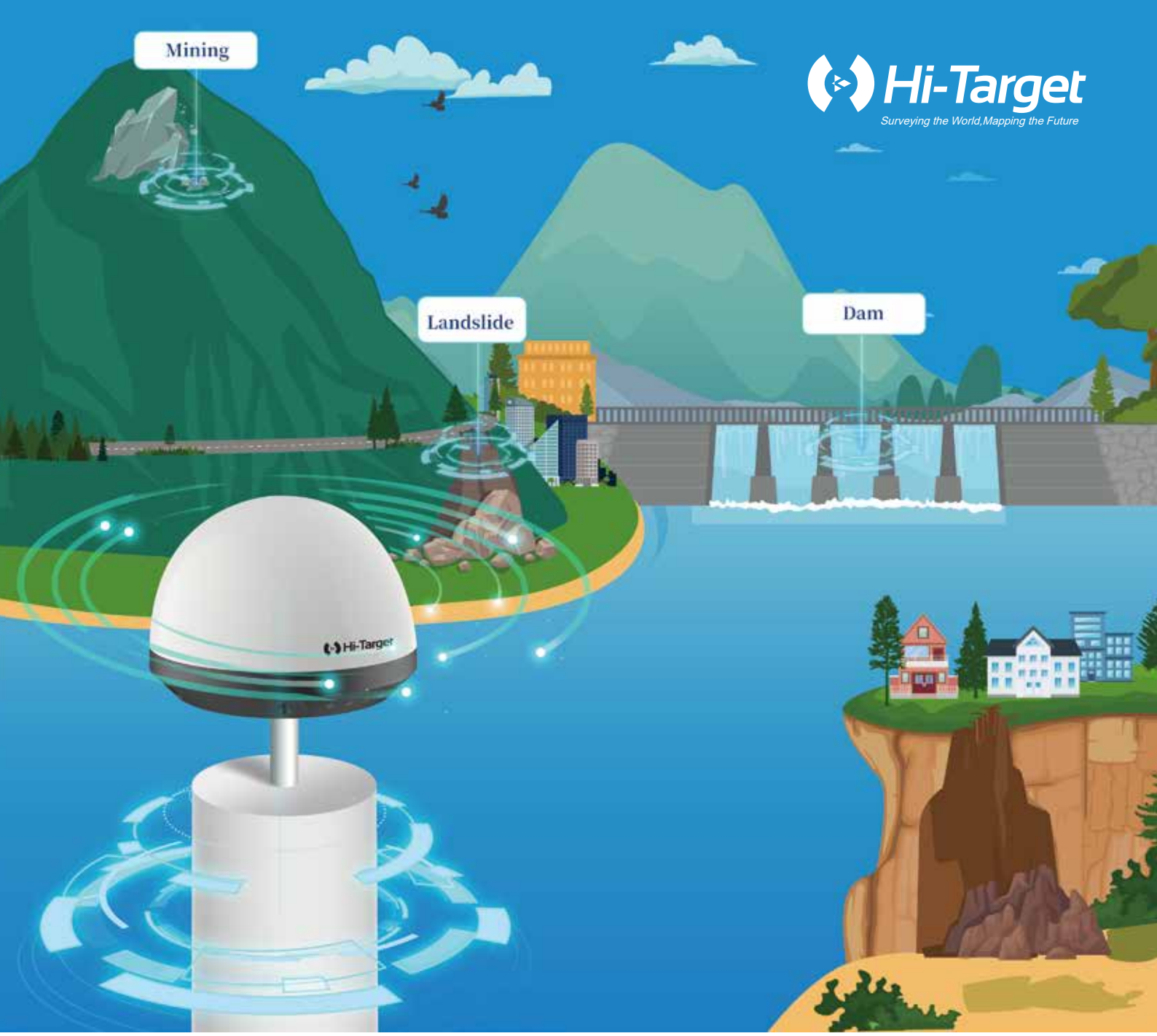


# MS401 Receiver


The MS401 receiver is a compact and all-in-one GNSS receiver with low power consumption, high performance, and high stability. It adopts a Linux operation system, built-in high-performance positioning board, antenna, MEMS sensor, and a variety of 4G modules, supporting MEMS combination of decoding, remote control, different configuration modes, intelligent communication, and other important functions. Simultaneously, with a simple and small integrated structure and several features of easy installation, IP68 protection level, and ultra-low power consumption, it is suitable for the monitoring of geohazard, mines, reservoirs, slopes, bridges, and other fields.

## ● Main Functions and Features

- Three constellations with eight bands.
- Large capacity storage: 16GB + external storage (TF card).
- Built-in MEMS sensor with trigger function supports dynamic adjustment of monitoring frequency.
- Low power consumption: average power consumption ≤ 2.6W (long link) saves the cost of power supply.
- The indicator is tilted at 45°, which fully considers the visual habit.
- High integration: integrated GNSS board, MEMS sensor, and NB-IOT modules.
- Intelligent communication: built-in ESIM card supports an intelligent switch between internal and external cards.
- Configuration mode: support configuration by Bluetooth APP, web terminal, and remote control software.
- High security: built-in firewall, high-security port, and other reliable functions for system management.
- High level of protection: an industrial design with an IP68 protection rating for shockproof, drop proof, and lightning protection.
- Functions of self-checking for working status, self-diagnosis, self-healing, power loss data protection, and real-time clock calibration.
- User-friendly: the monitoring system is easy-to-install and supports remote configuration. It can be configured within 1 minute.
- Support solution of common reference station. The interval between the reference station and monitoring station is ≤ 15km.

## ● Specification

| | | | |
|---|---|---|---|
| **GNSS Specification** | Satellite Signals | Channels | Frequency Band |
| | | GPS | L1、L2、L5 |
| | | GLONASS | L1、L5 |
| | | BDS | B1、B2、B3 |
| | Accuracy | RTK Horizontal | ±(8mm +1x10$^{-6}$D) |
| | | RTK Vertical | ±(15mm + 1 x10$^{-6}$D) |
| | | Static Horizontal | ±(2.5mm+ 0.5x10$^{-6}$D) |
| | | Static Vertical | ±(5mm+ 0.5x10$^{-6}$D) |
| | | Initialization Time | Typically <10 seconds |
| | | Initialization Reliability | >99.9% |
| | Data Formats | RTCM 3.0, RTCM 3.2, RAW | |
| **Network Communication** | RS485 | Support multiple sensor access | |
| | LAN | Transmission Rate: 10/100 Mbps | |
| | Bluetooth | Less than 10m | |
| | NB-IOT/4G/LoRa | 2G/3G/4G<br>NB-IOT/LoRa (Optional) | |
| **MEMS** | Inclination Angle: ±90° Accuracy: 0.1° Accelerometer: ±2g Accuracy: 1mg<br>MEMS Trigger Function: support dynamic adjustment of monitoring frequency | | |
| **I/O Interface** | Light/Slot | Lights*4: Satellite, Power, Communication, LAN<br>1×SIM card, 1×TF card, 1×USB port | |
| | External | 1 LoRa antenna interface, 1 data cable interface<br>(including signal interfaces for power supply, RS232, RS485, LAN) | |
| **Physical** | Average Power Consumption of the Whole Machine: ≤2.6W (acquisition: 15s, upload: 15s)<br>Input Voltage Range: 9~28V-DC/1A<br>Weight: ≤1.4kg<br>Size: ∅185mm*143mm | | |
| | Temperature | -40℃～85℃ | |
| | Humidity | 95% humidity with 25℃~55℃ | |
| | Protection Level | IP68 | |
| | Salt Spray | 96 hours | |
| **System** | Configuration | Operation System | Linux System |
| | | Storage | 16GB+TF card |

AUTHORIZED DISTRIBUTION PARTNER

22S107

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