

HELM 12 GNSS SENSOR DATASHEET

Centimeter-Level Precision GNSS Solution



Overview

HELM 12 is a high-performance GNSS positioning sensor designed to deliver centimeter-level accuracy for mission-critical applications. It combines advanced RTK processing with multi-constellation support to ensure reliable real-time positioning in demanding environments.

Key Features

- Centimeter-level RTK positioning accuracy
- Multi-constellation GNSS support (GPS, Galileo, GLONASS, BeiDou)
- High update rate for real-time applications
- Low-latency positioning output
- Robust performance in challenging environments
- Compact OEM-ready design

Performance Specifications

Parameter	Specification
Positioning Accuracy	RTK: Centimeter-level
Constellations	GPS / Galileo / GLONASS / BeiDou
Frequency Bands	L1 / L2 / L5
Update Rate	Up to 20 Hz
RTK Initialization	Fast convergence
TTFB	< 30 seconds (typical)

Electrical Specifications

- Supply Voltage: 3.3V – 5V DC
- Low power consumption optimized design
- Interfaces: UART, USB, CAN (optional), Ethernet (optional)
- Data Output: NMEA / RTCM / Proprietary protocols

Environmental Specifications

- Operating Temperature: -40°C to +85°C
- Storage Temperature: -40°C to +105°C
- Industrial-grade vibration resistance
- Shock-resistant rugged design

Applications

- Autonomous vehicles & robotics
- UAV / drone navigation systems
- Surveying & geospatial mapping
- Defense & security systems
- Precision agriculture
- Industrial automation