

CHCNAV

i89

COMPACT EFFICIENT  
POCKET-SIZED VISUAL IMU-RTK

+

SURVEYING  
& ENGINEERING

The i89 Visual IMU GNSS is a compact surveying tool equipped with a 1408-channel GNSS module which enhances RTK availability even in challenging environments. Its CHCNAV iStar2.0 software incorporates advanced ionospheric modeling algorithms achieving high integrity RTK fix rate, particularly critical in regions of intense solar activity. The implementation of AUTO-IMU technology eliminates the need for manual initialization, streamlining field operations for increased efficiency. In addition, the i89 offers an impressive 16.5 hours of battery life and a lightweight 750 g design, ensuring optimal productivity throughout various day-to-day surveying tasks. In addition to its GNSS capabilities, the i89 features Visual Surveying capabilities that provide accurate 3D coordinate extraction from real-world video, simplifying measurements in locations with signal obstructions, limited accessibility or safety concerns. The combination of panoramic capture mode and integrated IMU significantly improves the accuracy and efficiency of photogrammetric surveys. In addition, the integrated AR visual navigation and stakeout features can cut the operator's workload by half, regardless of their level of experience in the field.

## 1. EXTREME GNSS PERFORMANCE

CHCNAV iStar2.0,  
Hybrid GNSS Engine,  
1408-channel and integrated SoC,  
96% reliable fix rate, 20% data quality improved.

## 2. VISUAL NAVIGATION AND STAKEOUT

Deep fusion of GNSS, IMU, and Visual,  
Advanced 1.5 GHz CPU,  
Adaptive 5.8 GHz Wi-Fi,  
Unique VPT™ (Virtual Pole Tip) technology.

## 3. VISUAL SURVEY

Accurate measurement of previously inaccessible points,  
Premium cameras for survey-grade 3D coordinates,  
Dynamic panoramic mode boosts efficiency by 60%,  
Point pickup success rate increased by 15%.

## 4. AUTO-IMU

200 Hz AUTO-IMU eliminates manual initialization,  
Automatic pole tilt compensation,  
3 cm accuracy over a 60° tilt range,  
Saves up to 30% of time.

## 5. EFFICIENT AND DURABLE

High-energy-density battery for 16.5 hours of operation,  
18 W fast charge, full charge in 3 hours,  
IP68-rated, survives 2 m pole drop,  
Compact 750 g design integrates GNSS, IMU, dual cameras.

## 6. 3D MODELING

Video photogrammetry algorithm,  
Only i89 data needed for single and facade buildings modeling,  
UAV + i89 RTK data for distortion-free large-area modeling,  
Compatible with industry-standard 3D modeling software.

# SPECIFICATIONS

## GNSS Performance <sup>(1)</sup>

## Hardware

Size (D x H)	Φ 133 x 87 mm (Φ 5.24 x 3.43 in)
Weight	750 g (1.65 lb)
Front panel	4 LED 2 physical buttons
Tilt sensor	Calibration-free IMU for pole-tilt compensation. Immune to magnetic disturbances.

## GNSS Accuracies <sup>(2)</sup>

Sensor pixels

Field of view

Video frame rate

Image group capture

Features

Wireless connection

Wi-Fi

Bluetooth®

Ports

Built-in UHF radio

Data formats

## Compliance with Laws and Regulations