

# S599 Ultra-compact GNSS receiver



*November 2025*

# S599 – Main features

Compact, light, ready for **GIS** and more



## **MULTIPLE CONSTELLATION**

Supports *multi-constellation* GNSS: GPS, GLONASS, Galileo, BeiDou, and QZSS

## **IMU TECHNOLOGY**

With an *integrated IMU*, the S599 compensates for up to 60° pole tilt

## **INTEGRATED CAMERA FOR AR STAKEOUT**

The *built-in camera* enables real-time visual stakeout

## **LIGHTWEIGHT**

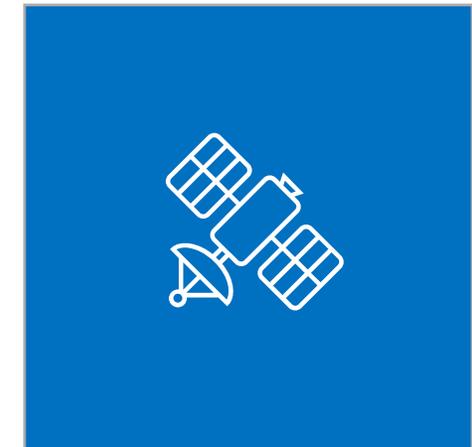
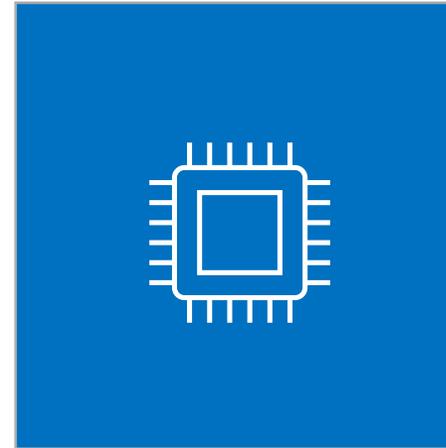
At 380 g and 98 x 46 mm, the S599 delivers *portable performance*

# S599 – UM980 GNSS Board

## UnicoreComm UM980 chipset

This GNSS board delivers exceptional precision and reliability. With support for **1408 tracking channels**, it enables full access to all major GNSS constellations (GPS, GLONASS, Galileo, BeiDou, QZSS, and SBAS).

The board features **anti-jamming technology** to maintain stable performance in the presence of RF interference. Its **dual-processor architecture** allows for fast data processing, real-time operation, and enhanced system responsiveness, while its **low power consumption** makes it well-suited for battery-powered and mobile deployments.



# S599 – AR Stakeout camera



**Bottom camera**

The S599 is **equipped with a camera** that captures the real-world scene. This camera can be used for user-activatable AR stakeout, when needed. The camera provides real-scene navigation, displaying the distance to the target point.

**Cube-a's interface** uses visual tools to guide the surveyor to the exact stake position. There is a graphic element that indicates the direction of the point and the distance. The graphic elements vary depending on the distance that the operator has from the point

# S599 – PPP Services

## Supported Services, *fully integrated via Cube-a:*

### ✓ Galileo HAS (High Accuracy Service)

- Broadcast via **E6-B signal**
- Provides **orbit, clock, and bias corrections** globally
- Open and **free-to-use** with **centimeter-level accuracy**
- Fast convergence for real-time applications

### ✓ BeiDou PPP-B2b

- Broadcast via **B2b signal** on the BeiDou-3 system
- Provides precise **satellite orbit and clock corrections**
- Coverage focused on **Asia-Pacific**, with expanding global availability
- Enables **centimeter to decimeter accuracy** in real-time



## S599 – Lightweight and compact

---



The S599 GNSS receiver is high-accuracy positioning in a compact and portable device.

Weighing just **380 grams** and measuring only **98 x 46 mm**, this ultralight receiver offers exceptional ease of use and is well-suited for long hours of field data collection.

# S599 – Solution for Drones

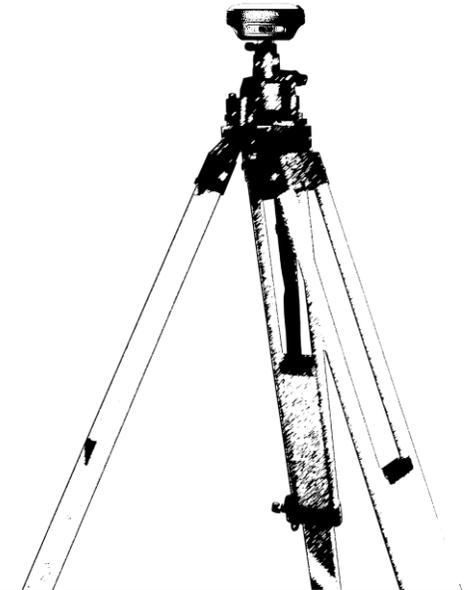


The S599 can be used as a **base station for drones**, significantly enhancing the accuracy and reliability of aerial operations.

The base station provides correction data to the drone (rover), enabling centimeter-level precision through Real-Time Kinematic (RTK) positioning.

This functionality can be easily activated through the web user interface.

The S599 can also be used to **measure GCPs** to improve the accuracy of the survey framing.



# S599 – OnePole

S599 is perfect to be used in combination with our **TS Robotics**. The **OnePole Solution** is a surveying system that combines the high accuracy of prism measurements with the ability to measure points that are not visible from the Total Station (TS) using GNSS technology.

The logo for OnePole features the word "OnePole" in a blue and black sans-serif font. The letter "O" is a blue circle containing a white crosshair. A small icon of a prism is positioned between the "P" and "o".



The OnePole Solution allows for the simultaneous use of **TS and GNSS** and can easily switch between the two with a simple tap on a button.

Additionally, the system reduces prism search times through auto-aiming to the current GNSS position.

# Technical Specification

# S599 - Technical Specification

## RECEIVER

Board	UM980
Channels	1408
Tracking	GPS: L1 C/A, L1C, L2P, L2C, L5 GLONASS: L1, L2, L3 BeiDou: B1I, B2I, B3I, B1C, B2a, B2b Galileo: E1, E5a, E5b, E6 QZSS: L1, L2, L5, L6 IRNSS: L5 SBAS
PPP	B2b PPP, HAS
Update Rate	Up to 20Hz
Memory	8 GB



# S599 - Technical Specification

---

## POSITIONING

High Precision Static Survey	H: 2.5 mm + 0.5 ppm RMS V: 5 mm + 0.5 ppm RMS
RTK (< 30 Km)	H: 8 mm + 1 ppm RMS V: 15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy	< 60 cm RMS



# S599 - Technical Specification

## POWER SUPPLY

Battery	Internal battery not removable, 3.65V, 6000 mAh
Power	Type-C PD 12V
Working Time	Up to 12 hours
Charge Time	Typically 4 hours

## INTERNAL CAMERA FOR STAKEOUT

Resolution	2 MP
Image frame	25 frame/s
Field of view	88°



# S599 - Technical Specification

## PHYSICAL SPECIFICATION

Dimensions	98 mm x 98 mm x 46 mm
Weight	385 g
Operating Temperature	-30°C to 60°C (-22°F to 140°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Protection Class	IP68
Drop	up to 1.5 m (no damage)
Humidity	100% non-condensing



# S599 - Panel definition

---

## User Interface



### Power Button

- *Power On/Off*: Long press to turn the receiver on or off
- *Status Broadcast*: Short press to announce the current operating mode and system status via voice prompt

### Charging Indicators

- *When Powered On*: Upon connecting to power, a voice prompt announces “Charging started”
- *When Powered Off*:
  - Connect power: The satellite LED turns **red** to indicate charging
  - Fully charged: The LED turns **green**
  - Power is removed: The device remains powered off

### Satellite Status Indicator

- *Off*: No satellites tracked
- *Flashing Red*: Satellites tracked, but no position fix
- *Flashing Green*: Position acquired, but not yet fixed
- *Solid Green*: Position fixed
- *Alternating Flash (Red/Green)*: GNSS board error or malfunction

### Datalink Indicator

- *Solid Green*: Datalink configured successfully
- *Flashing Green*: Data transmitting normally
- *Flashing Blue*: Static mode active; flashes based on static sampling interval

# S599 - Connector definition

---



## **USB Type-C Port**

Supports both power input (charging) and data transmission via a single interface

# S599 - Product pictures



# S599 - Brochure

## S599 Compact & Lightweight

The S599 GNSS receiver is an ideal solution for GIS professionals who need high accuracy positioning in a compact and portable device. Weighing just 380 grams and measuring only 98mm in height and 46mm in width, this ultralight receiver offers exceptional ease of use and is well-suited for long hours of field data collection.

Despite its small size, the S599 is IP68 rated and built to withstand tough field conditions, offering a durable and rugged design that ensures reliable performance in any environment.

Equipped with a built-in camera for AR stakeout and mapping, the S599 shows real-time navigation and distance to target points. Its impressive 12-hour battery life ensures full-day operation without the need to recharge, keeping your workflows uninterrupted.



FEATURES  
STONEX GIS SYSTEMS

**MULTI-CONSTELLATION SYSTEM & PPP**  
The S599 is capable of tracking and utilizing signals from multiple global satellite constellations, including GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS.

**IMU TECHNOLOGY**  
The S599 is equipped with cutting-edge IMU technology, enabling rapid initialization and accurate measurements even at inclinations of up to 60 degrees.

**ULTRA-COMPACT & LIGHTWEIGHT**  
Weighing just 380 g and measuring only 98 x 46 mm, the S599 offers ultimate portability without compromising on performance.

**INTEGRATED CAMERA FOR AR STAKEOUT**  
The built-in camera provides GIS professionals with the ability to capture photos and geo-tag them directly in the field.

**DURABLE AND RUGGED DESIGN**  
Despite its compact size, the S599 is built to endure tough field conditions and is rated IP68 for water and dust resistance.



### COMPACT, LIGHT, READY FOR GIS AND MORE

Paired with a survey pole mounted with a wheel, the S599 becomes the perfect tool for GIS professionals focused on road mapping and linear measurements. Its integrated IMU enables precise data capture even when tilted, allowing you to efficiently map and calculate areas and distances directly along the road.

**OnePole**  
The Stonex OnePole Solution delivers unparalleled surveying versatility by combining one of Stonex's advanced robotic total stations with the ultra-compact, high-precision S599 GNSS receiver. This powerful integration enables seamless switching between Total Station and GNSS modes with just a tap, adapting effortlessly to any field condition.

Thanks to the compact size and state-of-the-art technology of the S599, surveyors enjoy true mobility without compromising accuracy. Coupled with Stonex's robotic total stations and supported by Cube-a software, the OnePole Solution ensures smooth communication, fast data exchange, and streamlined workflows.



### cube-connector

Cube-connector is Stonex's intuitive Android app that seamlessly connects your S599 GIS GNSS receiver to any Android device via Bluetooth. By replacing your device's internal GPS with the high-precision data from the S599, Cube-connector delivers the accuracy and reliability essential for GIS and surveying applications.

<b>BUILT-IN CAMERA FOR STAKEOUT</b>	
Resolution	2 MP
Image frame	25 frame/s
Field of view	88°
<b>COMMUNICATION</b>	
I/O Connectors	Type-C for charging and data transfer
Bluetooth	2.1 + EDR, V5.0
Wi-Fi	802.11 b/g/n
Web UI	To upgrade the software, manage the status and settings, and download data, Smartphone, tablet, or other electronic device with Wi-Fi capability can be used.
Reference outputs	CMR, RTCM 3.0, RTCM 3.2, DGPS
Navigation outputs	NMEA 0183
<b>POWER SUPPLY</b>	
Battery	Internal battery not removable, 3.65V, 6000 mAh
Power	Type-C PD 12V
Working Time	Up to 12 hours
Charge Time	Typically 4 hours
<b>PHYSICAL SPECIFICATION</b>	
Dimensions	98 mm x 98 mm x 46 mm
Weight	385 g
Operating Temperature	-30°C to 60°C (-22°F to 140°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof / Dustproof	IP68
Shock Resistance	up to 1.5 m (no damage)
Humidity	100% non-condensing

base center, with

XXX, multi-path, atmospheric correction from the target the are referenced to the client

and may change



## S599 GNSS Receiver

Compact and light  
GNSS Receiver



MEL11-REV.02-189F-NOVEMBER 2023-V18E1

STONEX AUTHORIZED DEALER

STONEX®

Viale dell'Industria 53 - 20037 Poderno Dugnano (MI) - Italy  
Phone +39 02 78619201  
www.stonex.it | info@stonex.it



# Configuration

# S599 - Standard Configuration

PRODUCT CODE	DESCRIPTION
<b>B10+150226</b>	<b>S599, GNSS, 1408Ch, IMU, Camera</b>
	Power Adaptor with 4 plugs (US, UK, EU, AU)
	Charging cable, TypeC-TypeC cable, 1.5m
	Carrying case



# S599 - Suggested Optional Accessories and Software

PRODUCT CODE	DESCRIPTION
<b>40-450941</b>	<b>Software Stonex Cube-a GPS v7.x</b>
40-450942	Software Stonex Cube-a GIS v7.x
30-350292	Power Adaptor with 4 plugs(US, UK, EU and AU)
30-350293	TypeC-TypeC, Cable 1.5m
30-350840	PG-180W, Pole for GNSS, 1,80m, 3-section, Carbon fiber, Telescopic
50-550740	S55, Controller, 5.5", 4G, Android
30-350734	S55, Bracket





VISIT OUR WEBSITE  
[www.stonex.it](http://www.stonex.it)



WE ARE HERE  
Paderno Dugnano (Milano) - Italy