

GNSS G90

**Engineered for Precision
and Performance.**



- **Laser Distance Meter**
- **Dual Cameras**
- **AR Stake Out**

**Measure the
world with us**

**Topo
GEOS**

www.topogeos.hr

G90 Receiver Technical Features

RECEIVER

Satellite signals tracked	GPS: L1 C/A, 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
Channels	1408
Position Rate	Up to 50 Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	< 5 seconds
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	64 GB
IMU rate	200 MHz
Tilt range	IMU $\pm 60^\circ$
RTK + IMU	5 mm + 0.3 mm/ $^\circ$

POSITIONING¹

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	3.5 mm + 0.5 ppm RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK ²	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy ³	< 60 cm RMS

INTEGRATED GNSS ANTENNA

High accuracy multi-constellation antenna, zero phase center, with internal multipath suppressive board

INTERNAL RADIO

Type	Tx – Rx 2 W
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range ⁴	3-4 Km in urban environment Up to 10 Km with optimal conditions

INTERNAL MODEM

Band	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 Nano SIM card
------	--

BELOW CAMERA

Resolution	5 MP
Image frame rate	20 frame/s
Field of view	76°

REAR CAMERA

Resolution	2 MP
Image frame rate	20 frame/s
Field of view	52°

LASER

Color	Green
Precision	2 mm
RTK + Laser accuracy	2.5 cm -5 m / 4 cm -10 m
Range	30 m

COMMUNICATION

I/O Connectors	Type-C for charging and data transfer
Bluetooth	2.1 + EDR, V5.2
Wi-Fi	802.11 a/ac/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	RTCM 3.x
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	Built-in battery, 7000 mAh
Power	12V DC
Working Time	Up to 10 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	Ø 142 x 59 mm
Weight	810 g
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof	IP67
Shock Resistance	Designed to endure to a 2 m pole drop on hardwood floor with no damage
Humidity	100% non-condensing

Specifications are subject to change without notice.

1. Accuracy and reliability are generally subject to satellite geometry (DOPs), multipath, atmospheric conditions, and obstructions. In static mode, they are subject even to occupation times: the longer the baseline, the longer the occupation time must be.
2. Network RTK precision depends on the network performances and are referenced to the closest physical base station.
3. Depends on SBAS system performance.
4. Varies with the operating environment and with electromagnetic pollution.

**Topo
GEOS**

Sede Legale: Corso di porta Romana n.63, 20122 Milan, Italy
Sede Operativa: Via De Amicis 67, 20092 Cinisello Balsamo (Milan), Italy
C.F. e P.IVA 13744690960
www.topogeos.com | info@topogeos.com