GF GEOFUSION

SMART PRECISION. VISUAL CONTROL.


# LASER DUAL CAMERA RTK

# G90 PRO
GNSS RECEIVER

## PRECISION LASER VISION
## FOR THE NEW ERA OF SURVEYING.

GF GEOFUSION

*Smart Precision. Visual Control.*

# G90 PRO GNSS RECEIVER

Experience next-level surveying with the G90 Pro, powered by dual-laser cameras, IMU, and AR visualization for ultra-precise, real-world measurement. With up to 30m laser point capture, rugged magnesium-alloy construction, and hot-swappable batteries, it delivers nonstop performance in every terrain. G90 Pro – Smart Precision. Visual Control.

## CHARACTERISTIC

### Full-System, Multi-Frequency GNSS Receiver

The receiver integrates a high-precision positioning module with 1,408 high speed channels. It supports full-system and multi-frequency signal reception and processing, including: BDS: B1I, B2I, B3I, B1C,B2a, B2b, GPS: L1 C/A, L1C, L2C, L5, GLONASS: L1, L2, L3, Galileo: E1, E5a, E5b, E6, QZSS: L1, L2, L5, SBAS and NavIC systems.

### Tilt Measurement

Equipped with an intelligent high-precision inertial navigation (IMU) module, the device offers real-time tilt compensation, eliminating the issue of "floating points" in RTK surveys.

### AR Stake Out

A professional ultra-wide-angle camera provides HD real-world stake out capabilities. Its user-friendly AR stake out application ensures precise, one-shot staking performance.

### Visualized Laser Measurement

Featuring a high-precision, millimeter-grade laser ranging module and a high definition camera, the receiver enables precise point-and-measure functionality. The combination of high-accuracy inertial navigation and the camera's HD visuals ensures seamless operation even in complex environments.

### Extended Battery Life

The receiver supports two detachable batteries that allow hot-swapping without power interruption. This enables quick battery replacement, significantly extending operational endurance.

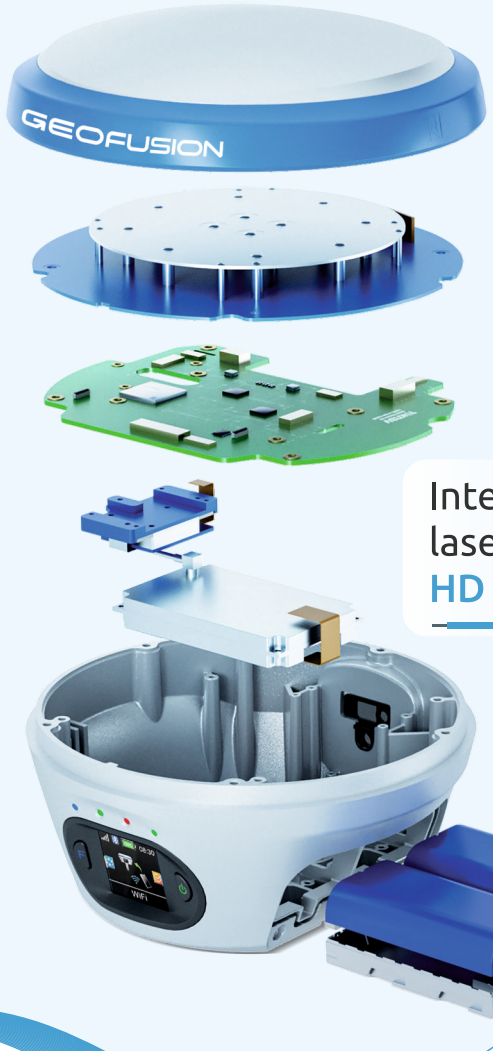
# G90 PRO GNSS RECEIVER

## LASER DUAL CAMERA RTK

1408 Channel
GPS GLONASS
BDS GALILEO QZSS
SBAS IRNSS.

7.2V, 3400mAh*2
Over 20 Hours.

Supports
dual removable
powerful batteries
for extended
operation.




Main body
magnesium
ALLOY ABS/PC
top cover.

Integrates precise
laser ranging with
HD visualization.

ULTIMATE ACCURACY

## PHOTOGRAMMETRY


| HEIGHT | DIAMETER | WEIGHT |
|---|---|---|
| 103 mm | 160 mm | 850 g |

≤2.5cm 3D error within 5m range
Enhanced with Green Laser.

Expands the range of measurable
objects.

# SPECIFICATION

| ITEM | |
|---|---|
| HARDWARE SYSTEM | ARM Cortex-A7 1.8GHz |
| OS | Linux |

| GNSS | |
|---|---|
| GPS | L1C/A, L1C, L2P(Y), L2C, L5 |
| GLONASS | L1, L2, L3 |
| BDS | B1I, B2I, B3I, B1C, B2a, B2b(PPP) |
| GALILEO | E1, E5a, E5b, E6(PPP) |
| QZSS | L1, L2, L5 |
| SBAS | L1(PPP) |
| NavIC (IRNSS) | L5*(Requires firmware support) |
| Channel | 1408 |
| Standard Output | NMEA-0183 |
| Correction I/O Protocol | RTCM 3.X |
| Frequency | 20Hz max |
| Reacquisition Time | <1s |
| Cold Start Time | <40s |

| ACCURACY | |
|---|---|
| SINGLE (RMS) | Horizontal: 1.5m / Vertical: 2.5m |
| DGPS (RMS) | Horizontal: 0.4m / Vertical: 0.8m |
| RTK (RMS) | Horizontal: ± (8mm+1ppm)<br>Vertical: ± (15mm+1ppm) |
| Time Accuracy(RMS) | 20ns |
| Static(RMS) | Horizontal: ±(2.5mm+1ppm)<br>Vertical: ±(5mm+1ppm) |
| Speed Accuracy(RMS) | 0.03m/s |
| Tilt Correction (Within 60°) | <2cm |
| AR Stakeout Accuracy | Horizontal: ± (8mm+1ppm)<br>Vertical: ± (15mm+1ppm) |
| Laser Measurement | ≤2.5cm 3D error within 5m range |

| ACCESSORIES | |
|---|---|
| G90 | 1 Unit |
| External Battery | 2 PCS |
| Battery Charging Cradle | 1 PCS |
| Radio Antenna | 1 PCS |

| SYSTEM PLATFORM | |
|---|---|
| Bluetooth | BR+EDR+BLE |
| WIFI | 802.11 b/g/n |
| Network | LTE FDD:B1/2/3/4/5/7/8/12/13/<br>18/19/20/25/26/28<br>LTE TDD: B38/39/40/41<br>WCDMA: B1/2/4/5/6/8/19<br>GSM: B2/3/5/8 |
| Storage | 32GB Storage |
| Radio | Integrated receiver/transmitter<br>Frequency Range: 410~470MHz<br>Power: 1W/2W/5W<br>Protocols: TRIMTALK, TRIMMK3,<br>SOUTH, TRANSEOT<br>Air Baud Rate: 9600, 19200bps |
| Laser Module | Type: Class 3R<br>Range: 30m<br>Precision: ±5mm±100*10-6*D□<br>(D: Measurement Distance)<br>Wavelength: 520±20nm<br>Power: 3.8mW |
| IS Camera | Sensor: 1/3.06 inch<br>Resolution: 4224x3200<br>FOV: D44°H35°V26.5°<br>Distortion: <1% |
| AR Camera | AR Stakeout Supported<br>Sensor: 1/2.8 inch<br>Aperture: f/2.5<br>Resolution: 1920*1080<br>FOV: 70.3°H62.7°V38.6°<br>Distortion: < 0.38% |

| DISPLAY | |
|---|---|
| LCD Panel | Sensor: 1.3 inch<br>Resolution: 240*RGB*240 |

| BATTERY/CHARGE | |
|---|---|
| Capacity | 7.2V, 3400mAh*2 (Removable, dedicated charger) |
| Endurance | EnduranceOver 20 hours(when applying controller network mode) |
| Charging | 9~24VDC |

| ENVIRONMENT | |
|---|---|
| Operating Temperature | -20°C~+60°C |
| Storage Temperature | -20°C~+70°C |
| Shock Resistance | Can withstand a 1.5m drop at normal temperatures |
| Protection Rating | IP68 |

| PHYSICAL | |
|---|---|
| Materials | Magnesium alloy casing with ABS/PC plastic top cover |
| Dimensions | Φ160mm*103mm |
| Weight | 850g(without battery) |


GF GEOFUSION

Aryan Hi-Tech

*A promise to serve you Better*

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