



High-Accuracy GNSS Receiver for Your Smartphone, Tablet, or Laptop Computer

The Arrow 100+™ is a submeter, multi-constellation GNSS receiver designed to be used with any iOS, Android, or Windows device. The Arrow 100+™ incorporates rock-solid, wireless Bluetooth® technology to ensure high-accuracy locations and metadata can be provided to any device, making it a future-proof submeter GNSS receiver that can evolve with your mobile hardware and software choices.

Works with any Mobile GIS App

The Arrow 100+™ GNSS receiver does not require any additional hardware or software in order to obtain submeter positioning. The Arrow 100+™ streams this submeter location data into any mapping or data-collection app on your mobile device. You can choose which data collection software you use with the Arrow 100+™, such as Esri's popular ArcGIS apps (e.g., Field Maps, Collector, Survey123, QuickCapture), Futura's FieldPro Stake, AmigoCloud, Mapit, GeoJot, iCMTGIS Pro, Diamond Maps, CartoPac, LocusView, etc. all work seamlessly as well as many more mapping apps!

Real-time Submeter (or Better) Accuracy, Worldwide

The Arrow 100+™ takes advantage of all the global GNSS constellations for positioning: GPS, GLONASS, Galileo, BeiDou. Moreover, with free SBAS corrections in most regions of the world, this receiver provides 30 to 60 cm real-time accuracy. For regions without free SBAS, the Arrow 100+™ is available and supports the Atlas® H50 satellite subscription service to achieve 30-50cm accuracy world-wide.

Arrow 100+™ *Arrow Series®*
for 30-50 cm
Submeter Positioning

Arrow 100+™ Key Features:

- Full GNSS support (GPS, GLONASS, Galileo, BeiDou)
- 100% compatible with Android, iOS, and Windows devices
- 30 to 60 cm real-time accuracy using free SBAS (WAAS, EGNOS, GAGAN, MSAS, SouthPAN)
- RTK standard accuracy of 1cm + 1ppm (10km/6mi short baseline)
- Supports all mobile GIS software
- 30-50cm accuracy anywhere with Atlas®
- Multi-point Bluetooth® support for enhanced connectivity
- Battery autonomy of 18+ hours



Multiplexing with the Arrow 100+™

The Arrow 100+™ has the functionality of the Eos Bridge™ Bluetooth® connector built in. Connect your Arrow 100+™ to any third-party sensor (e.g., laser rangefinder), and the Arrow 100+™ will stream the content of that sensor to your iOS or other mobile device via the receiver's own location datastream.

Works Where Other Receivers Can't

The Arrow 100+™ was designed specifically with GIS users in mind. When GPS satellites are just not enough, the Arrow 100+™ connects to GLONASS, Galileo, and BeiDou signals, creating access to at least 100 satellites! This GNSS receiver squeezes more accuracy from SBAS corrections than any other receiver in the world. With its use of patented technology, the Arrow 100+™ will deliver superior accuracy and performance under trees, around buildings, and in rugged terrain. Accurate positioning occurs in real time, with no post-processing required.

The Arrow 100+™ also features the ability to be used with single-frequency RTK. Achieve 1 cm accuracy when your baseline is less than 10km (6 miles).

Specifications

GPS Sensor

Receiver Type:	L1/G1/E1/B1, GPS, GLONASS, Galileo, BeiDou with carrier smoothing
Channels:	158-channel, parallel tracking
Number of Tracked Satellites:	12 GPS (15 when no SBAS) 12 GLONASS 15 Galileo 22 BeiDou
SBAS Support:	3-channel, parallel tracking WAAS, EGNOS, MSAS, GAGAN SouthPAN (SBAS ranging where supported)
Update Rate:	1 Hz Default, optional 10 Hz and 20 Hz
DGNSS Horizontal Accuracy:	< 30 cm HRMS
SBAS Accuracy:	< 60 cm 2dRMS, 95% confidence ¹ (< 30 cm HRMS, < 25 cm CEP)
Horizontal Accuracy:	< 2.5 m 2dRMS, 95% confidence ¹ (autonomous, no SA)
Atlas® Accuracy:	30cm HRMS
Optional Proprietary RTCM:	< 20 cm 2dRMS, 95% confidence ¹
Optional Single Frequency RTK:	1 cm + 1 ppm ¹
Cold Start:	< 60 sec typical (no almanac or time)
Reacquisition:	< 1 sec
Maximum Speed:	1,850 kph / 1,150 mph / 999 knots
Maximum Altitude:	18,288 m (60 000 ft)

Communication

Port:	Bluetooth®, USB 2.0, serial (optional)
Bluetooth® Transmission:	Class 1, 300 m typical range ² , up to 1 km
Bluetooth® Frequency:	2.400 - 2.485 GHz
Fully Bluetooth® Pre-Qualified:	Bluetooth® 2.1 + EDR
Supported Bluetooth Profiles:	SPP and iAP, Multi-point
Data I/O Protocol:	NMEA-0183, RTCM SC-104, Binary
Raw Measurement Data:	Binary and RINEX
Correction I/O Protocol:	RTCM, Optional Proprietary format
GNSS Status LED:	Power, GNSS, DGNSS, DIFF, Bluetooth®
Battery Status LED:	5 LED Indicator

Power

Battery Type:	Field replaceable, rechargeable Lithium-Ion pack (rechargeable inside unit or separately)
Autonomy on single charge:	18+ hours ³
Charging Time:	4 hours (vehicle charger available)
Antenna Voltage Output:	5 VDC
Antenna Input Impedance:	50 Ohms

Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185°F) ³
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	95% non-condensing
Compliance:	FCC, CE, RoHS and Lead-free



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Mechanical

Enclosure Material:	Xenoy
Enclosure Rating:	Waterproof, IP-67
Immersion:	30 cm, 30 minutes
Dimensions:	12.5 x 8.4 x 4.2 cm (4.92 x 3.3 x 1.65 in.)
Weight:	372 g (0.82 lbs)
Data Connectors:	Mini USB Type B Receptacle
Antenna Connector:	SMA Female

Antenna

Frequency Range:	L1, G1, E1, B1
Gain (without cable):	26 dB (+/- 2 dB), 35 mA
Voltage:	+4.5 to +15 VDC
Impedance:	50 Ohms
Dimensions:	5.7cm diam. x 1.5 cm (2.24 x 0.59 in.)
Weight (without cable):	97 g (0.21 lbs)
RF Connector:	SMA Female
Finish:	Fluid Resistant
Temperature:	-55°C to +70°C (-67°F to +158°F)
Immersion:	30 cm, 30 minutes

Standard Accessories

- Li-Ion Battery Pack (Field replaceable)
- 12VDC Power Supply
- Belt/Shoulder Carrying Case
- Precision Antenna with 1.5 m cable
- Soft Hat for Antenna
- USB Cable


Field Activated Options

- 10 Hz, 20 Hz Output Rate
- Base Station RTCM Output
- Single Frequency RTK for 1-3 cm
- Atlas® H50 (Basic) Satellite corrections

NOTES :

- Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services) and ionospheric activities. Convergence time for single frequency is highly dependent on the distance to the base station and the number of constellations/satellites supported by the base station
- Transmission in free space
- Lithium-Ion battery performance degrades below -20°C (-4°F)

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