

BlueROV2 positioning – Underwater GPS G2

Underwater GPS G2 is the latest Short BaseLine (SBL) system from Water Linked, providing reliable, accurate and robust acoustic positioning of a single Locator.

The G2 Topside is connected to the G2 Antenna, which must be mounted in the water with direct line of sight to the Locator.

A BlueROV 2 Integration Kit allows the A1 Locator to be connected through the BlueROV2 control system providing reliable positioning while maintaining synchronisation over the ROV tether.

If you would prefer to utilise the G2 without carrying out a full integration, then simply use

the U1 Locator which will allow you to track your ROV for up to 10 hours before you need to recharge the Locator. A GPS synchronisation lock is required prior to deployment of the U1 Locator.

With the benefit of an integrated GPS and Inertial Measurement Unit (IMU), the GPS G2 delivers absolute GPS position of the Locator, removing the need to integrate additional third-party sensors for accurate navigation.

While only one Locator can be tracked by each G2 Topside, the Locator can be set to one of 7 channels, allowing multiple GPS G2 systems to be used in the same area without interference.

Key features

- Reliable positioning in the most challenging environments (shallow water, inside tanks/pools, around installations etc.)
- Omnidirectional 360 degrees operation
- Locator operates reliably even when close to the surface
- 100m and 300m range versions available
- BlueROV2 integration kit with A1 locator or independent U1 locator

A1 Locator



U1 Locator



G2 Topside



BlueROV2 Integration Kit



G2 Antenna

Locator Type*	Power Source	Depth Source	Synchronization	Signal Range
A1	G2 Topside	User supplied	G2 Topside (Direct connection/Tether)	300m
U1	Integrated Battery	Integrated	GPS lock	300m

*A1 Locator is supplied as standard along with BlueROV2 integration kit, U1 is limited to 200m operating depth.

Acoustic | performance

System range	100 meter and 300 meter options
Ping rate	2 Hz
Accuracy	Horizontal range: <0.2%, Horizontal angle: <1 deg, Vertical range (depth): <1%
Long term drift	Locator A1: None, Locator U1: ~1m/6hr
Frequency	31.25 - 250 kHz (200 kHz typical)
Directivity	Omnidirectional
Operating principle	Time of flight, Triangulation

Electrical | interface

Input voltage	10 - 30 Vdc
Power drain	3 W
Power-on surge	28 W
Communication	Wi-Fi (802.11ac/a/b/g/n), Ethernet (100 Mbps), NMEA 0183
User Interface	Web based GUI
Protocols	Water Linked API

Mechanical

System Weight (typical)	6 kg
Receiver dimension	30 x 21 x 10 cm
Antenna dimension	54 x 12.5 x 14.5 cm (folded), 151 x 98 x 53.5 cm (expanded)
Locator A1 dimension	8.4 x 2.0Ø cm
Locator U1 dimension	13.3 x 3.2Ø cm
Depth rating	300 meters (U1 limited to 200 meters)
Operating temperature	-10 to 60°C

Approvals

CE