NEWTON

Sub-Sea Laser Scanner

PL4000UW - 4000m rated

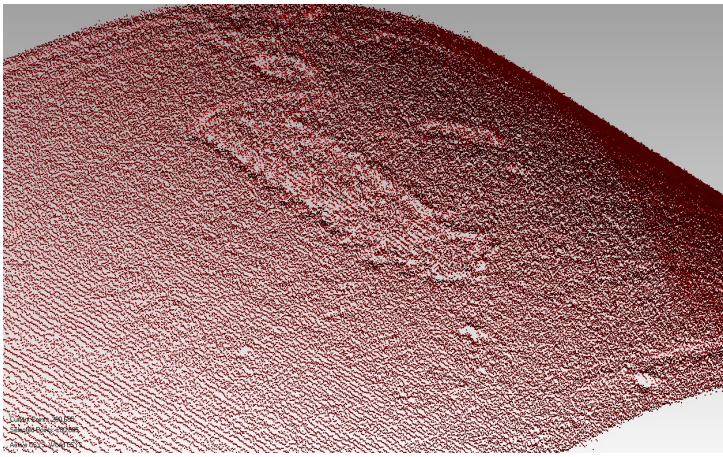
Designed for ROV/AUV Deployment

Simple IMU integration

Underwater Laser Scanners that capture sub-millimeter measurement for sub-sea metrology and IRM analysis.

Product Details

- Accurately captures dimensions, corrosion and other as-built features
- Depth rated up to 4000m
- Fixed Laser Line to capture large data fields
- Simple integration with IMU and MUX
- Live camera view allows operator to set scanning region of interest.
- Fixed laser line designed for ROV Deployment
- Scanning range between 1.5-10 meters
- Requires Gig Ethernet connection on board ROV



Depth of Field (Distance to Object)	Field of View Height	Width	Approximate CAD Model Accuracy
1.5 m	1.26m	1 01m	+/- 0.031 mm
3 m	2.52m	2.01m	+/- 0.124 mm
5 m	4.2m	3.35m	+/- 0.343 mm
7 m	5.88m	4.69m	+/- 0.672 mm
10 m	8.4m	6.7m	+/- 1.372 mm

Above—Scan data from the PL4000UW

Accuracy statements on left are based on post processing of scanner's raw point cloud data. Scanning conditions can effect the raw data acquisition, but post process can filter out obvious noise in the data.

IMU accuracy and speed of travel impacts final scan results

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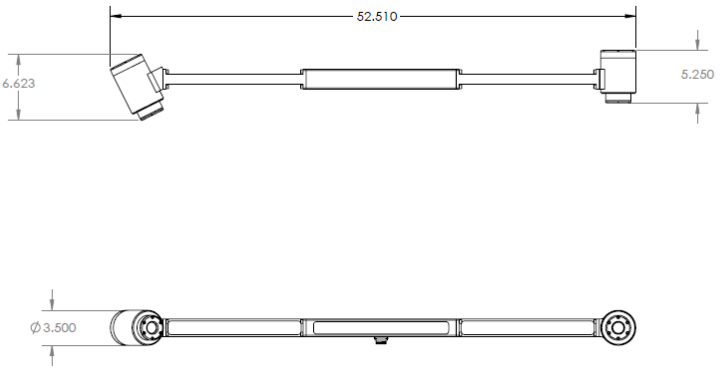
Sub-Sea Laser Scanning - PL4000UW

Subsea metrology methods are often coarse and unreliable. And Underwater Laser Scanning exceeds traditional underwater measurements by capturing as built point cloud data with sub-millimeter accuracy. The data captured by the Newton sub-sea scanners leaves asset managers with absolute confidence in their IRM analysis.

- **The Newton scanners operate by triangulation** - The laser moves across the target and the high resolution camera records any deformation of the beam as a point cloud.
- **Scan data is integrated with IMU** feedback to correct for external motion
- **In the visual observation mode**, the live camera view gives operators assurance of scan area and coverage
- **Operators** can select area within the field of view to acquire data—limiting extraneous data acquisition.
- **Deployment of the scanner head** is designed for ROV/ AUV deployment and has simple mounting holes on the back panel .
- **Pipeline scans** can be taken by fixing the laser line and relying on the motion of the ROV/AUV

Technical Specifications:	
Measurement Range	Between 1.5m and 10m
Power Requirements	Power 24v DC from the MUX at less than 1 amp
Communication	Gig Ethernet from the MUX
Weight	45lbs in air, 35lbs in water
Laser	Class IIIB
Dimensions	See Below
Control Unit Dimensions	Laptop Control Or Newton Control Unit: 24.60" x 19.70" x 11.70" (62.5 x 50 x 29.7 cm)
Newton Control Unit Weight (option)	56 lbs (25 kg)
Newton Control Unit Display	19" (48 cm) Color
Depth Rating	4000 m

Product Dimensions



About Newton Labs

Newton Labs is a Seattle area-based privately held developer and manufacturer of machine vision and robotic systems. Newton's powerful, easy to use, and industrially rugged systems provide solutions for wide ranging applications in many sectors, including aerospace, automotive, bot-tling, electronics, medical, packaging, and nuclear, among others. In 20 years Newton has deployed more than 20,000 machine vision and automaton systems worldwide, many that are first-of-a-kind.