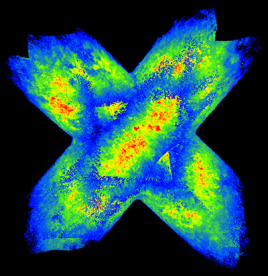
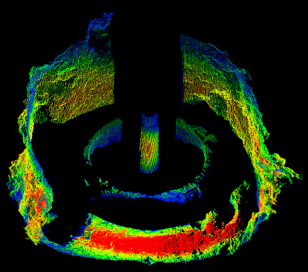
2G ROBOTICS
underwater laser scanners

# ULS 100

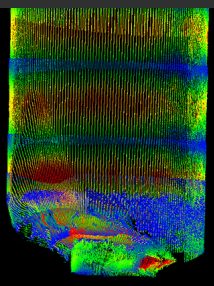
Short-range laser scanner



Offshore Jacket Joint



Well Pump



Damaged Pipe

## Capture Precise Underwater Measurements

The ULS 100 is optimal for short-range scans (0.13m to 1m range).

The lightweight, compact design makes the ULS 100 ideal for external scans where the target object can be easily accessed, or for internal scans where space is confined, which limits the size of the scanner that can be deployed.

### Benefits

- Low power and bandwidth needs
- High resolution 3D point cloud models
- Measurement accuracy to better than 1mm
  *Influenced by environmental and deployment factors
- Simple integration and operation
- Thousands of measurements in seconds
- Comprehensive results for analysis and assessment

**Contact us to discuss the specific needs of your application.**

### 2G Robotics

2G Robotics is the world leader for high precision underwater dimensional metrology.

### Why Laser?

Capture the most precise measurements and obtain highly detailed 3D point cloud model representations that far exceed the resolution of sonar, resulting in superior accuracy and greater knowledge of an asset's condition.

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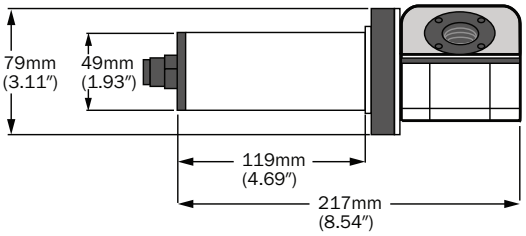
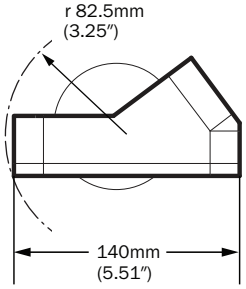
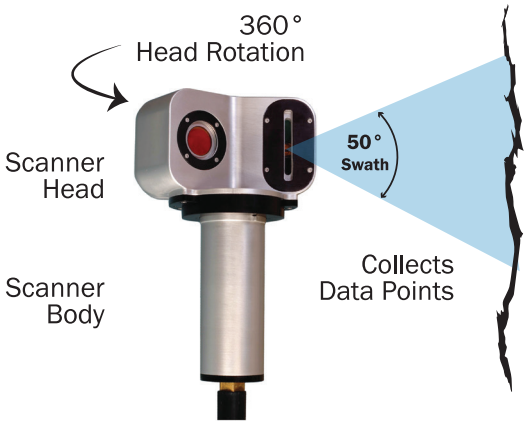
# Product Specifications




RS-485 Connection
for ROV, AUV & Diver
Deployment

| ULS 100 | | | |
|---|---|---|---|
| **Scan Performance** | | **Electrical** | |
| **Scan Range** | Min: 0.13m (6.7″)<br>Max: 1m (39.4″) | **Power** | 12VDC to 24VDC,<br>1A Max |
| **Vertical Laser Angle** | 50 deg | **Telemetry** | Standard Connection:<br>RS-485<br>For ROV/AUV<br>RS-232 Available |
| **Vertical Resolution** | 0.1042 deg | **Mechanical** | |
| **Rotational Range** | 360 deg | **Depth Rating** | 350m (1148ft) |
| **Rotational Resolution** | 0.018 deg | **Weight in Water** | 1kg (2.2lbs) |
| **Range Resolution** | 0.13m at 0.01mm<br>0.60m at 0.1mm<br>1.0m at 0.3mm | **Size** | Height: 30cm (11.8″)<br>Head Length: 14cm (5.5″) |
| **Sunlight Filtering** | ALF Technology<br>Adjustable by User | **Software** | |
| **Silt Filtering** | Adjustable by User | ULScanSoft | Included |
| **Max Sample Rate** | 2400 points/sec.<br>5 profiles/sec. | Export Data Formats | .xyz |
| **Points Per Line** | 480 | Integration | API Available |

# Operation

The ULS 100 projects a line of laser light onto the target object. Based on the light reflected from this line, the scanner calculates a high resolution 2D profile of points in 3D space. The ULS 100 then moves the line of laser light to an adjacent position where an adjacent profile is calculated in 3D space. By accumulating a series of profiles, the scanner is able to obtain a 3D point cloud representation of the surface of the target object.

The effective operating range of the ULS 100 is 0.13m to 1m. The coverage area of the ULS 100 is defined by the 50 degree fan beam emitted from the scanner, and also by the rotation of the scanning head, which allows for a complete 360 degree scanning circumference.

The software provided with the system enables the settings of the ULS 100 to be adjusted in real time and also enables the point cloud generated by the ULS 100 to be displayed in real time. The precision measurements obtained from the captured point cloud provide more detailed, definitive knowledge of the scanned object, enabling decisions to be made with greater accuracy.

# System

- ULS 100
- Topside Junction Box
- 10m Underwater Cable
- User Manual
- Command and Control Software
- API (option)
- Extended Support Program (option)