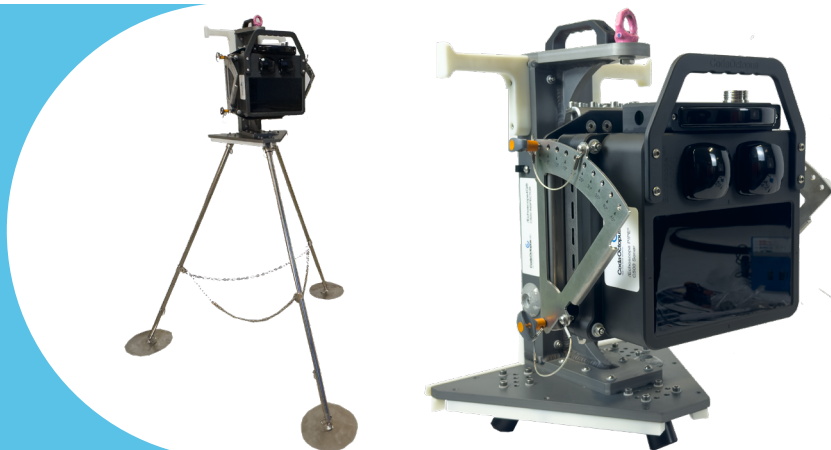# Rapid Modular and Mobile Deployment Platform
Real-time 3D Inspection and Live Monitoring

About the Echoscope PIPE® C500 Inspector System

The C500 Inspector System embeds the Echoscope PIPE® Surface C500 variant and is a flexible, modular and mobile platform for rapid inspection and live monitoring. The focus of this design is to make sonar deployment simple and fast.

The C500 Inspector is designed for deployment via two primary methods:

- ◉ Hanging Mode; or
- ◉ Tripod Mode.

Prior to deployment of your Inspector, these options should be considered and are contextually dependent on your Site and Project Characteristics.

Development	Site / Project Characteristics	
Tripod	• No Nearby Structure (pier, wall) • Vessel Deployment at Anchor • Level Bottom in Project Area • Deep Dive Monitoring Operations	
Hanging	• Pier Walls or Pylons Available • Vessel Deployment with Live Boating • Shallow Dive Monitoring Operations • Uneven Bottom in Project Area	

Main Components

1. ISAR Rotator
- Provides a rotatble platform for Echoscope PIPE® C500
- Fully integrated with the Echoscope PIPE® C500 Inspector frame
- Supplied with side brackets for adjusting the sonar angle
- Inbuilt Lifting Eye allows the whole system being hung safely

2. C500 Inspector Tripod
- Expandable legs for the Echoscope PIPE® C500 Inspector frame
- Allows rapid scanning and target tracking from a fixed location
- Easy subsea positioning for a small ROVs
- Accurate monitoring and scene awareness for marine construction or diver activities.

3. Echoscope PIPE® C500
- Enables independent users access parallel and sequential 4D imaging outputs
- Increased amount of data which can be processed and displayed in real time
- Compact size design and reduced power requirements
- Suitable for mounting on a range of surface and underwater vehicles
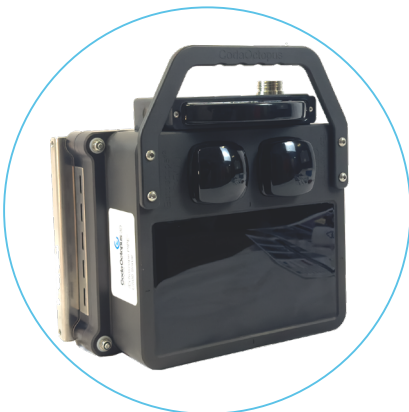
4. 3D Connect 5G & Power Supply Unit
- Complete integration of Coda Octopus Echoscope PIPE® C500, ISAR rotator, GNSS correction equipment, and navigation / attitude sensors.
- Directly powers all these devices.
- Achieves sonar, rotator and GNSS time synchronization.

Coda Octopus
Sound Underwater Intelligence

Cable Connection

3D Connect 5G	Integrated Sensor Cable (ISC)	Echoscope PIPE® C500
		ISAR Rotator
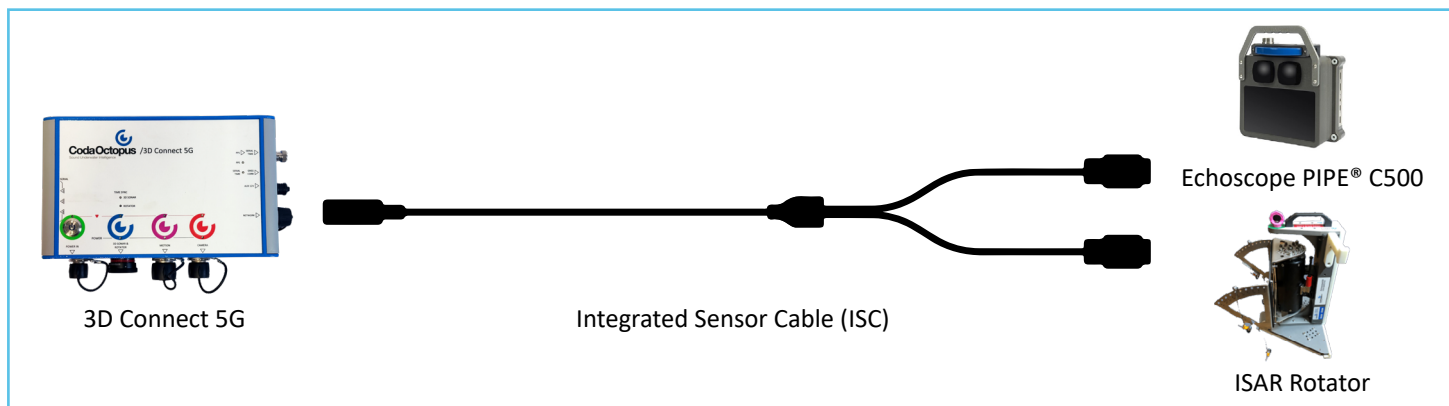
Technical Specifications

ISAR Rotator (with the Echoscope PIPE® C500 Inspector Frame)

Dimensions (H x W x D)	565 x 305 x 410 mm (22.24 x 12.00 x 16.14 in)
Weight in Air	18 kg (39.68 lb)

Echoscope PIPE® C500

Performance (by Model)	Dual Frequency	Triple Frequency
Frequency	375 kHz, 630 kHz	240 kHz, 375 kHz, 630kHz
Adaptive Frequency Band	375 kHz: 315 kHz – 425 kHz 630 kHz: 550 kHz – 700 kHz	240 kHz: 220 kHz – 280 kHz 375 kHz: 315 kHz – 425 kHz 630 kHz: 550 kHz – 700 kHz
Number of Beams	128 x 128 in Standard Mode Variable 40 x 40 to 180 x 180 in Advanced Mode	128 x 128 in Standard Mode Variable 40 x 40 to 180 x 180 in Advanced Mode
Number of Values Per Beam	2,500	2,500
Maximum Range*	120 m (394 ft) at 375 kHz 80 m (262 ft) at 630 kHz *The actual working range will depend on the target's size, reflectivity, and the level of detail required for the application.	150 m (492 ft) at 240 kHz 120 m (394 ft) at 375 kHz 80 m (262 ft) at 630 kHz *The actual working range will depend on the target's size, reflectivity, and the level of detail required for the application.
Minimum Range*	0.5 m (1.64 ft)	0.5 m (1.64 ft)
Range Resolution	3 cm (1.18 in)	3 cm (1.18 in)
Update Rate (Ping Rate)	Up to 40Hz	Up to 40Hz
Angular Coverage	315 kHz – 425 kHz: 61° x 61° – 43° x 43° 550 kHz – 700 kHz: 33° x 33° – 25° x 25°	220kHz – 280kHz: 102° x 51° – 71° x 35° 315kHz – 425kHz: 61° x 61° – 43° x 43° 550kHz – 700kHz: 33° x 33° – 25° x 25°
Beam Spacing	315 kHz – 425 kHz: 0.48° x 0.48° – 0.34° x 0.34° 550 kHz – 700 kHz: 0.26° x 0.26° – 0.2° x 0.2°	220 kHz – 280 kHz: 0.8° x 0.4° – 0.55° x 0.27° 315 kHz – 425 kHz: 0.48° x 0.48° – 0.34° x 0.34° 550 kHz – 700 kHz: 0.26°x0.26° – 0.2° x 0.2°
*The actual working range will depend on the target's size, reflectivity, and the level of detail required for the application		
Physical		
Dimensions (H x W x D)	315 x 301 x 152 mm (12.40 x 11.85 x 5.98 in)	315 x 301 x 163 mm (12.40 x 11.85 x 6.42 in)
Weight in Air	12.9 kg (28.44 lb)	13.3 kg (29.32 lb)
Power Consumption	2 – 6 A at 24 V DC **An, up to, 10 A inrush for less than 20 µs may occur on start-up.	2 – 6 A at 24 V DC **An, up to, 10 A inrush for less than 20 µs may occur on start-up.

Technical Specifications (Continued)

3D Connect 5G	
Sensor Connector I/O	Model 21-01: 1 Echoscope®/Rotator Connector 1 Camera interface Connector 1 Motion (F180/F280) Series Connector This Model supports a single sonar suite set up (as opposed to multiple sensors)
Sensor Connector I/O	Model 21-02: 2 Echoscope®/Rotator Connector 2 Camera Interface Connector 1 Motion (F180/F280) Series Connector This Model supports a dual sonar suite set up (as opposed to single sensor)
General I/O	2 RJ45 Ethernet Gb/s Ports 3 DB9 Serial Connectors 1 Aux 12VDC Output 1 DB9 Serial GNSS Corrections I/O 1 BNC PPS TTL Signal Input 1 DB9 Serial Time Input Connector
Power	24-30V DC Input 12V DC Aux Output Main Input Power Switch Echoscope®/Rotator Power Switch(es) Motion Power Switch Camera Power Switch(es)
Physical	Weight: 3.0 Kg Dimensions: 278mm x 170mm x 90 mm (LxWxH) excluding connectors Storage Temperature: -20° - 60°C (non-condensing) Operating Temperature: 0°- 40°C
Software	Web interface with device power on/off, voltage/current readings, time sync status Remote command capability for power on/off, voltage/current readings, time sync status

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