



Coda Octopus:3D

Real-Time Sonar Solutions

/3D Integrated Single Axis Rotator (ISAR)

Benefits

Integrated real-time 3D solution with Coda Octopus sonar

High-resolution angular measurement

Dynamic patch value offset adjustment

Absolute encoder on output shaft

Zero-power, static brake for position holding

Robust design for demanding subsea applications



3D Integrated Single Axis Rotator

CodaOctopus® 3D Integrated Single Axis Rotator products are high-performance units designed to meet the demanding requirements of accurate orientation and position control of real-time 3D CodaOctopus® sonar products.

Our ISAR units operate as an integrated solution within the CodaOctopus Underwater Survey Explorer software application. The software integration of the rotator unit with the Echoscope® eliminates the need for multiple patch testing during mapping and inspection tasks. All angular and positional offsets are dynamically calculated within the software for accurate and simple operation.

Incorporating high-torque motors, low-backlash gear boxes, and high-precision encoders as standard, capable of station holding the 3D sonar systems in hydro-dynamic environments, the units deliver a maximum of 94 Nm torque. Enclosed in rugged aluminium or stainless steel housings, the units are designed for operation to depths of 500m or 3000m. The ISAR is supplied with either a surface vessel pack incorporating a deck Power Supply Unit and 20m cable and mounting bracket, or as an ROV pack with a 5m whip cable, deck test cable and mounting bracket.

The ISAR can also be supplied with a stand-alone application for control of the unit out-with Coda Octopus software. The data o/p messaging allows for user defined update rates when moving for angular position and the data command protocol and message o/p format is very simple and can be via serial or Ethernet for integration with different software packages.

Features

- Includes rugged mounting plate to simplify mounting on a pole or ROV
- Hard stop index to simplify configuration of angular range of movement
- Orientation option for sonar mount in portrait and landscape mode
- Interfaces with heading data to report true heading when used in the pan axis
- Integrated with the Coda Octopus Underwater Survey Explorer software
- Point-and-click positioning of ISAR in USE 2D control window
- Stand-alone application available for control out-with USE
- User defined step values for indexed movement
- User defined GOTO controls for commonly used project viewpoints



Coda Octopus
Sound Underwater Intelligence

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Technical Specification

Performance (by Model)	ISAR-500	ISAR-3000
Depth Rating	500m (1650 ft)	3000m (9900 ft)
Peak Torque	94 Nm	94 Nm
Operational Torque	61 Nm	61 Nm
Resolution (Absolute Encoder)	+/-0.025°	+/-0.025°
Harmonic gear backlash	0.5° Standard accuracy gearbox	0.5° Standard accuracy gearbox
Speed Typical	10° per second	10° per second
Angular Range		

(*High accuracy gearbox available on request)

Software

	Integrated module within CodaOctopus Underwater Survey Explorer
	Stand-alone Application for control.

Data Interfaces

Control Interface	Ethernet or serial (RS-232 standard) for 500m units. 3000m unit is RS-232 only.
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Power

Supply Voltage	24 – 30V DC
Power Consumption (Dynamic)	Up to 2.0A at 24V DC
Power Consumption (Static)	180 mA (at brake hold position) at 24V DC

Physical

ISAR-500	
Dimensions (w x h / diameter) (includes brackets, fixings and connectors)	338mm x 171mm / 112mm (13.3" x 6.7" / 4.4")
ISAR-3000	
Dimensions (w x h / diameter) (includes brackets, fixings and connectors)	367mm x 171mm / 112mm (14.4" x 6.7" / 4.4")
Weight in Air	10.9 kg (24.0 lbs)* (Model ISAR-500) / Aluminium 15.9 kg (35.1 lbs)* (Model ISAR-500) / Stainless Steel 18.1 kg (39.9 lbs)* (Model ISAR-3000) / Stainless Steel *All weights inclusive of flange interface plate
Connector	LPBH-12-MP
Construction	Welded 'T', stainless steel (Aluminium and titanium options available on request)
Output Shaft	316 stainless steel with mounted interface plate

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