

4G ISAR

Fourth Generation of the 3D Integrated Tilt Unit

Accurate Orientation and Position Control

The 4G Integrated Single Axis Rotator (4G ISAR) is a high-performance unit designed to meet the demanding requirements of providing precise, stable and responsive control over an Echoscope® sonar's orientation in dynamic marine environments.

The ISAR integrates seamlessly with all of Coda Octopus's sonar acquisition software applications, allowing for simultaneous control over the sonar and the rotator from a single user interface. All angular and positional offsets are dynamically calculated within the software, ensuring accurate, efficient and user-friendly operation, and eliminating the need for multiple patch testing during mapping and inspection tasks when the sonar's orientation is changed. Incorporating high-torque motors, low-backlash gearboxes, and high precision encoders as standard, the ISAR units are capable of station holding real-time 3D sonars in hydrodynamic environments, delivering a maximum torque of 94 Nm. Enclosed in rugged stainless steel housings, the units are designed for operation at depths of either 30m, 500m, or 3000m. Units are also supplied with either a SubConn® Connector, or Teledyne Connector, at the customer's preference.

When utilizing 4G USE®, Operators can make use of Automatic Rotator Tracking, this function allows users to track an object in the scene, and the rotator will attempt to keep the object in view by automatically panning and tilting as appropriate. This could be a model at a known fixed location, or a model that has motion applied from another source, such as a crane or a ROV transponder beacon.



Some of the innovative 4G ISAR features available are:



±180° Pan Motion

Includes rugged interface plate to simplify mounting on pole or ROV



Orientation Options

Deploy the sonar in portrait or landscape mode



Automatic Rotator Tracking

Using sonar data, the Rotator will track and keep the object in view automatically



Time-Synchronized Output

The Rotator will maintain time synchronisation with the sonar, ensuring that angular offsets are applied and corrected precisely



Hard Stop Index

Simplifying the configuration of angular range of movement

Depth Rating	ISAR-30 30m	ISAR-500 500m	IPT-3000 3000m
Peak Torque	94 Nm		
Operational Torque	61 Nm		
Resolution (Absolute Encoder)	+/-0.025°		
Harmonic Gear Backlash	0.5° Standard Accuracy Gearbox*		
Speed Typical	10° per second		
Angular Range	90-270°		
Control Interface	RS-232 (Ethernet per request)	RS-232 (Ethernet per request)	RS-232
Time Synchronization	Via 3D Connect 5G, 3D PSU 5G		
Supply Voltage	24 - 30V DC		
Power Consumption (Dynamic)	Up to 2.0A at 24V DC		
Power Consumption (Static)	180 mA (at brakehold position) at 24V DC		
Dimensions	300mm x 171mm/112mm (11.8" x 6.7" / 4.4")	300mm x 171mm/112mm (11.8" x 6.7" / 4.4")	329mm x 171mm/112mm (12.9" x 6.7" / 4.4")
Weight in Air	9.08 kg (20.01 lbs)	13.98 kg (30.82 lbs)	13.98 kg (30.82 lbs)
Connector	Subconn MCBHRA8M (RS-232 serial only).		
Construction	316/A4 marine grade stainless steel (Aluminium and Titanium available on request)		
Output Shaft	35mm diameter, Nitronic 60 steel, splined interface with pre-installed interface plate		