

SMC IMU-00 Range

Motion Sensors



SMC has developed its IMU-00 range of Motion Sensors to meet the requirements of the Dynamic Positioning, Marine and Hydrographic sectors. The IMU-00 range provide accurate motion measurement data in dynamic environments in a compact and robust design.

Key Specifications

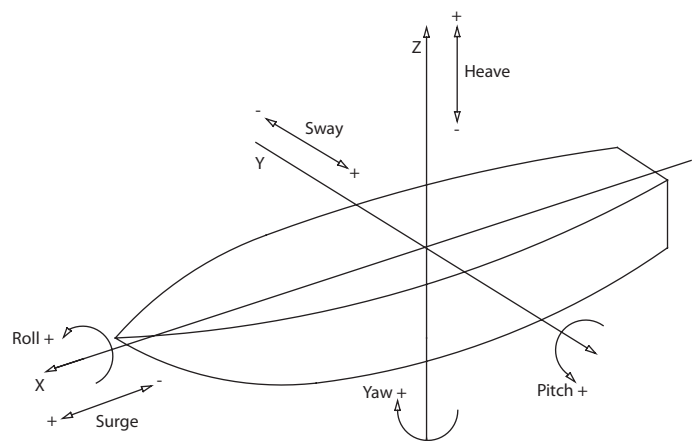
- Roll & Pitch 0.25° (RMS) Dynamic Accuracy
- Heave 5 cm or 5 %
- Accelerations / Velocities
- Velocity Input Formats RMC, RMA, VTG, VBV, VHW
- Heading Input Formats NMEA 0183, HDT, HDG
- Various Industry Protocols NMEA
- 2 years warranty



The SMC IMU-00 range uses solid state gyros and accelerometers to provide real time motion measurements with accurate dynamic accuracy even during accelerations. RS232 or RS422 & RS232 outputs with RS232 velocity and heading inputs for aiding purposes. High quality titanium design, construction and assembly produce an IMU with a high reliability in the most demanding marine environment.

Every SMC IMU is individually calibrated and tested for roll/pitch and heave as well as all directions of acceleration, inside a calibration machine with a controlled temperature environment between 0 and +55 degrees Celsius.

The SMC IMU is supplied with a data distribution unit, cables and windows based software for ease of set up and configuration. The configuration software enables the user to configure the IMU parameters for the installation.



Technical Specifications	IMU-007	IMU-008
Roll / Pitch	Yes	Yes
Accelerations X, Y, Z	Yes	Yes
Heave	N/A	Yes
Performance		
Angle Accuracy static	0.2° RMS	0.2° RMS
Angle Accuracy Dynamic @ ±5° simultaneous roll and pitch	0.25° RMS	0.25° RMS
Resolution Angle	0.001°	0.001°
Resolution Heave	N/A	0.01m
Angle range Roll/Pitch	± 30°	± 30°
Heave range	N/A	±10m
Heave Accuracy	N/A	5cm or 5%
Acceleration accuracy	0.05 m/s ² RMS	0.05 m/s ² RMS
Communications		
IMU Configuration Software	The IMU is shipped with SMC configuration windows software allowing on site setup	
Output Signal Protocol	Multiple, user selectable Output Protocols ASCII NMEA and binary	
Communications Interface	Output RS422 and RS232. Analog with remote converter (optional) 2 x RS232 External inputs, (not available on all models) Velocity input formats RMC, RMA, VTG, VBV, VHW; Heading input formats HDT, HDG	
Physical		
Dimensions for IMU-00x (W x H)	tube Ø89 mm, mounting plate 134 mm, flange Ø110 mm x 67 mm excl connector	
Weight	~0,5 kg	
Housing Material	Titanium	
Environmental		
Temperature (absolute max)	0° to +55° Celsius (-10° to +65°); Storage Temperature -40° to +65° Celsius	
Mounting Orientation	Vertical or Horizontal mounting (factory set)	
Power requirements	12 - 30 VDC; 2 W	
MTBF (computed)	50 000 hours	
Depth rating	IP64 (standard); IP68 30 meter depth rated (optional)	
Standard	Complies with the IEC 60945	
Warranty & Support		
Warranty	2-year Limited Hardware & Software Warranty	
Support	Free Technical & Hardware support	
Bundled Delivery		
Junction Box	Multiple Input & Output Connection Case, including 10 m cable	

