

Benefits

Accurate and precise position, heading, heave, pitch and roll in a single compact unit

Pre-calibrated (Rapid Deployment with no Field Calibration Required)

Multi frequency dual antenna GNSS receiver for position and heading seeding

Ruggedized IP67 Rated Housing

Built in iHeave (no additional software or hardware required)

Improved Heading Lock Stabilization

Optimal performance and accuracy under conditions of poor GNSS access

Applicable for surveying to International Hydrographic Organization (IHO) S-44 standard

F280 Series® directly supported in leading Hydrographic Survey applications

Easy to use Web Interface

Highly Competitive Price

Round -the-Clock Technical Support



Pre-calibrated Variant F285® for accurate and reliable MOTION and Positioning data in a compact ruggedized IP67 Rated Housing

The Pre-calibrated Variant of the F285® GNSS-Aided Inertial Navigation System (Attitude and Positioning Systems) is delivered calibrated and ready for use, thus facilitating rapid and repeatable field deployment and removes the need for field calibration (in the form of 8's). The F285 Pre-calibrated GNSS-Aided Inertial Navigation System (Attitude and Positioning Systems) is one of the models within our new generation of high accuracy measurement instruments for use in the marine hydrographic and laser survey market. This new generation of GNSS-Aided INS systems embeds high accuracy components (accelerometers and gyros) and smart algorithms.

Designed to meet the exacting and demanding requirements of the hydrographic survey market, the F285 Pre-calibrated instruments are easy to install and use. These instruments produce very accurate positioning, heading and MOTION data in the most dynamic offshore conditions. The Pre-calibrated variant facilitates rapid and repeatable deployment since this variant removes the requirement for field calibration.

The light and rugged F285, packaged in an IP67 rated housing, is a reliable, repeatable, and cost-effective solution suitable for use on vessels of all sizes. The F285 Pre-calibrated variant is one model within our F280 Series®. This model is Multi frequency, dual antenna multi-GNSS receiver for improved constellation coverage and heading lock stabilization. The unit supports RTK, SBAS and DGPS correction services.

An easy-to-use and intuitive web interface provides configuration, control and processing functionality including built-in iHeave (intelligent heave). In addition to real-time heave measurement and output, the F285 now directly computes and outputs our long-standing and proven iHeave (intelligent Heave) solution without the need for top-side processing or software

Features

✓	One-Box solution Survey Grade GNSS, attitude and heave sensor
✓	Multi-frequency multi-GNSS receiver and RTK corrections activation to allow a maximum positional accuracy of 1 cm.
✓	Connectivity to multiple sensors simultaneously over Ethernet and Serial
✓	Multiple Lever Arms to support precise INS Positioning for Multiple Platforms locations or Sensors
✓	Explicit vessel Centre of Gravity (COG) support for improved heave accuracy
✓	Rapid Heading Initialization (Under 30 seconds typically)
✓	Web-Based Set Up
✓	Real Time Monitoring of MOTION Events
✓	Option for Multiple Configuration Profiles and Instantaneous Recall of Profiles
✓	Tightly Integrated GNSS and Inertial Components resulting in increased accuracy and reduced setting up times when compared to outputs from separate sensors
✓	Enhanced performance under conditions of poor GNSS access
✓	Multi-GNSS support (GPS, GLONASS, BeiDou, GALILEO, QZSS)
✓	Industry standard formats and interfaces
✓	iHeave (Intelligent Heave) Processing Capability included as standard
✓	Compatible with HYPACK, QINSy, CARIS and other navigation packages
✓	Pre-calibrated and repeatable (No field calibration required)
✓	Extendable to 2-meter Antenna Separation for higher heading accuracy solution
✓	ITAR free

Specification

<p>F285 Pre-calibrated Variant</p> <p>The Specification in this Data Sheet applies to the F285 Pre-calibrated variant, which is one of the models within our F280 Series®. F285 Pre-calibrated variant is a Multi Frequency multi GNSS system with RTK, DGPS and SBAS GNSS corrections capabilities (1cm positional accuracy). Higher accuracy models also available.</p>		
<p>Dynamic Positioning Information</p>	Positional Accuracy (RMS)	0.008m + 1ppm with L1/L2 RTK corrections
		0.30m with DGPS corrections
		0.30m with SBAS corrections
		1.20m with GNSS corrections (Standalone)
	Pitch and Roll (1σ)	0.025°
	True Heading (1σ)	0.04° (2m baseline) 0.025° (4m baseline)
	Heave (1σ)	5cm or 5% (online) 3.5cm or 3.5% (iHeave)
	Velocity (1σ)	0.014 m/s
<p>Physical</p>	Dimension	127mm x 155mm x 113mm 5in x 6.1in x 4.4in
	Weight	2.2kg (4.9lbs)
	Power	9-36Vdc, 15 Watts (110-240Vac adaptor supplied)
	Antennas	Multi-Frequency, Multi-GNSS, SBAS Capable
	Antenna Cables	15m (49.2ft) standard. 30m (98.4ft) optional.
	Operating Temperate	-10° to 60°C (14° to 140°F)
	Waterproof	IP67 Rated. Maximum depth of 1m (3.2ft) – when Power and Antenna Connectors are mated.
	<p>Pre-Calibrated Housing Assembly Configuration</p>	2-Meter Antenna Separation
1-Meter Antenna Separation		1232mm x 287mm x 231mm 48.5in x 11.3in x 9.1in
Weight		8.5kg (18.17lbs)
Weight in Transit Case		19.5kg (42.9lbs)
Humidity		IP67 Rated (Waterproof)
<p>PC System Requirements</p>		Web Interface – Compatible with all major Web Browsers



<p>iHeave</p>	<p>iHeave is a tailored solution specifically for long period ocean swell compensation and is fully integrated with the F285 Precision Attitude and Positioning Systems. In many parts of the world, hydrographic survey is severely affected by low frequency ocean swells often up to 70 seconds long, resulting in distortions in bathymetric measurements. Conventional techniques for real-time heave measurement can only offer limited accuracy and are insensitive to ocean swells exceeding 10 to 20 seconds. The inbuilt iHeave algorithm analyzes the raw motion data and allows a more accurate determination of the real heave motion experienced by a vessel and enables the output of precise heave values for all ocean swells.</p>	
<p>Interfaces</p>	<p>Ethernet 100Mbit</p>	<p>Full Control and Configuration, High Speed Data Output (COMPAC)</p>
	<p>Serial Port 1</p>	<p>User-Configurable for position, Heading and Attitude Strings. Users May Chose From:</p> <ul style="list-style-type: none"> ▪ TSSI ▪ EM1000 ▪ COMPAC ▪ GST ▪ GGK ▪ PASHR ▪ PTCF ▪ ROT ▪ UTC ▪ PPS ▪ TSSHHRP ▪ EM3000 ▪ GGA ▪ GSV ▪ HDT ▪ PRDID ▪ RMC ▪ VTG ▪ ZDA ▪ SPD
	<p>Serial Port 2&3</p>	<p>As Serial Port 1</p>
	<p>GNSS Correction Port</p>	<p>Correction Input (RTK and DGPS) Formats RTCM 2.1/2.2/2.3/3.0/3.1, CMR, CMR+</p>
	<p>Other</p>	<p>IPPS on BNC</p>

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