CODA
F180 SERIES

GENERAL DESCRIPTION

Precise, reliable motion and positioning data in a compact package
The Octopus F180 atti tude and positi oning systems comprise a series of no-nonsense, compact packages. The graphical software interface makes confi gurati on very simple, with most users installing and confi guring the F180 with no prior training. All models are easy to use, producing highly accurate positi oning and moti on data in the most dynamic off shore conditi ons. Refined to meet the exacti ng requirements of the multi beam survey market, the Octopus F180series includes six variants to meet the widest of requirements:

F180	Standard system with 20cm RTK, DGPS, WAAS and EGNOS capability
F180+	As F180 but with L1 & L2 on both antenna for rapid heading initialisati on and improved immunity to drop-out
F185	As F180 but with improved positional accuracy capability to 1cm when used with suitable external RTK receiver and base station
F185+	As F185 but with L1 & L2 on both antenna for rapid heading initialisati on and improved immunity to drop-out
F190	As F185 but with integrated OmniSTAR differential receiver, providing up to 20cm positional accuracy without additional DGPS or RTK input
F190+	As F190 but with L1 & L2 on both antenna for rapid heading initialisati on and improved immunity to drop-out

All systems offer the same high performance in terms of heading and motion accuracy and all can be upgraded to the next specification level. DGPS, RTK (20cm) and SBAS corrections (WAAS/EGNOS) are standard on all models and additional options provide RTK (1cm) and OmniSTAR (20cm) accuracy. For increased satellite signal observations and faster RTK results, all systems can also be upgraded to receive GLONASS signal in addition to GPS.

F180series technology, with its origins in the high speed, mechanically extreme world of motor racing, has been modified and enhanced to provide precise and reliable data to marine users. The light yet robust equipment has proved to be a cost-effective solution on marine survey vessels of all sizes, delivering heave, pitch, roll, heading and positioning information in real time.

Pre-calibrated housing option
Designed to accommodate the Octopus F180 inertial sensors and the twin Novatel antenna, the pre-calibrated housing significantly reduces the time involved in installing a motion sensor on vessels of all sizes. The weather-proof unit enables the system to be calibrated prior to installation on the vessel. With the off set measurements already set, once the mounting is bolted into place the system can be up and running in 15 minutes. The pre-calibrated housing option is available for all F180series models except the Octopus F180R.

iHeave
Providing an enhanced heave capability, iHeave intelligent heave processing is supplied as standard with all Octopus F180series systems. Designed to detect and compensate for long period heave of up to 70 seconds, iHeave can produce significantly more accurate heave in almost all situations such as during tight turns and in areas where long period swells exist. Working on-line in near-real-time or as a post process, iHeave increases survey efficiency by generating high accuracy processed heave data in the most demanding of circumstances.

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Making technology work for you!

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Accredited to BS EN ISO 9001:2000

CODA
F180 SERIES

General Performance and Specifications
Octopus F180series Precision Attitude & Positioning Systems

	F180/F180+/F180R/F180+R F185/F185+/F185R/F185+R	F190/F190+/F190R/F190+R
PERFORMANCE		
Positional accuracy (CEP)	1.5m stand-alone 0.6m SBAS 0.4m DGPS Up to 1cm with RTK	0.2m with subscription*, Up to 1cm with RTK
Velocity	0.014 m/s	0.014 m/s
Roll and Pitch	<0.025°	<0.025°
True Heading	1m baseline - 0.1° 2m baseline - 0.05° 4m baseline - 0.025°	1m baseline - 0.1° 2m baseline - 0.05° 4m baseline - 0.025°
Heave	5% of heave amplitude or 5cm	5% of heave amplitude or 5cm
PHYSICAL (EXCLUDING ANTENNAE AND CABLES)	**MAIN PROCESSOR**	**REMOTE IMU HOUSING**
Dimensions	120 x 234 x 80mm	120mm diameter x 150mm long
Weight	2.5kg	2.2kg
Power	9-18 Vdc, 25 watts	9-18 Vdc, 25 watts
Temperature	-10 to 60°C	-10 to 60°C
Humidity	Splash proof	Waterproof
Vibration	0.1g2/Hz, 5-500Hz	0.1g2/Hz, 5-500Hz
Antennae	Novatel pinwheel	n/a
Connection	Standard F180 break-out cable	Burton multi-pin waterproof
Cables	15m standard, 30m optional	
INTERFACES		
Ethernet 100base-T	High speed full functionality data output (MCOM). F180 software for full control and configuration. Direct connection to HYPACK and QINSy	
Serial port 1 and Serial port 2	User configurable for position and heading or attitude strings: TSS1, TSSHHRP, EM1000, EM3000, ZDA, VTG, GGA, HDT, PASHR, PRDID, MCOM, GST, UTC, ROT, GGK, RMC	
Serial port 3	Differential correction input (RTCM, RTCA, CMR and CMR+)	
Other	1 PPS on BNC	
Remote IMU	6-way multi-pin connector on main F180 interface for remote IMU cable connection	

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