

## Datasheet Gyro Compatt 6+



Gyro Compatt 6+ is the new industry standard, Wideband®2 and Wideband 3 acoustic positioning and Lodestar AHRS technology in one small, highly versatile and robust instrument. This provides high update rate wireless attitude, heading, heave, surge, sway, temperature, pressure, SV and acoustic positioning of any subsea object.

Compatible with Ultra-Short BaseLine (USBL) and Long BaseLine (LBL) positioning systems, the Lodestar Gyro Compatt 6+ provides real time motion data for structure deployment during navigation (utilising Wideband 3 technology).

The internal high capacity rechargeable battery pack enables quick charge times and up to 28 hours of continuous operation with the ability to turn the gyro on and off to save battery life giving over two months of transponder life.

The instrument is small and light enough to be Remotely Operated Vehicle (ROV) installed and a mechanical stab enables precision alignment to any structure.

Structure position and orientation can be accurately determined during lowering, set-down and as-built surveys. Using the Lodestar Gyro Compatt 6+ for metrology delivers the measurements required for pipeend coupling.

The stab, gyro and transducer are pre-aligned, this speeds up spot measurements as only single observations are required.

Autonomous logging negates the need for a vessel and ROV to be on standby taking measurement during long term settlement observations.

Modular construction allows for upgrade and service access to the transponder module.

## **Key Features**

- Medium Frequency (MF) band utilising Sonardyne Wideband 2 and 3 telemetry protocols
- Rechargeable 28 hr internal battery pack; option for external power
- Acoustic, serial and manual ROV on/off switch for Lodestar AHRS
- Sonardyne Wideband and Kongsberg HPR 400 compatible
- Autonomous data logging mode (al sensor data and ranges)
- Faster command and configuration
- Simultaneous ranging and sensor data telemetry in one transmission
- Integrated sound speed & high accuracy pressure sensor with a port for additional auxiliary sensors
- Real time diagnostics on range measurements for quality control
- Optional calibrated stab prealigned to all instrument axes
- Compact size for ease of handling and ROV deployment/recovery
- INS data logged internally for post processing via 10/100 ethernet
- High speed acoustic modem
- Data telegram output and 12 V available for ROV displays



## Specifications Gyro Compatt 6+



Operating Temperature	Feature			Туре 8084	
Storage Temperature	Depth Rating			3,000 m	
External Battery Pack / ROV Supply   22 g, 11 ms half sine	· •			-5 to +40°C	
External Battery Pack / ROV Supply	Storage Temperature			-20 to +55°C	
Battery Life  Acoustic Navigation Standby Lodestar Permanently Powered On 28 hours  Acoustic  Compatt 6+  Operating Frequency ITransmit Source Level (dB re 1 µPa @ 1m) Ranging Precision Telemetry Protocol Ranges Tracked I4 simultaneous replies  Lodestar AHRS  Heading Range Accuracy Out to 0.1° secant latitude Settle Time Follow Up Speed Follow Up Speed So0° / second Resolution Range Accuracy Out to 0.1° Resolution Range Accuracy Resolution Out Resolution Digital Output - Output Telegram (e.g. for ROV LED display)  Remote Transducer - For ROV Applications, a Remote Transducer is Available Sensors Pressure - Strain Gauge or Digiquartz Dimensions (Diameter x Length)  28 hours As hours Aff (19-34 kHz) Sonardyne Wideband 3  185 hours Aff (19-34 kHz) Sonardyne Wideband 3  185 hours Aff (19-34 kHz) Sonardyne Wideband 3  185-192 dB (19-24 kHz) Sonardyne Wideband 3  185-192 dB (5 Levels)  185-192 dB (5 Levels) 185-192 dB (5 Levels) 185-192 dB (5 Levels) 185-192 dB (5 Levels) 185-192 dB (5 Le	·			22 g, 11 ms half sine	
Lodestar Permanently Powered On 28 hours  Acoustic Compatt 6+ Operating Frequency MF (19-34 kHz) Sonardyne Wideband 3  Transmit Source Level (dB re 1 µPa @ 1m) Ranging Precision Better than 15 mm Telemetry Protocol Sonardyne SMS and modem Ranges Tracked 14 simultaneous replies  Lodestar AHRS Heading Range 0-360° Accuracy 0.04 to 0.1° secant latitude Settle Time <5 minutes Follow Up Speed 500° / second Resolution 0.01° Resolution 0.010 5 cm or 5% (whichever is the greater) Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes ROV Switch - Contact Closure Yes Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available Sensors Sound Speed Sensor Pressure - Strain Gauge or Digiquartz 0.01% FS Physical	External Battery Pack / ROV Supply			24 V (20-50 V)	
Acoustic  Compatt 6+  Compatt 6+  Transmit Source Level (dB re 1 µPa @ 1m)  Ranging Precision Ranges Tracked Range Accuracy Settle Time Follow Up Speed Resolution Range Accuracy Resolution Rous selectable Resolution Resolution Rous Selectable Resolution Resolution Rous Selectable Resolution Resolution Rous Selectable Resolution Rous Selectable Resolution Res	Battery Life	Acoustic Navigation Standby		3 months	
Transmit Source Level (dB re 1 μPa @ 1m)		Lodestar Permanently Powered On		28 hours	
(dB re 1 μPa @ 1m)   Ranging Precision   Better than 15 mm   Telemetry Protocol   Sonardyne SMS and modem   Ranges Tracked   14 simultaneous replies	Acoustic	Compatt 6+	Operating Frequency	MF (19–34 kHz) Sonardyne Wideband 3	
Telemetry Protocol Sonardyne SMS and modem Ranges Tracked 14 simultaneous replies  Lodestar AHRS Heading Range 0-360° Accuracy 0.04 to 0.1° secant latitude Settle Time <5 minutes Follow Up Speed 500° / second Resolution 0.01° Roll and Pitch Range ±180° (no physical limit) Accuracy 0.01° Resolution 0.01° Resolution 0.01° Resolution 0.01° Resolution 0.01° Resolution 0.010° Resolution 0.010 Second Resolution 0.010° Resolution 0.010° Resolution 0.010° Resolution 0.010 Second Resolution 0.010° Reso				185-192 dB (5 Levels)	
Ranges Tracked 14 simultaneous replies  Lodestar AHRS			Ranging Precision	Better than 15 mm	
Lodestar AHRS  Heading  Range  Accuracy  0.04 to 0.1° secant latitude  Settle Time  <5 minutes  Follow Up Speed  Resolution  Roll and Pitch  Range  4180° (no physical limit)  Accuracy  0.01°  Resolution  0.01°  Resolution  0.01°  Resolution  0.01°  Range  499 m  Accuracy (Real Time)  5 cm or 5% (whichever is the greater)  Bandwidth  User selectable  Resolution  Digital Output - Output Telegram (e.g. for ROV LED display)  ROV Switch - Contact Closure  Yes  Data Back-up - Data Logger  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors  Sound Speed Sensor  Pressure - Strain Gauge or Digiquartz  Dimensions (Diameter x Length)  248 x 918 mm			Telemetry Protocol	Sonardyne SMS and modem	
Accuracy 0.04 to 0.1° secant latitude  Settle Time <5 minutes  Follow Up Speed 500° / second  Resolution 0.01°  Roll and Pitch Range ±180° (no physical limit)  Accuracy 0.01°  Resolution 0.01°  Resolution 0.01°  Resolution 0.01°  Resolution 5 cm or 5% (whichever is the greater)  Bandwidth User selectable  Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Ranges Tracked	14 simultaneous replies	
Settle Time	Lodestar AHRS	Heading	Range	0-360°	
Follow Up Speed 500° / second Resolution 0.01°  Roll and Pitch Range ±180° (no physical limit) Accuracy 0.01° Resolution 0.01° Resolution 0.01° Resolution 0.01° Resolution 5 cm or 5% (whichever is the greater) Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Accuracy	0.04 to 0.1° secant latitude	
Resolution 0.01°  Roll and Pitch Range ±180° (no physical limit)  Accuracy 0.01°  Resolution 0.01°  Heave Range ±99 m  Accuracy (Real Time) 5 cm or 5% (whichever is the greater)  Bandwidth User selectable  Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Settle Time	<5 minutes	
Roll and Pitch Range 4180° (no physical limit) Accuracy 0.01° Resolution 0.01° Heave Range 499 m Accuracy (Real Time) Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) ROV Switch - Contact Closure Ves Data Back-up - Data Logger  Remote Transducer - For ROV Applications, a Remote Transducer is Available Sensors Sound Speed Sensor 40.03 m/s Pressure - Strain Gauge or Digiquartz Dimensions (Diameter x Length) 248 x 918 mm			Follow Up Speed	500° / second	
Accuracy 0.01° Resolution 0.01° Heave Range ±99 m Accuracy (Real Time) 5 cm or 5% (whichever is the greater) Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes ROV Switch - Contact Closure Yes Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Resolution	0.01°	
Resolution 0.01° Heave Range ±99 m Accuracy (Real Time) 5 cm or 5% (whichever is the greater) Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm		Roll and Pitch	Range	±180° (no physical limit)	
Heave Range ±99 m  Accuracy (Real Time) 5 cm or 5% (whichever is the greater)  Bandwidth User selectable  Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Accuracy	0.01°	
Accuracy (Real Time) 5 cm or 5% (whichever is the greater)  Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Resolution	0.01°	
Bandwidth User selectable Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm		Heave	Range	±99 m	
Resolution 0.01 m  Digital Output - Output Telegram (e.g. for ROV LED display) Yes  ROV Switch - Contact Closure Yes  Data Back-up - Data Logger 8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors Sound Speed Sensor ±0.03 m/s  Pressure - Strain Gauge or Digiquartz 0.01% FS  Physical Dimensions (Diameter x Length) 248 x 918 mm			Accuracy (Real Time)	5 cm or 5% (whichever is the greater)	
Digital Output - Output Telegram (e.g. for ROV LED display)  ROV Switch - Contact Closure  Data Back-up - Data Logger  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors  Sound Speed Sensor  Pressure - Strain Gauge or Digiquartz  Physical  Dimensions (Diameter x Length)  Yes  8 GB (expandable to 32 GB) internal memory to allow post processing  8 GB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing  8 CB (expandable to 32 GB) internal memory to allow post processing			Bandwidth	User selectable	
ROV Switch - Contact Closure  Data Back-up - Data Logger  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors  Sound Speed Sensor  Pressure - Strain Gauge or Digiquartz  Physical  Pressure - Strain Gauge or Digiquartz  Dimensions (Diameter x Length)  Yes  8 GB (expandable to 32 GB) internal memory to allow post processing  8 GB (expandable to 32 GB) internal memory to allow post processing  8 GB (expandable to 32 GB) internal memory to allow post processing  8 ON 10 O			Resolution	0.01 m	
Data Back-up - Data Logger  8 GB (expandable to 32 GB) internal memory to allow post processing  Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors  Sound Speed Sensor  Pressure - Strain Gauge or Digiquartz  Dimensions (Diameter x Length)  248 x 918 mm	Digital Output - Output Telegram (e.g. for ROV LED display)			Yes	
Remote Transducer - For ROV Applications, a Remote Transducer is Available  Sensors  Sound Speed Sensor  Pressure - Strain Gauge or Digiquartz  Dimensions (Diameter x Length)  Post processing  ±0.03 m/s  0.01% FS  248 x 918 mm	ROV Switch - Contact Closure			Yes	
Sensors Sound Speed Sensor ±0.03 m/s Pressure - Strain Gauge or Digiquartz 0.01% FS Physical Dimensions (Diameter x Length) 248 x 918 mm	Data Back-up - Data Logger				
Pressure - Strain Gauge or Digiquartz 0.01% FS Physical Dimensions (Diameter x Length) 248 x 918 mm	Remote Transducer - For ROV Applications, a Remote Transducer is Available				
Physical Dimensions (Diameter x Length) 248 x 918 mm	Sensors	Sound Speed Sensor		±0.03 m/s	
		Pressure - Strain Gauge or Digiquartz		0.01% FS	
Weight in Air/Water 45/17 kg	Physical	Dimensions (Diameter x Length)		248 x 918 mm	
		Weight in Air/Water		45/17 kg	

sonardyne.com







