

Hydro POS Series

S08/S15/S25
Satellite/inertial combined heading
and attitude measurement system



Post-processing

Support post-processing to further improve accuracy



PPS supported

Support PPS output to achieve high precision timing



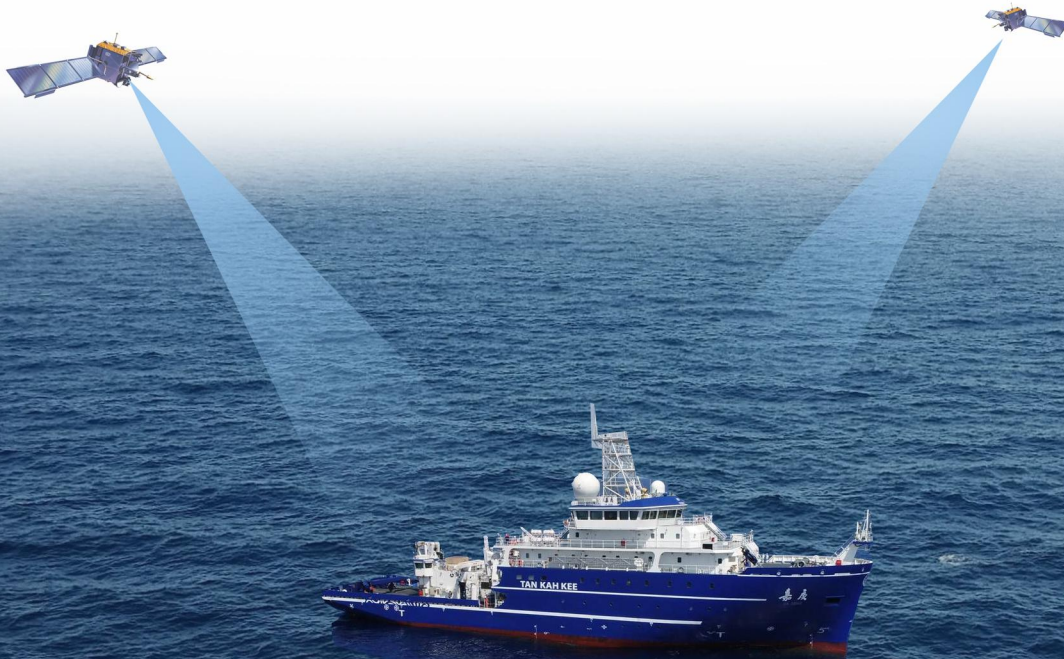
Multi-location data

Support output three sensors' attitude and position data simultaneously



Multiple protocols

Support main data protocol output and match all kinds of devices



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S08/S15/S25

Satellite/inertial combined heading and attitude measurement system



Hydro POS/inertial combined heading and attitude measurement system is independently developed by Beijing Hydro-Tech Marine Technology Co., Ltd. for the applications requiring high-precision position, heading and attitude. The main features are small size, light weight, and high precision. The whole system consists of a receiver and two GNSS antennas, which is suitable for small ships and USVs. To meet different accuracy requirement, this series include POS08, POS15 and POS25, they all integrate with high precision IMU and multi-mode satellite navigation receiver with advanced attitude algorithm and can output high-precision position, speed, attitude, angular velocity, acceleration and time information. Even the GNSS is blocked, it still has a high pure inertial position retention ability.

Application

- High-precision position, heading, attitude, heave compensation to multi-beam echo sounder.
- High-precision position, heading, attitude and heave compensation of ultra-short baseline positioning system.
- High-precision position, heading, attitude and heave compensation for ADCP.
- Providing high-precision integrated navigation data for the position, heading, attitude data for the USV.
- Attitude, position and heading correction of 3D laser scanners on sea, land and air.
- Other high-precision positioning, orientation and attitude measurement applications.



Physical Specifications

Interface	Ethernet; RS-232*4; PPS out
Power supply	DC10~34V
Power	≤40W
Operating temperature	-20°C~+55
Dimension	IMU: S25: 98*98*48mm; S15/S08: 110*110*95mm Deck unit: S25/S15:160*146*66mm; S08: 1422*356*46mm
Weight	S25: 2.8Kg/S15: 3.4Kg/S08: 6Kg(w/o antenna&Cables)
IP Rating	IP67



Main Specifications

status	Specifications	POS08	POS15	POS25
DGPS	Heading	0.01°, 4m Base line; 0.02°, 2m Base line	0.015°, 4m Base line; 0.03°, 2m Base line	0.06°, 4m Base line; 0.08°, 2m Base line
	Attitude	0.02°	0.03°	0.04°
	position	0.5-2m	0.5-2m	0.5-2m
	Heave	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)
Satellite station difference	Heading	0.01°, 4m Base line; 0.02°, 2m Base line	0.015°, 4m Base line; 0.03°, 2m Base line	0.06°, 4m Base line; 0.08°, 2m Base line
	Attitude	0.01°	0.02°	0.03°
	position	Horizontal: 10cm (95%) Vertical: 15cm (95%)	Horizontal: 10cm (95%) Vertical: 15cm (95%)	Horizontal: 10cm (95%) Vertical: 15cm (95%)
	Heave	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)
Real-time RTK	Heading	0.01°, 4m Base line; 0.02°, 2m Base line	0.015°, 4m Base line; 0.03°, 2m Base line	0.06°, 4m Base line; 0.08°, 2m Base line
	Attitude	0.01°	0.02°	0.03°
	position	Horizontal: ±8mm+1ppm ±15mm+1ppm	Horizontal: ±8mm+1ppm Vertical: ±15mm+1ppm	Horizontal: ±8mm+1ppm Vertical: ±15mm+1ppm
	Heave	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)
Hydro Post-processing	Heading	0.01°, 4m Base line; 0.02°, 2m Base line	0.015°, 4m Base line; 0.03°, 2m Base line	0.06°, 4m Base line; 0.08°, 2m Base line
	Attitude	0.008°	0.015°	0.025°
	position	Horizontal: ±8mm+1ppm Vertical: ±15mm+1ppm	Horizontal: ±8mm+1ppm Vertical: ±15mm+1ppm	Horizontal: ±8mm+1ppm Vertical: ±15mm+1ppm
	Heave	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)
GNSS failure	Heading	Drop no more than 0.1 per hour	Drop no more than 0.2 per hour	0.2° (Post-processing, failure 60s) 0.3° (Real-time RTK, failure 60s)
	Attitude	0.03°	0.04°	0.05°
	position	~3m for 30s total outage (RTK) ~1m for 30s total outage (Post-processing)	~3m for 30s total outage (RTK) ~2m for 30s total outage (Post-processing)	~6m for 30s total outage (RTK) ~3m for 30s total outage (Post-processing)
	Heave	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)	5cm or 5%; 2cm or 2% (Delayed heave)