DATASHEET

POS MV

MAXIMIZE YOUR ROI WITH POS MV WAVEMASTER II

POS MV WaveMaster II is a user-friendly, turnkey system designed and built to provide accurate attitude, heading, heave, position, and velocity data of your marine vessel and onboard sensors.

POS MV is proven in all conditions, and is the georeferencing and motion compensation solution of choice for the hydrographic professional.

MV blends GNSS data with angular rate and acceleration data from an IMU and heading from the GPS Azimuth Measurement System (GAMS) to produce a robust and accurate full six degrees-of-freedom position and orientation solution.

Key Features

- Up to 0.02° roll and pitch performance
- IN-Fusion 2.0 ensures optimal GNSS aiding for any given conditions
- TrueHeave - no requirement to tune filter for specific conditions, no settling time so no run in time
- High accuracy inertial measurement units featuring SmartCal
- Data time tagged to microsecond accuracy
### POS MV WAVEMASTER II

#### PERFORMANCE SUMMARY

**POS MV WAVEMASTER II ACCURACY:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
<th>Weight</th>
<th>Temperature</th>
<th>Humidity</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURO MAINESTER*</td>
<td>Horizontal: 10 cm 95%</td>
<td>0.45 kg</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
<td>AC 120/230 V, 50/60 Hz, auto-switching 40 W</td>
</tr>
<tr>
<td>IARTK</td>
<td>Horizontal: &lt; 0.1 m</td>
<td>0.015° with 4 m baseline</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
<td>DC 10-34 V, 35 W (peak)</td>
</tr>
<tr>
<td>POSPac MMS</td>
<td>Horizontal: +/-(8 mm + 1 ppm x baseline length)</td>
<td>0.02°</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
<td>DC 10-34 V, 35 W (peak)</td>
</tr>
<tr>
<td>IAPPK</td>
<td>Horizontal: &lt; 0.1 m</td>
<td>0.015° with 4 m baseline</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
<td>DC 10-34 V, 35 W (peak)</td>
</tr>
</tbody>
</table>

#### PCS OPTIONS

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Temperature</th>
<th>Humidity</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack Mount PCS</td>
<td>L = 442 mm, W = 356 mm, H = 46 mm</td>
<td>2.5 kg</td>
<td>-20 ºC to +60 ºC</td>
<td>0- 100% RH</td>
<td>AC 120/230 V, 50/60 Hz, auto-switching 40 W</td>
</tr>
<tr>
<td>Small Form Factor PCS</td>
<td>L = 167 mm, W = 185 mm, H = 68 mm</td>
<td>0.5 - 2 m</td>
<td>-20 ºC to +70 ºC</td>
<td>-20 ºC to +70 ºC</td>
<td>-20 ºC to +70 ºC</td>
</tr>
</tbody>
</table>

#### INERTIAL MEASUREMENT UNIT (IMU)

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Temperature</th>
<th>Humidity</th>
<th>IP RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Decks</td>
<td>L = 158 mm, W = 158 mm, H = 124 mm</td>
<td>2.5 kg</td>
<td>-40 ºC to +60 ºC</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
</tr>
<tr>
<td>Submersible</td>
<td>ø100 mm (base plate ø132 mm) X 104 mm²</td>
<td>2.7 kg</td>
<td>-40 ºC to +60 ºC</td>
<td>-40 ºC to +60 ºC</td>
<td>0- 100% RH</td>
</tr>
</tbody>
</table>

#### GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Temperature</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNSS antenna</td>
<td>ø78 mm, W = 73 mm</td>
<td>0.45 kg</td>
<td>-50 ºC to +70 ºC</td>
<td>0- 100% RH</td>
</tr>
</tbody>
</table>

### ETHERNET INPUT/OUTPUT

- **Parameters:** Time tag, status, position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data, raw GNSS data
- **Display Port:** Low rate (1 Hz) UDP protocol output
- **Control Port:** TCP/IP input for system commands
- **Primary Port:** Real-time (up to 200 Hz) TCP/IP protocol output
- **Secondary Port:** Buffered TCP/IP protocol output for data logging to external device

### SERIAL RS232 INPUT OUTPUT

- **5 COM Ports:** User assignable to: NMEA output (0-5), Binary output (0-5), Auxiliary GNSS input (0-2), Base GNSS correction input (0-2)

### NMEA ASCII OUTPUT

- **Parameters:** NMEA Standard ASCII messages: Position ($GNGGA), Heading ($HDMT), Track and Speed ($SVWPV), Statistics ($SVY), Attitude ($GPAHR, $PRID), Time and Date ($GZDA, $UTC)
- **Configuration:** Rate: 1 Hz with raw GNSS observables in navigation solution

### HIGH RATE ATTITUDE OUTPUT

- **Parameter:** User selectable binary messages: attitude, heading, speed
- **Configuration:** Rate: 1 Hz with raw GNSS observables in navigation solution

### AUXILIARY GNSS INPUTS

- **Parameter:** NMEA Standard ASCII messages: $GPGGA, $GPGST, $GPGSA, $GPGSV
- **Rate:** 1 Hz using Aux input with best quality

### BASE GNSS CORRECTION INPUTS

- **Parameter:** RTCM V2.x, RTCM V3.x, CMR and CMR+, CMR input formats accepted. Combined with raw GNSS observables in navigation solution
- **Rate:** 1 Hz

### DIGITAL I/O

- **IPPS:** 1 pulse-per-second Time Sync output, normally high, active low pulse
- **Event Input (2):** Time mark of external events. TTL pulses > 1 msec width, rising or falling edge, max rate 200 Hz

### USER SUPPLIED EQUIPMENT

- **PC for POSView Software (Required for configuration):** Pentium 90 processor (minimum), 256 MB RAM, 2 GB free disk space, Ethernet adapter (10/100 Base-T Ethernet; IEEE 802.3 standard), Windows 7 SP1, Windows 7 Embedded, Windows 8, and Windows 10
- **PC for POSPac MMS Post-processing Software:** Intel Pentium series 1GHz or faster 64-bit processor (minimum), 2GB RAM, 2.6 GB free disk space, USB Port (For Security Key), Windows 7 SP1, Windows 8.1, Windows 10

Specifications subject to change without notice.

© 2017, Applanix. All rights reserved. Applanix and the Applanix logo are trademarks of Applanix Corporation registered with the Canadian Patent and Trademark Office and other countries. POS MV and POSPac are registered trademarks of Applanix Corporation.

---

**APPLANIX**

**Headquarters:** 85 Leek Crescent, Richmond Hill, ON Canada L4B 3B3

T:+1-289-695-6000

**United Kingdom:** Forester’s House, Old Racecourse, Oswestry UK SY10 7PW

T:+44 1691 700500

**USA:** 9633 Zaka Rd, Houston TX USA 77064

T:+1-713.936.2990

marine@applanix.com

www.applanix.com