AIRMAR[®] 220WXH

WeatherStation[®] Multisensor – Ultrasonic Instruments for Use in Ice-Prone Areas

A Compact, Rugged Instrument for Informed Decision-Making

220WXH Multisensor

The patented 220WXH is Airmar's recommended model for weather-monitoring in ice-prone areas. Designed with an efficient, thermostatically controlled heating system, it operates effectively in extremely cold climates. The IPX6 housing is compact, rugged and durable with no moving parts, adding to its longevity and low cost of ownership.

The 220WXH has an internal 10 Hz GPS, and provides position, speed-over-ground, and course-over-ground data. The 220WXH calculates the Dynamic True wind speed and direction based upon the apparent wind speed, speed of the vessel, and vessel heading. A 3D compass with dynamic stabilization provided by the three-axis rate gyro enhances heading accuracy in heavy pitch and roll conditions.

Applications:

- Commercial fishing vessels
- Offshore Platform
- High Altitude Stations



Ultrasonic Wind Measurement Dynamic True and Apparent wind speed and direction with no moving parts



Barometric Pressure Accurate atmospheric pressure measurement

Air Temperature Accuracy of ±1.1°C at 20°C



10 Hz GPS Position, COG,SOG, time stamping



3-Axis Accelerometer For pitch and roll

3-Axis Compass



With dynamic stabilization and better than 1° accuracy



3-Axis Rate Gyro For rate-of-turn data



WEATHERSTATIONWX.COM

Understanding Dynamic True and Apparent Wind

Virtually all anemometers report wind speed and direction. Airmar's WeatherStation Instruments are unique because they calculate both dynamic true and apparent wind speed and direction. When the WeatherStation instrument is mounted on a moving (dynamic) platform, the apparent wind is the wind felt on your hand if you held it out while moving. Dynamic true wind Is the wind relative to North but also corrected for the speed and direction of the vessel. WeatherStation WX instruments integrate a GPS and 3-Axis compass, which allows for the calculation of the dynamic true wind speed and direction based upon the apparent wind, speed of the vehicle, and vehicle heading. Dynamic True wind measurement can be critical for any application where the platform is moving.



Airmar's WX Series products are the only all-in-one unit to offer dynamic true and apparent wind speeds without additional sensors.

SPECIFICATIONS

Wind Speed Range: 0 to 40 m/s Accuracy: 5% at 10 m/s at 4 angles Resolution: 0.1 m/s Calculations: User configurable damping Wind Direction Range: 0° to 359.9° Accuracy: ±3° at 10 m/s Resolution: 0.1° Calculations: User configurable damping **Air Temperature** Range: -40° to 80°C (-40 to 176°F) Accuracy: ±1.1°C at 20°C Resolution: 0.1°C **Barometric Pressure** Range: 300 to 1100 hPa Accuracy: ±0.5 hPa at 25°C (or better) Resolution: 0.1 hPa **Three-axis Compass** Range: 0 to 359.9 Accuracy: 1° static heading accuracy; 2° dynamic heading accuracy Resolution: 0.1°

COMMUNICATIONS

Hardware Interfaces: Serial RS232, Serial RS422 Data Protocols: Serial – NMEA 0183 Serial Data Transmission Code: ASCII Serial Output Rate: 1 Hz typical. User selectable. 10 Hz max recommended

PART NUMBERS

220WXH: 44-856-1-01, NMEA 0183 (RS422)

220WXH: 44-859-1-01, NMEA 0183 (RS232)

When the heater is ON, air temperature and wind chill functions are disabled. Relative Humidity (RH) not available on heater models

Cables sold separately unless otherwise specified Heater requires 24VDC



©2024 AIRMAR Technology Corporation 220WXH_Heater_rF 06/03/25 As AIRMAR constantly improves its products, all specifications are subject to change without notice. All AIRMAR products are designed to provide high levels of accuracy and reliability, however they should only be used as aids to navigation and not as a replacement for traditional navigation aids and techniques. WeatherStation[®] is a registered trademark of AIRMAR Technology Corporation. AMPHENOL is a registered trademark of Amphenol Corporation. Other company or product names mentioned in this document may be trademarks or registered trademarks of their respective companies, which are not affiliated with AIRMAR. Pitch and Roll Measurement Type: MEMS Range: 60° Accuracy: ±1° in range of ±30° Resolution: 0.1° GPS Position Accuracy: 2.5 m (8') CEP **Operating Temperature Range** WeatherStation: -25 to 55°C (-13 to 131°F) Heater: -40°C to 55°C (-40 to 131°F) Heater cycles on when sensor reaches 1°C **Operating Voltage** Supply Voltage: 12-24 VDC Supply Current (@ 24 VDC): <38 mA (<0.9 W) Heater Supply Current (@ 24 VDC): <2.5 A (<60 W) Weight: 350 grams (0.8 lb) Mounting-thread Size, Base M39: Adapter on cable is standard 1"-14 UNS (3/4" NPT optional) Certifications and Standards: CE, IPX6, RoHS, IEC61000-4-2, IEC60945, IEC60950_1C, IEC60950_22A, EN55022, EN55024, EN14982

DIMENSIONS



