



# 110WX WeatherStation® Instrument

Part Number 110WX

The model 110WX is Airmar's solution for marine or land-based, stationary, weather-monitoring applications. The 110WX gives wind speed and direction, air temperature, and barometric pressure readings. Feature rich and encased in a durable, rugged housing that is IPX6 rated, the 110WX is the right component for either marine-based positions or agriculture field locations. Reliability and performance, along with no moving parts, makes the 110WX a trouble-free and affordable choice.



## FEATURES

- Ultrasonic measurement of apparent wind speed and direction
- Barometric pressure
- Air temperature
- Wind chill
- Housing IPX6 rated for water-ingress protection
- Data output via a single cable (various lengths available)
  - NMEA 0183/ASCII serial data protocol over RS-232 interface
  - NMEA 2000 protocol over CAN

## Options

- Relative humidity module
  - Enables dew-point and heat-index calculations
  - Field serviceable
  - WeatherStation housing rated IPX4

## SPECIFICATIONS

**Recommended Use:** Marine Mobile or Stationary  
**Humidity:** Optional  
**Power Supply Voltage:** 9 to 40 VDC  
**Power Supply Current:** <50mA (<0.6 W) at 12 VDC  
**Communications Available Protocol:** Serial - NMEA 0183, CAN - NMEA 2000  
**Waterproof Rating:** IPX6 (Relative Humidity/IPX4)  
**Air Temp Accuracy:** ±0.3°C at 20°C  
**Air Temp Range:** -40 to 80°C (-40 to 176°F)  
**Air Temp Resolution:** 0.1°C  
**Apparent Wind Speed and Angle:** Yes  
**Barometric Pressure Accuracy:** ±0.5 hPa at 25°C (or better)  
**Barometric Pressure Range:** 300 to 1100 hPa  
**Barometric Pressure Resolution:** 0.1 hPa  
**Certs And Standards:** CE, IPX6 (IPX4 with optional Relative Humidity sensor), RoHS, IEC61000-4-2, IEC60945, IEC60950\_1C, IEC60950\_22A, EN55022, EN55024, EN14982  
**Communications Available Hardware Interface:** Serial RS232, Serial RS422, CAN  
**Communications Serial Data Transmission Code:** ASCII  
**Communications Serial Output Rate:** 1 Hz typical. User selectable. 10 Hz maximum recommended  
**Mounting Thread:** Standard 1"-14 UNS (3/4" NPT optional)  
**NMEA 2000 LEN:** 1  
**Note:** Cables sold separately unless otherwise specified  
**Operating Temp Range:** -25 to 55°C (-13 to 131°F)  
**Optional RH Accuracy:** ±5% RH at 0 to 90% RH at 20°C  
**Optional RH Range:** 0 to 100% RH  
**Optional RH Resolution:** 0.1% RH  
**Stationary:** Yes  
**True Wind Speed and Direction:** Yes (Manual Alignment to North)  
**Weight:** 275 g (0.6 lb.)  
**Wind Direction Accuracy:** ±3° at 10 m/s  
**Wind Direction Calculations:** User configurable damping  
**Wind Direction Range:** 0° to 359.9°  
**Wind Direction Resolution:** 0.1°  
**Wind Speed Accuracy:** 5% at 10 m/s at 4 angles  
**Wind Speed Calculations:** User configurable damping  
**Wind Speed Range:** 0 to 40 m/s (0 to 89 MPH)  
**Wind Speed Resolution:** 0.1 m/s

## DATA OUTPUT

### Serial Data Output Protocol

NMEA 0183 Sentence Structure - Comma Delimited ASCII Format

SGPDTM	GPS Datum Reference
SGPGGA	GPS Fix Data
SGPGLL	Geographic Position—Latitude and Longitude
SGPGSA	GNSS DOP and Active Satellite
SGPGSV	Satellites in View
SGPRMC	Recommended Minimum GNSS
SGPVTG	COG and SOG
SGPZDA	Time and Date
SHCHDG	Heading, Deviation, and Variation
SHCHDT	True Heading
SHCTHS	True Heading and Status
\$TIROT	Rate of Turn
SWIMDA	Meteorological Composite
SWIMWD	Wind Direction and Speed
SWIMWV	Wind Speed and Angle
SWIMWR	Relative Wind Direction and Speed
SWIMWT	Theoretical Wind Direction and Speed
SYXXDR	Transducer Measurements

## CAN Data Output Protocol

### NMEA 2000® Output Message Structure

59392	ISO Acknowledgement
060928	ISO Address Claim
126208	Acknowledge Group Function
126464	PGN List
126992	System Time
126996	Product Information
126998	Configuration Information
127250	Vessel Heading
127251	Rate of Turn
127257	Attitude
127258	Magnetic Variation
129025	Position and Rapid Update
129026	COG and SOG, Rapid Update
129029	GNSS Position Data
129033	Time and Date
129044	Datum
129538	GNSS Control Status
129539	GNSS DOPs
129540	GNSS Sats in View
130306	Wind Data
130310	Environmental Parameters
130311	Environmental Parameters
130312	Temperature
130313	Humidity
130314	Actual Pressure
130323	Meteorological Station Data

## DOCUMENTS



Brochure  
WeatherStation® Multisensors



Brochure  
110WX



Dimensions  
D-92-262-02



Installation  
D-17-460-01



Installation  
D-17-461-01



Installation  
D-17-528-02



Installation  
D-18932



Installation  
Replacement-Humidity Sensor-17-570-01-English



Installation  
17-461-01-French



Installation  
17-461-01-Italian



Installation  
17-461-01-Spanish

## PROP 65



### WARNING!

Cancer and Reproductive Harm -  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



### ADVERTENCIA!

Cáncer y Daño Reproductivo -  
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Technical Resources: [Cross Reference](#) | [Bottom Calculator](#) | [Software Downloads](#) | [Product Brochures](#)

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