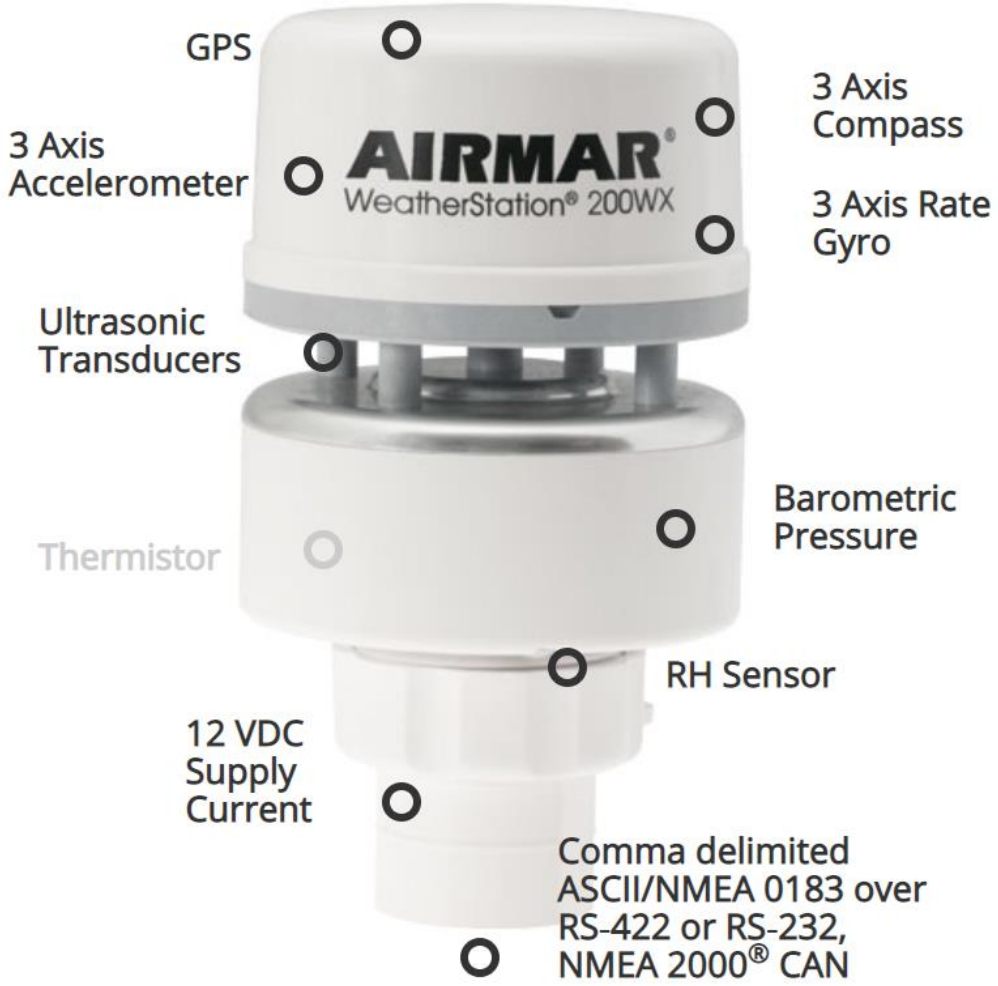
Sailbuoy Airmar User Manual

Date: 4 November 2020
Bergen, Norway



Contents

Introduction

The Airmar 200WX is a Weatherstation containing various sensors. Documentation can be found on www.airmar.com

Airmar sensor configuration

The Airmar is configured to stream data at 4800 baud and to output the following sentences:

Sentence	Frequency [Hz]
GGA	0.2
HDG	1
MDA	1
MWV(R)	1
RMC	1
XDR(A)	0.1
XDR(C)	1
XDR(D)	1

The sensor is configured using the WeatherCaster software from Airmar.
The following sentences should be enabled:

$WIMDA – windspeed, direction
$WIMWV – windspeed if no gps fix
$HCHDG - heading

Airmar Sailbuoy configuration

```
------ AIRMAR ------
  5: $AIRRP   RunOrder (1-9).........: 5
  6: $AIRRC   RunCounter.............: 1
  7: $AIREN   On.....................: 1
  8: $AIRTO   TimeoutSec.............: 120
  9: $AIRAO   AlwaysOn...............: 0
 10: $AIRLG   LogToDisk..............: 1
```

Command	No Parameters	Description	Min	Max
$AIRRP	1	RunOrder (1-9)	1	9

$AIRRC	1	RunCounter	0	
$AIREN	1	Airmar is enabled (1) or disabled (0)	0	1
$AIRTO	1	TimeoutSec (maximum acquisition time)	0	3600
$AIRAO	1	AlwaysOn (leaves airmar on between aquisions)[1]		
$AIRLG	1	LogToDisk (log airmar output to disk)	0	1

[1] The sensor consumes around 100 mA while running.

Transmitted data

AirmarAirTemp – mean air temperature
AirmarWindDirection – mean direction
AirmarWindSpeed - mean windspeed
AirmarWindGust – 95% largest windspeed value
AirmarHeading – mean heading
AirmarAirFix – GPS corrected data.

Note: If the sensor is not powered on long enough the AirmarAirFix will be 0. This means the sensor has not gained a GPS fix and the data transmitted will be of a lower quality.

Mounting

Before attaching the sensor, it is important to lubricate around the connector with marine silicone to ensure that water does not enter the pins when the sensor is mounted. Hand tighten the screw.
Align the sensor with the alignment lines.


Lubricate red area around the connector with silicone 2-3 mm thick

Raw output example from Airmar

$WIMWV,179.6,R,0.7,N,A*2D
$GPRMC,,V,,,,,,,0.9,W,N*23
$YXXDR,C,,C,WCHR,C,,C,WCHT,C,,C,HINX,P,1.0983,B,STNP*48
$HCHDG,208.7,0.0,E,0.9,W*54
$WIMDA,32.4328,I,1.0983,B,25.5,C,,,,,,,,,,,,*3D
$WIMWV,164.8,R,0.8,N,A*20
$GPRMC,,V,,,,,,,0.9,W,N*23
$YXXDR,C,,C,WCHR,C,,C,WCHT,C,,C,HINX,P,1.0983,B,STNP*48
$HCHDG,208.5,0.0,E,0.9,W*56
$WIMDA,32.4328,I,1.0983,B,25.5,C,,,,,,,,,,,,*3D
$WIMWV,179.6,R,0.8,N,A*22
$GPRMC,,V,,,,,,,0.9,W,N*23
$YXXDR,C,,C,WCHR,C,,C,WCHT,C,,C,HINX,P,1.0983,B,STNP*48
$HCHDG,208.6,0.0,E,0.9,W*55
$WIMDA,32.4328,I,1.0983,B,25.5,C,,,,,,,,,,,,*3D
$WIMWV,179.6,R,0.7,N,A*2D
$GPRMC,,V,,,,,,,0.9,W,N*23
$YXXDR,C,,C,WCHR,C,,C,WCHT,C,,C,HINX,P,1.0983,B,STNP*48
$HCHDG,208.6,0.0,E,0.9,W*55
$GPGGA,,,,,,0,,,,,,,,*66
$WIMDA,32.4328,I,1.0983,B,25.5,C,,,,,,,,,,,,*3D
$WIMWV,179.6,R,0.7,N,A*2D
$GPRMC,,V,,,,,,,0.9,W,N*23
$YXXDR,C,,C,WCHR,C,,C,WCHT,C,,C,HINX,P,1.0983,B,STNP*48
$HCHDG,208.6,0.0,E,0.9,W*55
$WIMDA,32.4328,I,1.0983,B,25.5,C,,,,,,,,,,,,*3D
$WIMWV,179.6,R,0.7,N,A*2D

Configuring the Airmar

To configure the sensor, use the WeatherCaster software from Airmar.
Connect to the sensor using the Direct Serial menu.