RO Wind & RO Wind Plus
Ultrasound Anemometers

RO Wind is a new generation wind measurement sensor giving the speed and relative angle of the wind and the air temperature. **Atmospheric pressure** is available on the RO Wind Plus model.

This sensor can be linked to all equipment using the NMEA standard 0183 or to a computer.

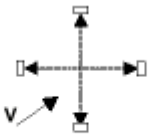
Advantages:

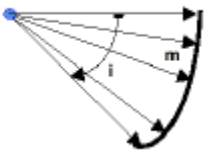
- Mechanically robust: knocks, gusts of wind, birds etc.
- Lack of wear: no rotating parts
- Not sensitive to the gyroscopic effect: hence great precision in light winds.
- Minimised windage and the effect of heel compensated
- Open standard compatible with the majority of repeaters.

Operating principle:

Sound and ultrasound is carried by the movement of a fluid through which it passes. Four electro-acoustic transducers communicate two by two using ultra-sound signals to determine, in their orthogonal axes, the difference in transit times of the waves, induced by the air flow. The measurements are used in an integrated computer to establish the wind characteristics and its direction relative to a reference axis. The measurement of temperature serves to refine the calibration. The method is accurate to within 0.5 knots, has a range of up to 100 knots and excellent linearity.

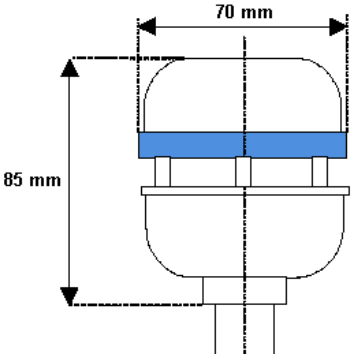
i = 0°,15°, 30°, 40°, 45°
Typical variation of m = 7%
Heel is compensated up to 45°





Equipment:

- RO Wind sensor head (330g)
- 25 m coaxial cable fitted with a TNC connector
- Box for supply and reader display
- Installation leaflet
- Fixing system



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RO Wind : Ultrasonic Anemometer Specification

Wind speed Range	0.5-99.5 Knots
Wind speed Resolution	0.1 Knots
Wind direction Range	0-360 °
Wind direction Resolution	1°
Wind direction Sensibility	+/- 1.5 °
Power requirement	9- 14 V DC (50mA@ 12V)
Output	RS422 / RS232
Output NMEA 0183	IIMWV every 0.5 second
	WIXDR every 0.5 second
Temperature Range	0 – 40 ° C

RO Wind Plus : Ultrasonic Anemometer / Barometer

Wind speed Range	0.5-99.5 Knots
Wind speed Resolution	0.1 Knots
Wind direction Range	0-360 °
Wind direction Resolution	1°
Wind direction Sensibility	+/- 1.5 °
Atmospheric pressure Range	0.900 –1.100 B
Atmospheric pressure Resolution	0.001 B
Pressure connection	Tube fitting (Ø 4 mm)
Power requirement	10- 14 V DC (70mA@ 12V)
Output interface	RS422 / RS232
Output NMEA 0183	IIMWV every 0.5 second
	WIXDR,Temperature every 2 second
	WIXDR,Pressure, every 2 second
	WIXDR,Temp.&Pressure every 2 second
	WIMDA every 2 second
Temperature Range	0 – 40 ° C

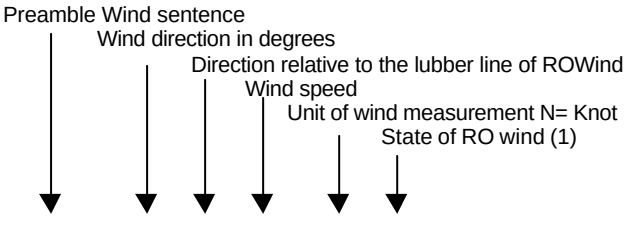
NMEA0183

4800 Bauds, No parity, 1 Stop bit
Variable length fields, "comma" separator.
Start of expression $
End of expression: CR,LF

Examples:

$WIXDR,C,022.5,C,,P,0.996,B
$PLCJ,40,40,37,37,2F,
$IIMWV,315.0,R,000.00,N,A
$WIXDR,C,022.5,C,,P,0.996,B
$PLCJ,40,40,37,37,2F,
$IIMWV,315.0,R,000.00,N,A
$WIXDR,C,022.5,C,,P,0.996,B
$PLCJ.40.40.37.37.2F.

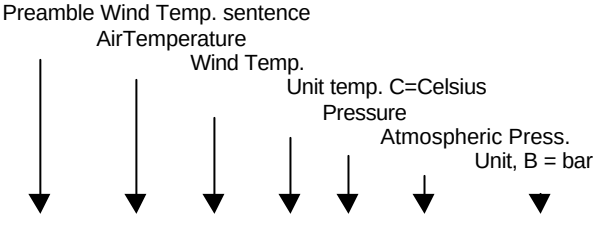
RO WIND



$IIMWV, 179.0, R, 000.30, N, A

(1) A: Correct measurements / N: Incorrect measurements

RO WIND PLUS



$WIXDR, C, 020.0, C, P, X.XXX, B

$PLCJ.5B.5B.5F.5F.31. Sentence for use by the technical department

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radio ocean
NAVIGATION ELECTRONIQUE

PRODUCTS COMPATIBLE (SEPT 2001)

RO WIND

	Tested products
- LS6100 FURUNO	FURUNO
- RD30 FURUNO	FURUNO
- C-NET 2000 MULTI	CETREK
- WIND CETREK	CETREK
- PILOTE AUTO CETREK	CETREK
- R100 NAVMAN,	PLASTIMO.
- IS15 WIND	SIMRAD, KONGSBERG.
- CE32	SIMRAD, KONGSBERG.
- ST30 [1]	AUTOHELM
- ST40 [1]	RAYTHEON
- ST60 [1]	RAYTHEON
- BUS Topline via une interface NMEA.	NKE
- BUS SeaTalk via une interface NMEA.	AUTOHELM/ RAYTHEON
- Software PC MaxSea V 6.7 et +	Informatique & Mer
- Software Mac MaxSea V 7.5.3 et +	Informatique & Mer
- Software RO WIND	LCJ CAPTEURS

Known as compatible (not tested)

- FURUNO NAVNET	FURUNO
- 3FD NMEA	BROOKES & GATEHOUSE
- H1000	BROOKES & GATEHOUSE.
- PILOTE AUTO	NAVICONTROL
- OYSTER	SEIWA
- MAKO	SEIWA
- Software PC SODENA	SODENA

[1] Option RO WIND ST needed

RO WIND PLUS

	Tested products
- RD30 FURUNO	FURUNO
- LS6100 FURUNO	FURUNO
- Software PC MaxSea V 6.7 et +	Informatique & Mer
- Software Mac MaxSea V 7.5.3 et +	Informatique & Mer
- Software RO WIND	LCJ CAPTEURS