WND100 WIND TRANSDUCER

Installation and instruction Manual

1. Introduction

Congratulations on the purchase of your WND100 Wind Transducer. It is recommended that this product is installed by a professional, marine electronics engineer.

ⓘ **Installation of the Wind Transducer should only be conducted when the mast is down.**

2. Before you start

You will need the following items and tools to complete the installation;

- The WND100 Transducer with 20m Cable (supplied)
- A 1A inline fuse
- 3x Suitable M5 Nut and Bolts or No10 Self Tapping Screws to fix the transducer to the top of the mast
- A suitable waterproof deck gland for the cable to pass through

To display the wind data, you will need a suitably compatible device with an NMEA0183 data input at 4800 baud.

3. Installation

The WND100 Wind Transducer should be mounted so as to position its sensing parts, the cups and the vane, that they are always directly in the wind whatever direction it is coming from. In a boat the best place is high and forward of the mast. In fixed installations, the unit should be clear of a roof or similar obstructions, by at least half a meter.

It is very important that the WND100 is mounted parallel to the centre line of the boat. It is possible to calibrate the WND100 to remove any angular offset that might be introduced during installation, but if you can accurately position the transducer with the main shaft facing forward, parallel to the boat's centre line, then this will ensure best performance and accuracy.

Using the cable base as a template, spot mark through the fixing holes to the mast cap. The cable should run aft, with the single screw forward. Use stainless steel screws to fix the cap, (either No10 self-tapping screws , or M5 machine screws).

The WND100 can then be fitted to the base with the two screws provided. The 20m cable of the WND100 is terminated with bare ended wires.

Dimensions;

| Normal WND100 | A = 390mm |
	B = 225mm
Long Arm WND100	A = 540mm
	B = 300mm

4. Electrical Wiring

The WND100 is designed to work from a DC supply with a voltage range of 8V to 30V and typically consumes about 15mA (0.015A). To protect the wiring, it is recommended that an inline fuse of 1A is fitted to the Red (Power+) wire of the WND100 cable. This is not necessary when connecting it to our WindSense wireless interface, which has internal self-resetting fuses for the WND100.

Primarily the WND100 is designed to be used with Digital Yacht's wireless WindSense product (see WindSense Quick Start Guide for more information) but it can also be used in a number of different applications, such as; replacing an existing wind transducer that has failed, providing a Wind Input to a Mutli-Function Display (MFD) or getting Wind data on to a Personal Computer.

The WND100 uses an industry standard NMEA0183 interface to communicate wind data to other equipment. To reduce the number of connections, the NMEA0183 signals are not true differential inputs and outputs. When connecting the WND100 to an NMEA0183 device that has a differential input, the device's negative Input should be connected to the Shield wire of the WND100 (as shown below).
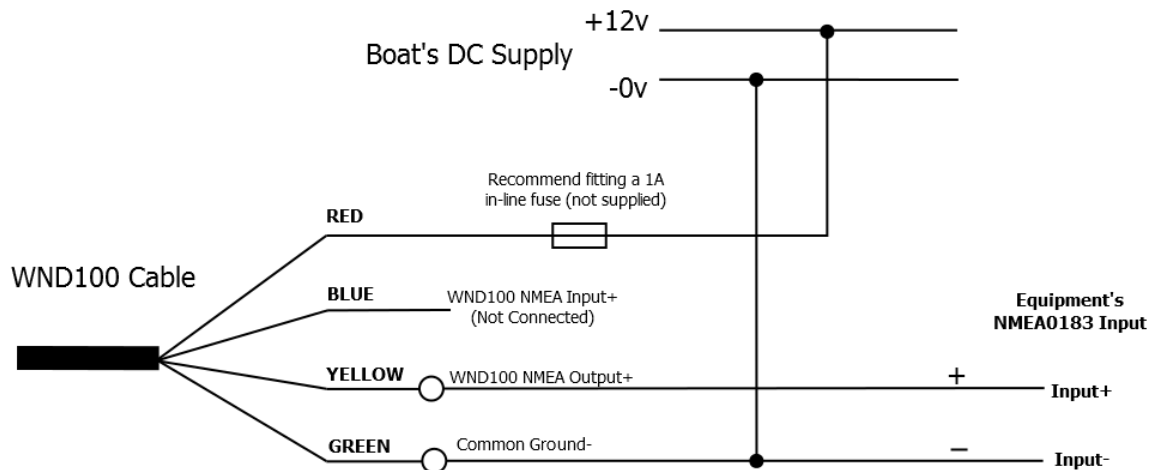

The WND100 can be directly connected to a personal computer if the computer has an old 9 way D-Type RS232 serial COM Port as per this diagram.
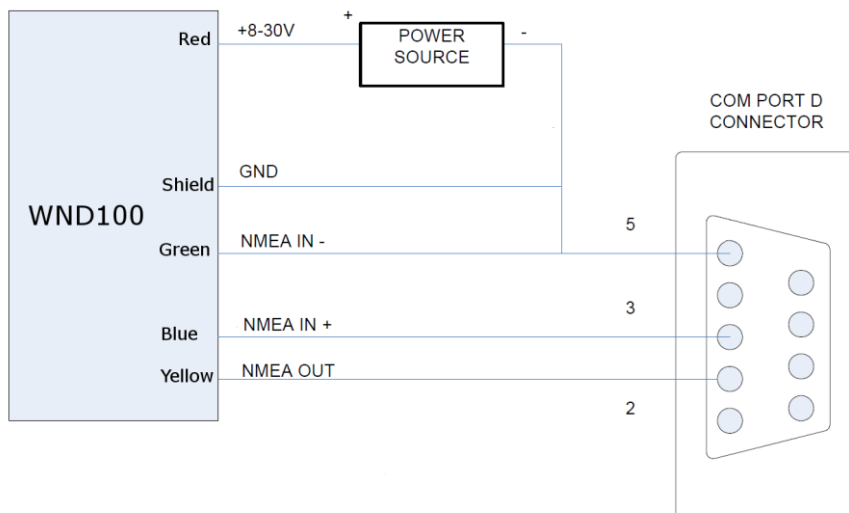
For newer personal computers that only have USB ports, you will need to use a Digital Yacht USB to NMEA converter (P/No ZDIGUSBNMEA). This creates a virtual COM port on your PC that navigation software can use to read the NMEA0183 wind data.

The diagram below shows the bi-directional connection between the WND100 and our USB to NMEA converter.
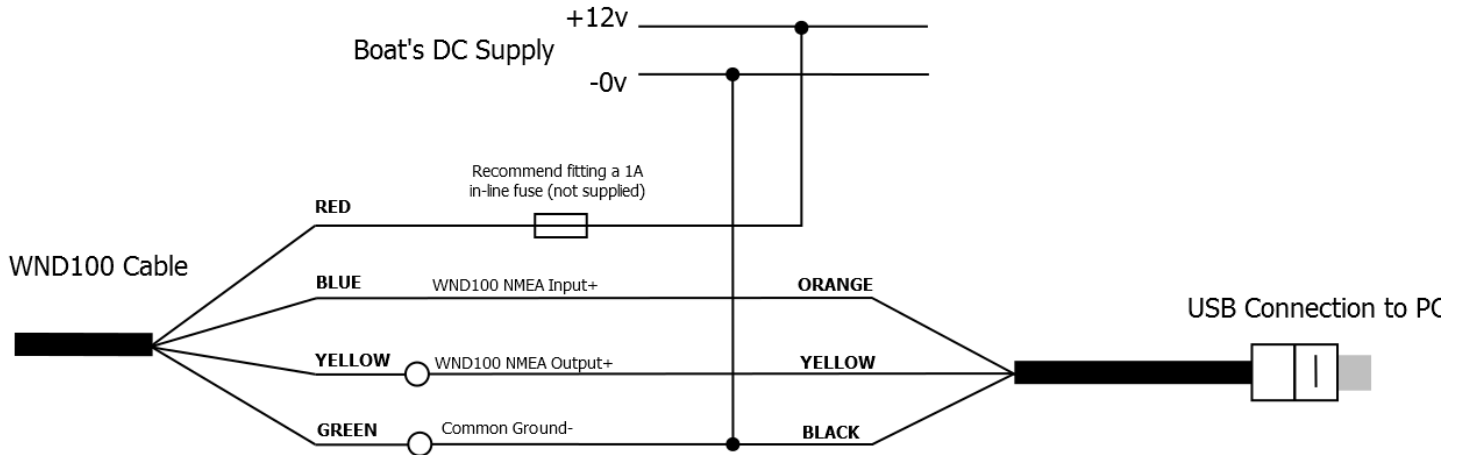
Once the WND100 is wired up to whichever equipment it is to be used with, apply power, ensure the equipment is set to receive NMEA0183 Wind Data at 4800baud and check that it is receiving valid Wind data.

5. Technical Specification

Protocols	NMEA-0183 Version 3.01
NMEA Sentences	MWV (5Hz)
Update Rate	5Hz by default (configurable up to 10Hz)
Maximum Velocity	80 knots
Minimum Velocity	1.7 knots
Wind Speed (WS) Resolution	0.1 knot
Wind Angle (WA) Resolution	0.1º
Typical (Max) WS Error	3% (5%)
Typical (Max) WA Error	4º (8º)
Operating Temperature	-25°C to +50°C degrees Celsius
StorageTemperature	-40°C to +100°C degrees Celsius
Maximum Current	15mA (@12Volts)
Power Input	VDC +8v to 30v
Cable	Black 20m Shielded Cable (4.75mm OD)