# MODEL 06206
## MARINE WIND TRACKER

CE

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**MANUAL PN 06206-90**

WS06206MAN-1.0-0


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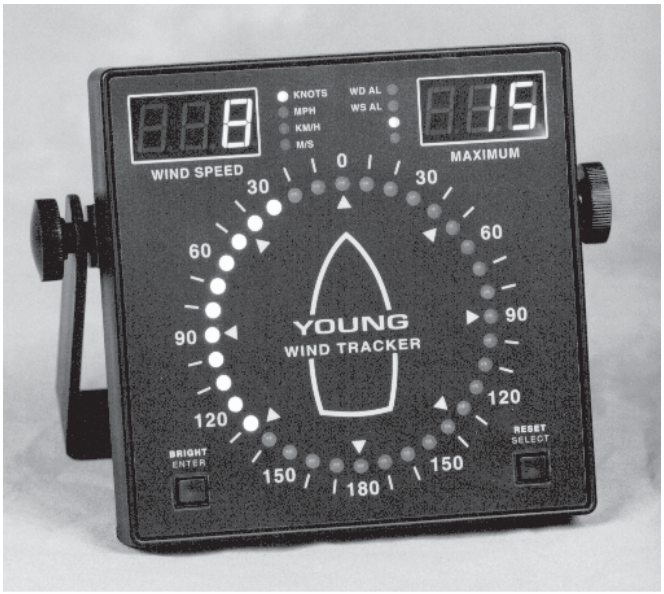
## MARINE WIND TRACKER




### INTRODUCTION

The YOUNG Model 06206 Marine Wind Tracker is a compact wind speed and wind direction display. This model has features such as relative wind angle and NMEA compatibility that make it suitable for shipboard use.

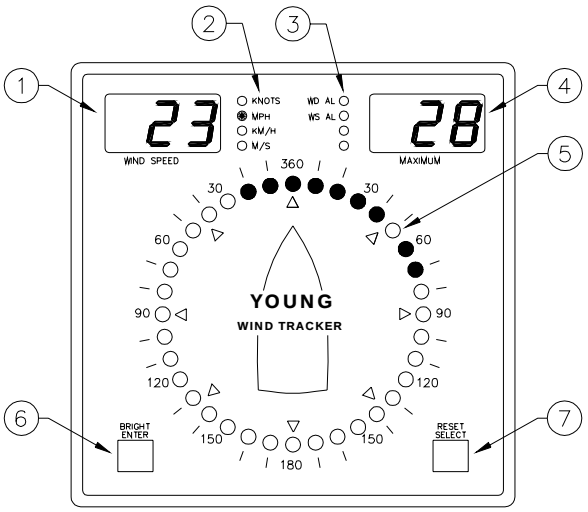
### FEATURES

- 3 digit wind speed display
- 3 digit maximum wind speed or wind direction display
- Multi-color wind direction display with variability display
- Wind speed and direction alarms with delay
- RS-485/NMEA serial connections
- Calibrated 0-5 VDC outputs
- Display brightness control
- 4-20 mA Sensor Inputs
- Luminous front panel markings

### PRECAUTIONS

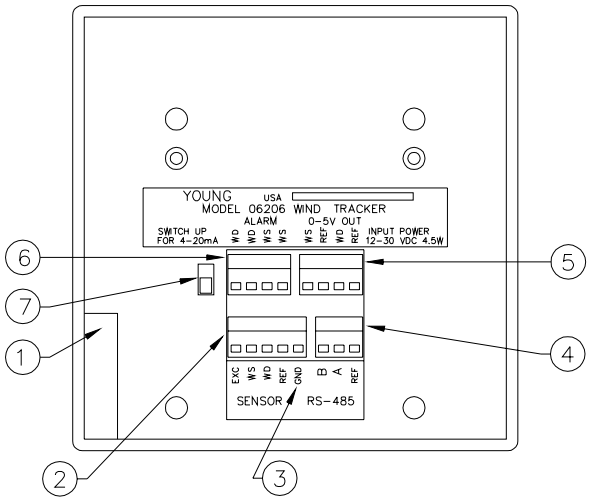
- INDOOR USE ONLY unless placed in approved enclosure.
- Operating temperature range 0-50°C (32-122°F), 0-95% RH.
- Use only recommended power sources; 12-30VDC, 4.5 W.
- Disconnect power when making connections or servicing sensors.
- MAXIMUM 24 VAC/30 VDC on alarm relay contacts.

### FRONT PANEL




1. Wind Speed Display
2. Wind Speed Units Indicator
3. Alarm Status Indicators
4. Maximum Wind Speed or Relative Wind Direction Display
5. Relative Wind Direction and Variability Display
6. Brightness (operate mode), ENTER (setup mode)
7. MAX RESET (operate mode), SELECT (setup mode)

### BACK PANEL




1. Power input (12-30 VDC) AC adapter supplied
2. Sensor or 4-20 mA inputs
3. Earth ground connection
4. RS-485/NMEA serial connections
5. 0-5 VDC calibrated outputs
6. Alarm relay connections (normally open)
7. Input selector switch

## MOUNTING AND START-UP

1. Select location for display. A location out of direct sunlight provides best visibility.

   The Wind Tracker may be mounted from a bulkhead or installed in a flush panel by removing the mounting bracket. Panel cutout dimensions are given in the specifications. An optional rack mounting panel (Model WS-06280) and protective enclosure (Model WS-06260) are available from your supplier.

2. Connect cables to terminals. Refer to diagrams on page 5.

   **Selector switch (item 7 on back panel illustration) should be DOWN for normal sensor inputs, UP for 4-20 mA or Wind Monitor-SE signals.**

3. Connect GND terminal to suitable earth ground.

4. Insert power supply plug into power jack, plug into standard AC wall outlet.

   The Wind Tracker may also be powered from ships batteries. A coaxial power plug (2.1mm) must be used. Center is positive.

5. The Wind Tracker will display a software version number for approximately 4 seconds. It then begins to display wind information. The following information is displayed:

   - Wind Speed
   - Wind Speed Units
   - Maximum Wind Speed or Direction degrees
   - Relative Wind Direction (single orange indicator)
   - Direction Variability (green indicators)
   - WS, WD Alarm Status Indicators (if selected)

6. Observe the unit for a few minutes to verify that it is operating properly. If you wish to change settings (ie: wind speed units). See the following section.

## CHANGING SETTINGS

The Wind Tracker has a setup mode that allows you to easily change sensor type, wind speed units, alarm settings, and other functions.

Press and hold **ENTER** and **SELECT** keys (about 5 seconds). The display will briefly flash “SET UP”, then begin the SETUP sequence. Change settings with the **SELECT** key. Press the **ENTER** key to save a setting and move to the next step. Abbreviations in the left and right display windows identify each function and the available selections.

| DISPLAY LEFT | DISPLAY RIGHT | SETUP FUNCTION |
|---|---|---|
| | | **Input/Sensor Type** |
| **InP** | **LDi** | Line Driver 4-20 mA input |
| | **03** | Wind Sentry |
| | **04** | Wind Monitor-Jr |
| | **05** | Wind Monitor, Wind Monitor-MA |
| | **SEr** | Serial input from Wind Monitor-SE or main display<br>*If SEr is selected, **wind speed units** and **NMEA output rate** selections do not appear.* |
| | | **Wind Speed Units** |
| **SPd** | **unt** | Press SELECT to change units, ENTER to proceed. |
| | | **NMEA Output Rate** |
| **OUT** | **FST** | 16 sentences sent per second |
| | **SLO** | 1 sentence sent per second |
| | | **Display** |
| **dSP** | **SPd** | Displays MAXIMUM wind speed in right display. |
| | **dir** | Displays WIND DIRECTION degrees (1° resolution) in right display. |
| | | **Wind Direction Alarm** |
| **ALr** | **no** | WD alarm not used. |
| | **YES** | WD alarm activated.<br>*If no is selected, the following 2 steps do not appear.* |
| **ALr** | **dir** | Press SELECT to position alarm sector. Press ENTER. |
| **ALr** | **SPn** | Press SELECT to set size (span) of alarm sector. |
| | | **Wind Speed Alarm** |
| **ALr** | **no** | WS alarm not used. |
| | **YES** | WS alarm activated.<br>*If no is selected, the following step does not appear.* |
| **ALr** | **000** | WS alarm set point. Press SELECT to change digits. ENTER to save.<br>*If no alarm is selected, the following 2 steps do not appear.* |
| | | **Alarm Delay Time** |
| **dLY** | **030** | Set alarm delay time in seconds (0-999). |
| | | **Sound** |
| **Snd** | **no** | No sound with alarm. |
| | **YES** | Audible beeper will sound with alarm. |
| | | **Test Functions** |
| **tSt** | **no** | Skip test functions. |
| | **YES** | For troubleshooting only. YES will initiate the following tests.<br>*If no is selected, the unit will return to normal operation.* |
| **tSt** | **Snd** | Press SELECT to sound beeper. |
| **tSt** | **dSP** | Press SELECT to illuminate all display segments. |
| **tSt** | **ALr** | Press SELECT to close alarm relays. |
| **CAL** | **0.00** | Press SELECT to alternate between 0.00 Vout and 5.00 Vout at terminals. Use to calibrate external devices (recorders, etc..) |

## ADDITIONAL INFORMATION

### ALARMS

Wind speed and wind direction alarm functions are accessed in the SETUP sequence. Either or both alarms may be used. When activated, alarms are indicated on the front panel. When an alarm condition exists, the indicator will blink and the associated relay contact will close and the beeper will sound if selected in SETUP. When a delay time is set, the indicator will not report an alarm condition until it has existed for one complete delay period. Alarm activity will cease when conditions are outside the alarm range for one complete delay period. For a "latching" alarm effect, use the Wind Tracker alarm contacts to activate an external latching-type relay.

### BRIGHTNESS

Adjust display brightness by holding the BRIGHT key.

### MAXIMUM / WIND DIRECTION DIGITAL DISPLAY

The right display window can show either MAXIMUM WIND SPEED or Numerical WIND DIRECTION. This selection is made in the setup mode under **Display (dSP).**

### NMEA OUTPUT

The Wind Tracker features NMEA serial output from the RS-485 terminals. These terminals can be used to operate remote displays or connect to other NMEA compatible devices. The NMEA output sentence is sent 16 times per second (Fast) or once per second (Slow) depending on the **NMEA Output (OUT)** setting in SETUP. For best remote display, use the Fast setting.

### REMOTE DISPLAYS

The Wind Tracker can be used as a remote display by selecting "InP SEr" during SETUP. Remote displays are connected to the main display using the RS-485 terminals. NMEA Serial Protocol is used to operate remote displays. Up to 16 remote displays can be connected to one main display. Use the serial input when connecting to a Model 09101 Wind Monitor-SE sensor. See wiring diagram.

### VOLTAGE OUTPUTS

The Wind Tracker offers calibrated voltage outputs for both wind speed and wind direction. This feature allows the use of recorders and other devices. Full scale voltage for each channel is 5.00 VDC.

#### 4-20mA INPUTS

The Wind Tracker accepts 4-20 mA (Line Driver) inputs. Line Driver circuit must provide 0-50 M/S Wind Speed scaling ("M" suffix). Connect cable as indicated on page 4. Slide switch on back must be UP at power up for correct 4-20 mA operation. Select LDI as input in SETUP. **24 VDC power is required for line driver applications.**

### ERROR MESSAGES

The Wind Tracker detects and indicates two errors. Once corrected, the error indication disappears.

**DISPLAY**

| | | |
|---|---|---|
| **LDi** | **Err** | 4-20 mA (line driver) signal. Signal is missing or outside of acceptable range. Verify proper switch position or signal. |
| **SEr** | **Err** | Unit is set to receive RS-485 NMEA serial signal, but no serial data is coming in. Verify that NMEA source is operating. Check cables for proper connection. |

## WARRANTY

The Wind Tracker is warranted to be free of defects in materials and construction for a period of 12 months from date of purchase. Coverage is limited to repair or replacement of defective unit.

## SPECIFICATIONS

Size: 144 mm (5.65 in) x 144 mm (5.65 in) x 36 mm (1.4 in)

Panel Cutout: 138 mm (5.43 in) x 138 mm (5.43 in)

Compatible Sensors:
- Wind Monitor-SE
- Wind Monitor
- Wind Monitor-MA
- Wind Monitor-JR
- Wind Sentry

Other Inputs:
- 4-20 mA
- NMEA Serial Input/Output
  - $WIMWV,ddd,R,sss,u,A[CR][LF]
  - where:
    - ddd wind direction in degrees
    - sss wind speed (ss.s for m/s)
    - u units (N = knots, K = kilometers/hour, M = meters/second, S = miles/hour)

Accuracy: ±0.6% F.S.

Display Resolution:
- Wind Direction: 10° circular pattern (36 points) 1° w/ **dSP dIr** selected
- Wind Speed & Maximum: 1 Knot, 1 MPH, 1 KM/H, 0.1 M/S

Voltage Outputs:
- Wind Direction Range:
  - 0-5 VDC 0-360°
- Wind Speed Range: (dependent on units selected)
  - 0-5 VDC 0-100 Knots, 0-100 MPH, 0-200 KM/H, 0-50 M/S

Alarm Relays: Non-latching
- Normally Open contacts for WS and WD.
- Contact rating 5A resistive, 2A inductive @ 24 VAC, 30 VDC.

Input Power: 12-30 VDC, 4.5 W

Weight: 1.0 lb (.45 kg) without AC adapter

## CE COMPLIANCE

This product has been tested and shown to comply with European CE requirements for the EMC Directive. Please note that shielded cable must be used.

### Declaration of Conformity

**Application of Council Directives:**
89/336/EEC

**Standards to which Conformity is Declared:**
EN 50081-1
EN 55022 (CISPR 22 class A)
EN 50082-1 (IEC 801-2, 3, 4)

**Manufacturer's Name and Address:**
R. M. Young Company
Traverse City, MI, 49686, USA

**Importer's Name and Address:**
See Shipper or Invoice

**Type of Equipment:**
Meteorological Instruments

**Model Number / Year of Manufacture:**
06206/1996

I, the undersigned, hereby declare that the equipment specified conforms to the above Directives and Standards.

**Date / Place:**
Traverse City, Michigan, USA February 19, 1996

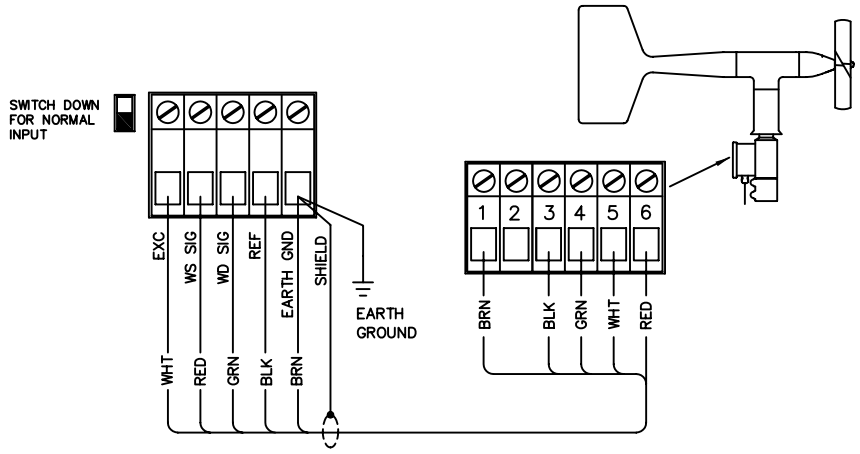
David Poinsett
R & D Manager, R. M. Young Company

# MARINE WIND TRACKER

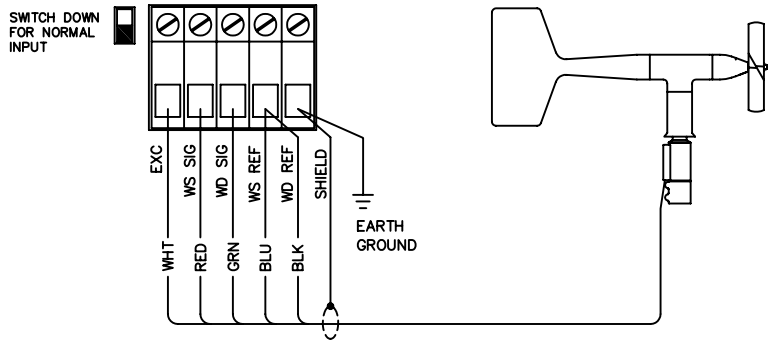
## WIRING DIAGRAMS

NOTE: EARTH GROUND CONNECTION TO GROUND TERMINAL OF WIND TRACKER REQUIRED.

WIND SENSOR
05103, 04101

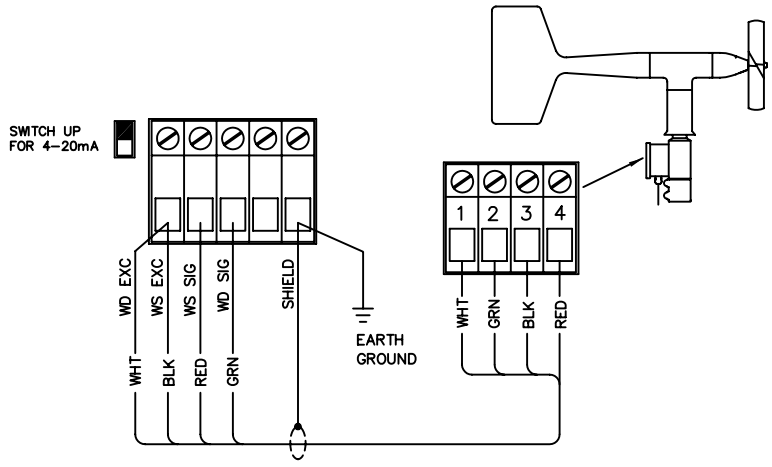



WIND SENSOR
05106, 04106



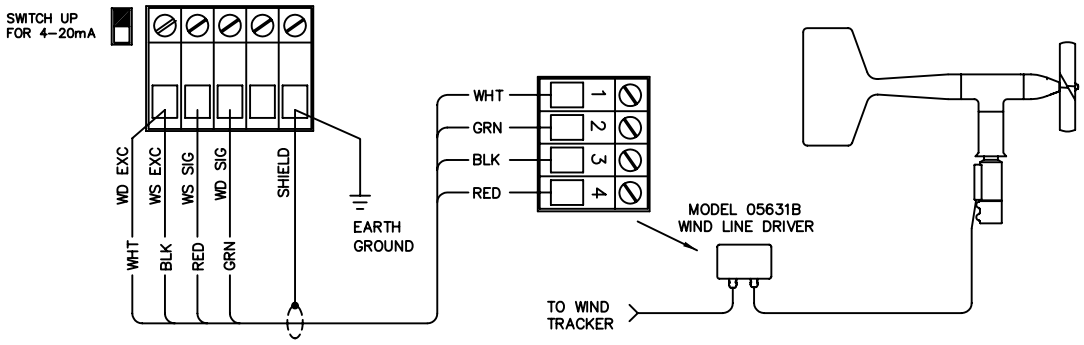

WIND SENSOR
05103LM, 04101LM

WITH 4–20mA
OUTPUTS

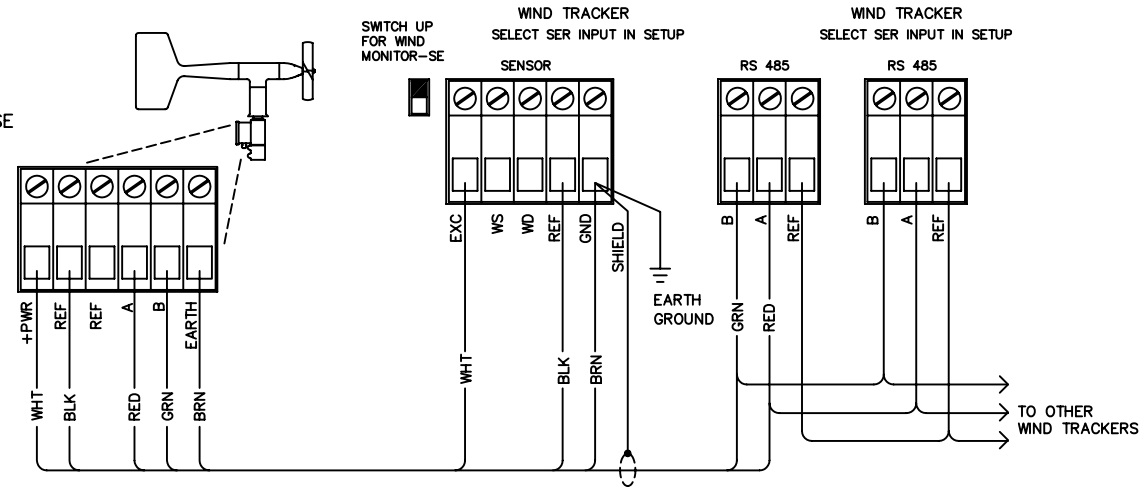



WIND SENSOR
05106, 04106

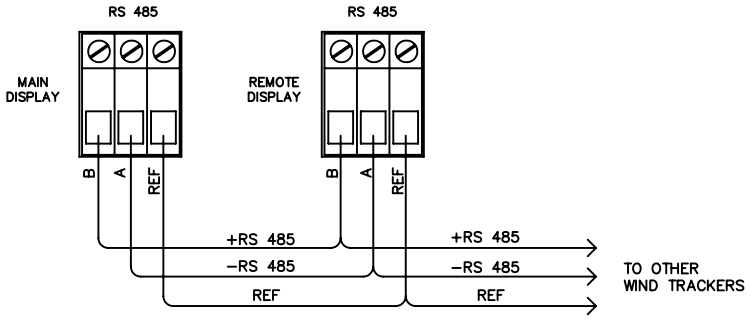
WITH 4–20mA
LINE DRIVER



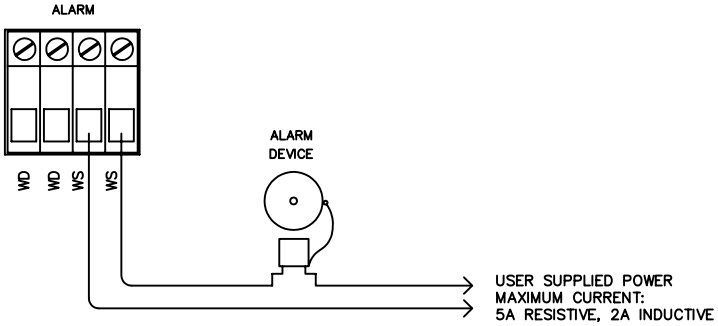
MODEL 09101
WIND MONITOR–SE




REMOTE
DISPLAYS




ALARM/RELAY
NON–LATCHING




VOLTAGE
OUTPUTS