



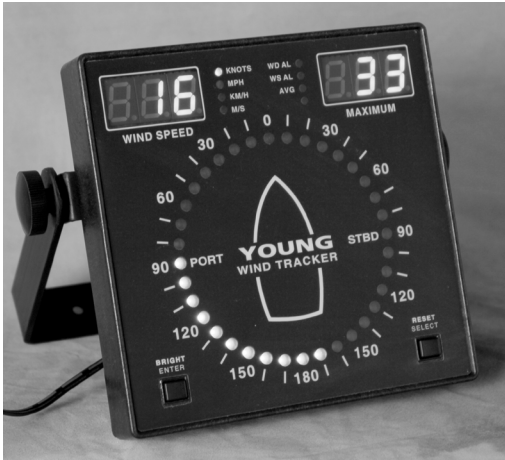
# METEOROLOGICAL INSTRUMENTS

## INSTRUCTIONS

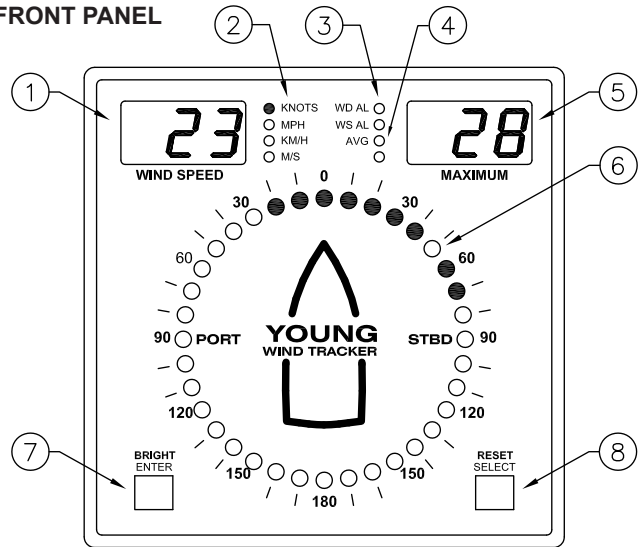
**WIND TRACKER  
MODEL 06206**



# MODEL 06206 WIND TRACKER



## FRONT PANEL



## INTRODUCTION

The YOUNG Model 06206 Marine Wind Tracker is a compact wind speed and direction display with advanced features relative wind angle and NMEA serial I/O making 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
- Wind speed and direction alarms with delay
- RS-485/NMEA serial connections
- Calibrated 0-5 VDC outputs
- Display brightness control
- Compatible with YOUNG wind sensors & 4-20 mA inputs

### 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. 12-30 VDC, 3.5 W
- Disconnect power when connecting or servicing
- Alarm contact rating 24 VAC/30 VDC, 5 A resistive, 2 A inductive maximum

## FACTORY DEFAULT SETTINGS

### INPUT:

- Sensor Input Setting: "05" Wind Monitor
- Input selector switch position: "Down" (Sensor)

### OPTIONS:

- Averaging: "No"
- Right hand display window: "Max Wind Speed"
- Alarms: "No"

### OUTPUT:

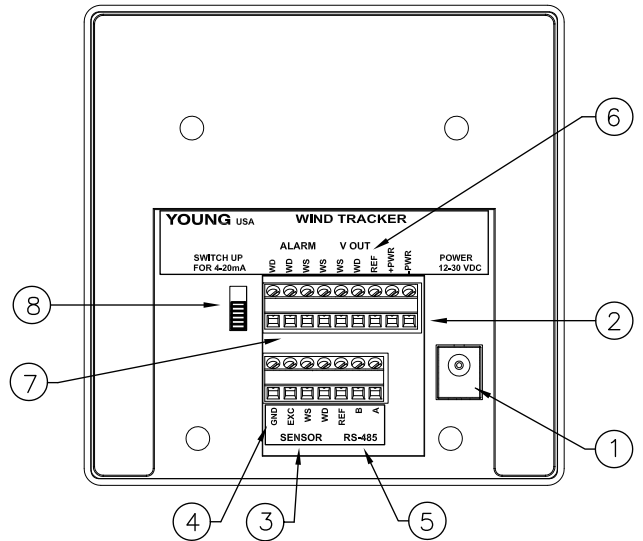
- Voltage Outputs: 0-5Vdc=0-100m/s / 0-5Vdc = 0-360°
- NMEA Serial Output Rate: "FST"

### IMPORTANT NOTE!:

Before connecting any external devices, verify the above settings are compatible with your application. If different, refer to the wiring diagrams in the back of the manual for the correct settings.

1. Wind speed display
2. Wind speed units indicator
3. Alarm status indicators
4. Data averaging indicator
5. Maximum wind speed or direction display
6. Wind direction and variability display
7. Brightness control (operate) or Enter key (setup)
8. Maximum Reset (operate) or Select (setup)

## BACK PANEL



1. Power input coaxial jack (12-30 VDC)
2. Power input terminals (12-30 VDC)
3. Sensor or 4-20 mA inputs
4. Earth ground connection
5. RS-485 serial input/output
6. 0-5 VDC calibrated outputs
7. Alarm relay connections (Normally Open)
8. Input Selector Switch (Sensor or 4-20mA)

## MOUNTING AND START-UP

1. For best visibility, place the Wind Tracker in a location free of direct sunlight. Mount it using the attached bracket or remove bracket for flush mounting to a bulkhead or panel cutout. Panel cutout dimensions are given in the specifications. An optional rack mounting panel (Model 06280) and protective enclosure (Model 06260) are available from your YOUNG supplier.

2. Connect cables to terminals according to wiring diagram.

**IMPORTANT NOTE! Please observe correct position of back-panel Input Selector Switch according to wiring diagram.**

3. Connect GND terminal to suitable earth ground.

4. Insert power supply plug into power jack, plug power supply into a suitable AC wall outlet or connect to suitable 12 to 30 VDC power source to terminals.

**IMPORTANT NOTE! Do not connect two different power sources to the Marine Wind Tracker at the same time.**

5. When power is applied, the Wind Tracker will display firmware version number then begin to display wind information as follows:

- Wind speed
- Wind speed units
- Maximum wind speed or direction degrees
- Wind direction (single orange indicator)
- Direction variability (green indicators)
- Alarm status indicators (if selected)
- Data averaging indicator (if selected)

6. Observe display to confirm proper operation.

## CHANGING SETTINGS

Marine Wind Tracker parameters may be inspected or changed in SETUP mode. Press and hold both **ENTER** and **SELECT** keys for about 4 seconds. When SETUP mode is active, abbreviations identify each function and available options as listed below. The **SELECT** key changes options or values. The **ENTER** key saves and moves to the next parameter.

**Appearance of options depends on parameter settings. Some options may be hidden.**

DISPLAY	SETUP FUNCTION
	<b>Input/Sensor Type</b>
InP 03	Wind Sentry
04	Wind Monitor-Jr
05	Wind Monitor
SEr	NMEA serial input
Ld2	Line Driver 4-20mA input (0-100 m/s)
Hd	Wind Monitor HD
Ldi	Line Driver 4-20mA input (0-50 m/s)
	<b>Wind Speed Units (annunciator blinks)</b>
SPd unt	SELECT key changes units. ENTER to save
	<b>NMEA Serial Output Rate</b>
Out FSt	16 times per second
SLO	Once per second

dSP no	<b>Display Averaging (annunciator blinks)</b>
YES	Instantaneous data displayed
	Average data displayed
PEr 030	Set averaging period in seconds (0-999). Display will update at this interval.
	<b>Right Display Window Selection</b>
dSP SPd	Maximum wind speed
dir	Wind Direction degrees
	<b>Wind Direction Alarm (annunciator blinks)</b>
ALr no	Direction alarm not armed
YES	Direction alarm armed
ALr dir	SELECT key sets direction alarm sector start. ENTER key saves.
ALr SPn	SELECT key sets direction alarm sector span. ENTER key saves.
	<b>Wind Speed Alarm (annunciator blinks)</b>
ALr no	Speed alarm not armed
YES	Speed alarm armed
ALr 000	Alarm set-point. SELECT key increments value. ENTER key saves.
	<b>Alarm Delay Time</b>
dLY 030	Alarm delay time in seconds (0-999). SELECT key increments value. ENTER key saves.
	<b>Sound</b>
Snd no	No sound
YES	Audible beep with alarm activations or average update.
	<b>Wind Direction Voltage Output Scale</b>
dir 360	0-360 degrees
540	0-540 degrees
	<b>Test Functions</b>
tSt no	No test
YES	Test
tSt ALr	SELECT key closes alarm relays.
CAL 0.00	SELECT key alternates between 0.00 and 5.00 VDC output to calibrate external devices.
tSt dsP	SELECT key tests display sections.

## OPERATION

### ALARMS

Wind speed and direction alarms each have their own set-point, LED status indicator, and relay contacts. An Alarm Delay parameter establishes the time duration in or out of the set-point range needed for the alarm to change state. During operation, front panel LEDs indicate alarm status.

LED Off = Alarm not armed and OFF. Relay open  
 LED Steady = Alarm armed and OFF. Relay open  
 LED Blinking = Alarm ON. Relay closed. Audible beep if Sound parameter has been set.

### AVERAGING

When averaging is enabled, the front-panel AVG annunciator is illuminated, and average wind speed and direction values are displayed at intervals set by the Period (PEr) parameter. When disabled, instantaneous wind values are displayed.

## BRIGHTNESS

Adjust display brightness by pressing and holding the left BRIGHT key.

## MAXIMUM or WIND DIRECTION DISPLAY

MAXIMUM WIND SPEED GUST or numerical WIND DIRECTION appears during operation depending on Right Display Window (dSP) parameter setting. Maximum gust may be reset during normal operation by pressing and holding the RESET key for 1 second.

## REMOTE DISPLAYS

The Marine Wind Tracker may be configured as a remote display by setting the Sensor Input for serial input (InP=SEr) and connecting the RS-485 terminals to a source providing a \$WIMWV NMEA wind speed and direction string. This may be any valid NMEA source including another Wind Tracker operating as a master, a Young wind sensor or interface sending the NMEA string, or a shipboard system.

With a Marine Wind Tracker as the NMEA source, use these settings:  
MASTER: Sensor InP = any non-serial device.  
REMOTE: Sensor InP = SEr

Connect one master with up to 16 remote displays via RS-485 terminals as shown in wiring diagrams. Remote Marine Wind Trackers display exactly the same information as the master including alarm states. MAX RESET and all display features are controlled by the master unit only. Brightness can be adjusted independently at each Marine Wind Tracker display.

## VOLTAGE OUTPUTS

Calibrated voltage outputs for wind speed and direction are updated 16 times per second. Wind Speed 0-100 m/s = 0.00 to 5.00 VDC. Wind Direction may be scaled for either 0-360 or 0-540 degrees = 0.00 to 5.00 VDC by setting the Direction (dir) parameter.

## 4-20 mA INPUTS

The Wind Tracker accepts 4-20 mA Line Driver inputs with either 0-50 m/s or 0-100 m/s scaling (Ldi and Ld2 input settings). Connect as shown in wiring diagram. The back-panel switch labeled 4-20 mA must be in the UP position. 24VDC power is recommended for most 4-20 mA installations.

## POWER CONNECTIONS

The Marine Wind Tracker operates from 12 to 30 VDC. Power may be connected via the coaxial jack or terminals. See wiring diagrams for examples.

## ERROR MESSAGES

<b>Ldi</b>	<b>Err</b>	4-20 mA (line driver) signal is missing or outside an acceptable range. Verify connections, signal, and 4-20 mA switch in UP position.
<b>SEr</b>	<b>Err</b>	Unit set to receive RS-485 serial signal (inP=SEr or 09), but no serial data detected. Verify NMEA source is working. Verify connections.

## 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)  
Sensors: Wind Monitor-MA (05), Wind Monitor (05), Wind Monitor HD (Hd), Wind Monitor-SE (SEr), Ultrasonic Anemometer (SEr), Wind Monitor-JR (04), Wind Sentry (03), Wind Monitor HD (Hd)

Accuracy: ±0.6% Full Scale

### NMEA Serial Input & Output:

\$WIMWV, ddd, R, sss, u, A\*c<cr><lf>  
ddd wind direction in degrees  
sss wind speed (ss.s for m/s)  
u units (N knots, K km/hr, M m/s, S statute mph)  
c NMEA checksum

Other inputs: 4-20 mA (0-360 deg, Ldi 0-50 m/s, Ld2 0-100 m/s)

Other outputs: 0-5 VDC = 0-360° or 0-540°  
0-5 VDC = 0-100 m/s

Alarm Relays: Normally Open contacts for WS and WD  
Contact rating 24 VAC or 30 VDC maximum  
5A resistive, 2A inductive maximum

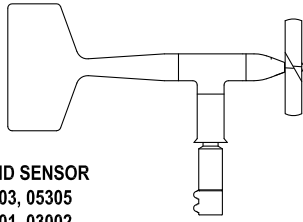
Input Power: 12-30 VDC, 3.5 W

Weight: 1.0 lb (0.45 kg) without AC adapter

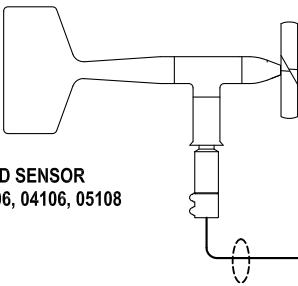
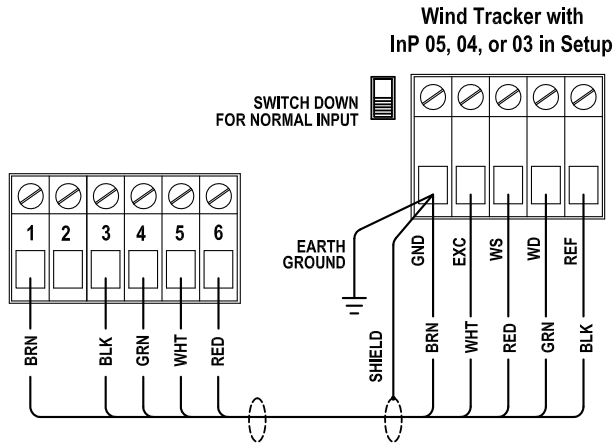
## WARRANTY

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.

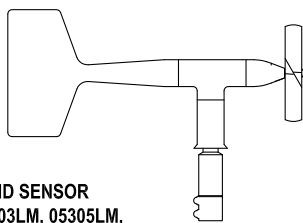
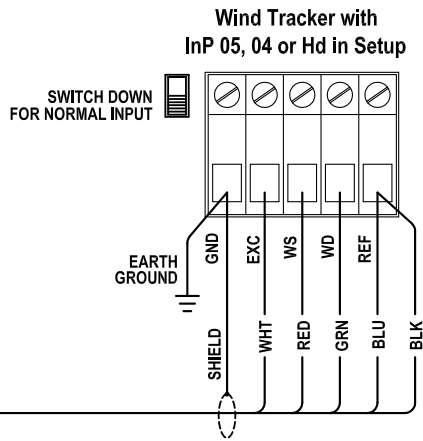
# WIRING DIAGRAMS



**WIND SENSOR**  
05103, 05305  
04101, 03002



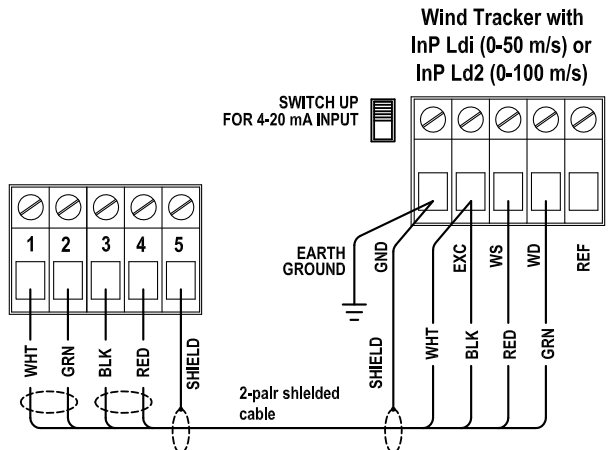
**WIND SENSOR**  
05106, 04106, 05108



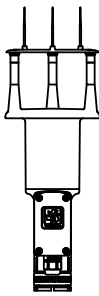
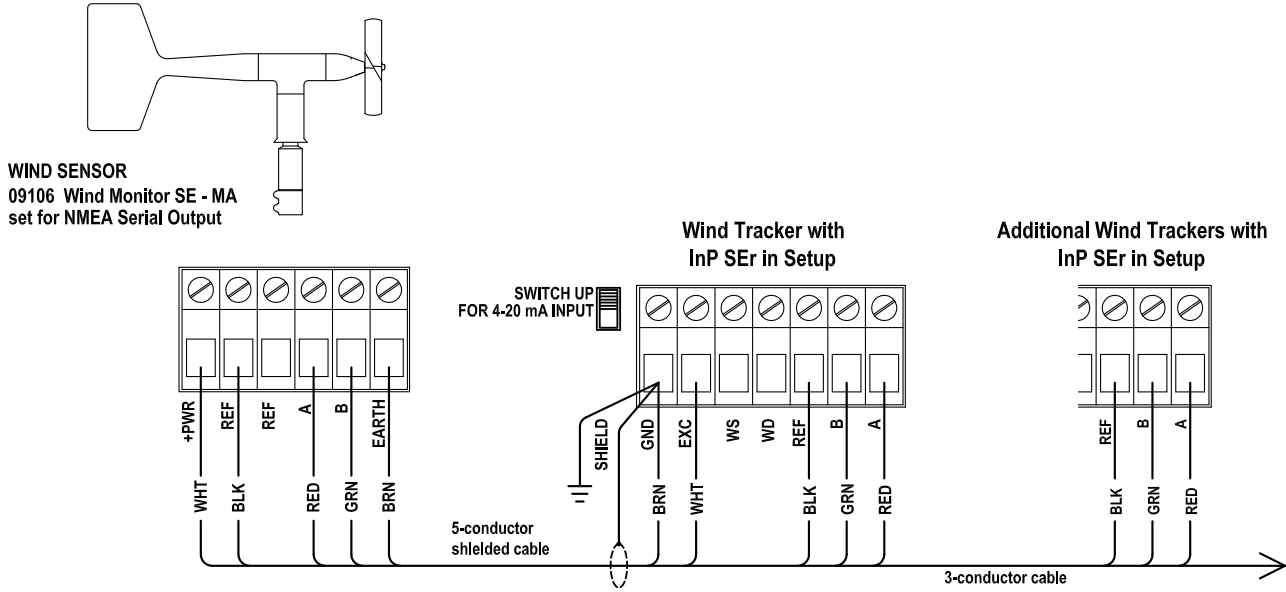
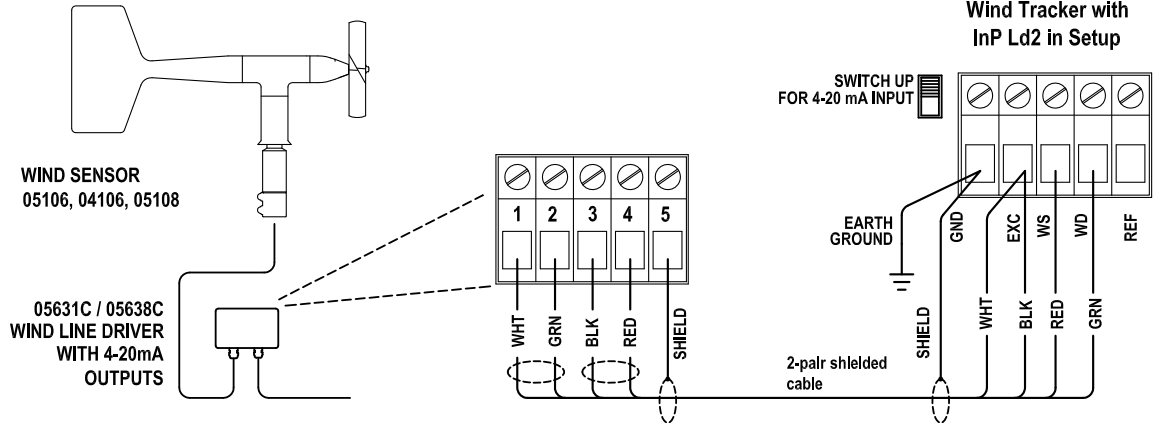
**WIND SENSOR**  
05103LM, 05305LM,  
04101LM, 03002LM  
(0-50 m/s)

05103L, 05305L  
(0-100 m/s)

4-20 mA OUTPUTS



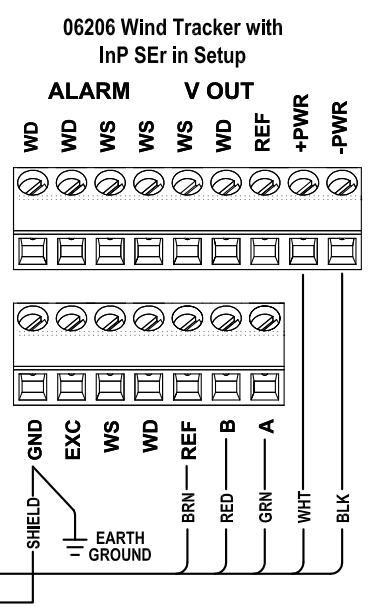
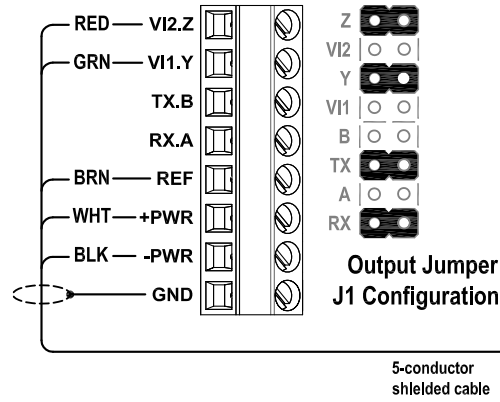
# WIRING DIAGRAMS



Model 86000 / 86106  
Ultrasonic Anemometer

**SENSOR SETTINGS:**  
 Output Mode: RS-485 Output Only  
 Output Format: NMEA  
 Baud Rate: 4800

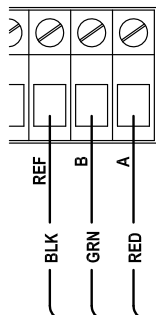
Use shielded cable.  
 Connect earth ground as shown.



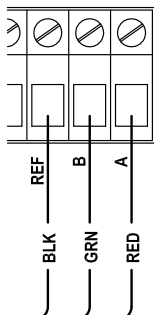
# WIRING DIAGRAMS

## Master-Remote Display Example

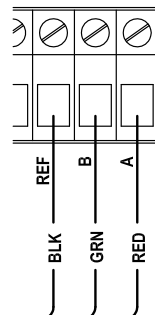
Master Wind Tracker with non-serial sensor input



Remote Wind Tracker with InP SER in Setup



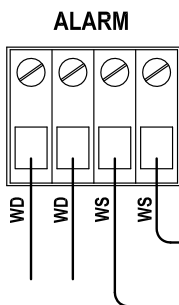
Remote Wind Tracker with InP SER in Setup



3-conductor cable

3-conductor cable

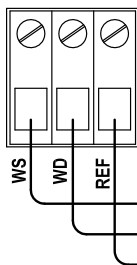
3-conductor cable



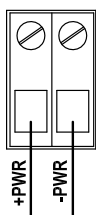
Alarm Device

User-supplied power for Alarm Circuit.  
Alarm contacts 24 VAC or 30 VDC maximum  
5 A resistive or 2 A inductive maximum

### V OUT



Wind Speed Vout, 0.00 to 5.00 VDC = 0 to 100 m/s  
Wind Direction Vout, 0.00 to 5.00 VDC = 0 to 360 or 540 degrees  
Vout Reference



12 to 30 VDC, 3.5 watts max  
Power terminals are electrically parallel with coaxial power jack. Either may be used to supply power to Wind Tracker.

**DO NOT CONNECT MORE THAN ONE POWER SOURCE AT THE SAME TIME.**