

## VECTOR WINDSPEED & DIRECTION



### FEATURES

- Wind Speed with no bearings
- Wind Direction with no bearings
- Dust, sand and salt tolerant
- Robust to withstand hurricanes
- Fast Response
- Compact and lightweight
- Output can be relative to Magnetic North
- Output can include Device Identification
- 8 –15V supply
- IP67
- Standard NMEA-0183 serial output

### APPLICATIONS

- Marine
- Environmental wind monitoring
- Structural Safety

Autonnic's Wind Vector Module is a simple, low-cost way to derive both wind-speed and wind-direction from a robust reliable sensor. The wind Vector is analysed by the drag-force on a sphere. The drag causes the bending of a spring and the resulting angular displacement and direction is detected magnetically. The device can also detect Magnetic North for optional North reference of wind direction.

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	VALUE	UNIT
$\Theta_{\text{STOR}}$	Storage Temp Range			-40 to +100	°C
$\Theta_{\text{OPER}}$	Operating Temp Range			-15 to +70	°C
	Shock Resistance		Single impact	±10	G
	Vibration Resistance		60Hz, 10 Minutes	±3	G
	Climate Test		+71°C, 95% Humidity -20°C, 85% Humidity	6	Hours
$V_{\text{CC}}$	Supply Voltage			30	V

### ORDER INFORMATION

PART	DESCRIPTION
A4036	NMEA Wind Vector



## PERFORMANCE

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	MIN	TYP	MAX	UNIT
ERR <sub>S</sub>	Speed output error		At 20 knots		3	5	%
ERR <sub>DA</sub>	Direction error to body		At 20 knots			3	°
ERR <sub>DR</sub>	Direction error to North	At 50°lat	At 20 knots			6	°
Speed	Speed Range			2		50	Kn

## ELECTRICAL CHARACTERISTICS AT 20°C

PARAMETER	DESCRIPTION	NOTES	MIN	TYP	MAX	UNIT
V <sub>CC</sub>	Supply Voltage		8	12	15	Vdc
I <sub>CC</sub>	Current consumption			40		mA

## NMEA DATA

### Output sentences

**\$WIMWV,a.a,R,s.s,N,A\*hhhh<CR><LF>** where a.a = dir s.s= speed (kn)

\*hhhh is set by configure command: x=0 omit; x=1, hhhh = 2char checksum; x=2 , hhhh = ID

**\$PATC,WIMWV,ACK<CR><LF>** acknowledgement that a command was received

### Input sentences

**\$PATC,IIMWV,AHD,x.x<CR><LF>** set reference offset, to body or to North

**\$PATC,IIMWV,DWD,x.x<CR><LF>** set dir damping % - 0= no damping

**\$PATC,IIMWV,TXP,x.x<CR><LF>** output rate in ms

**\$PATC,IIMWV,ASP,x.x<CR><LF>** set speed scale – current value set to x.x

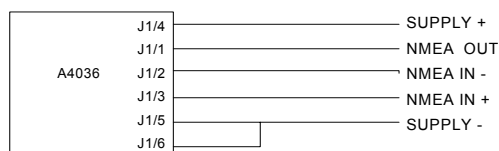
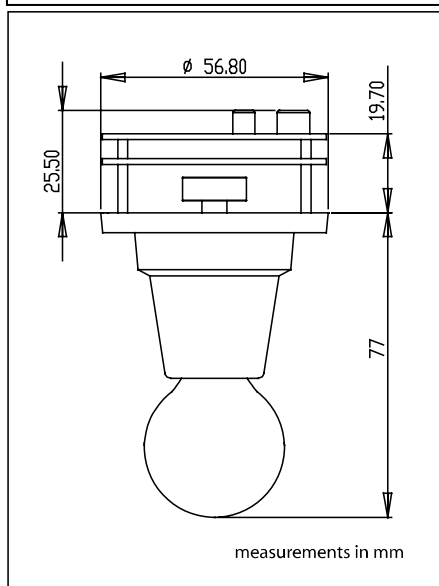
**\$PATC,IIMWV,ISP,x.x<CR><LF>** speed integration period

**\$PATC,IIMWV,DSP,x.x<CR><LF>** speed damping

**\$PATC,IIMWV,WSC <CR><LF>** calibrate wind speed sensor

**\$PATC,IIMWV,RID<CR><LF>** report ID

**\$PATC,IIMWV,CFG,xy<CR><LF>** configure command sets ID or checksum



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