FLUXGATE WORLD
subsystems

A5012
WINDSPEED & DIRECTION SENSOR
November 2005

FEATURES

- ACCURATE
- CARBON FIBRE ARM
- NMEA-0183 [-01]
- analogue SIN/COS [-02]

APPLICATIONS

- MARINE both FIXED and FLOATING
- TOWER CRANES AND PLATFORMS
- ENVIRONMENT AND ARGICULTURE

ABSOLUTE MAXIMUM RATING

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	VALUE	UNIT
θ_{STOR}	Storage Temp Range			-40 to +100	°C
θ_{OPER}	Operating Temp Range			-25 to +85	°C
V_{CC}	Supply Voltage			30	Vdc
SW_{MAX}	Wind Speed			80	Knots

PERFORMANCE

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	MIN	TYP	MAX	UNIT
ERR_{WS}			10-40 knots		3	5	%
ERR_{DIR}			20knots		3	4	Degrees
t_{DSET}	Direction Settling Time		Minimum filtering			1.3	Second
t_{WSSET}	Speed Settling Time		Minimum filtering			2	Second

MECHANICAL

DESCRIPTION	NOTES	CONDITIONS	TYPICAL VALUE	UNIT
Dimensions			See Drawing	
Sensor Mounting			Base Horizontal	
Cable Length			20	Metres
Weather Resistance			Sealed to IP67	

ELECTRICAL CHARACTERISTICS AT 20°C

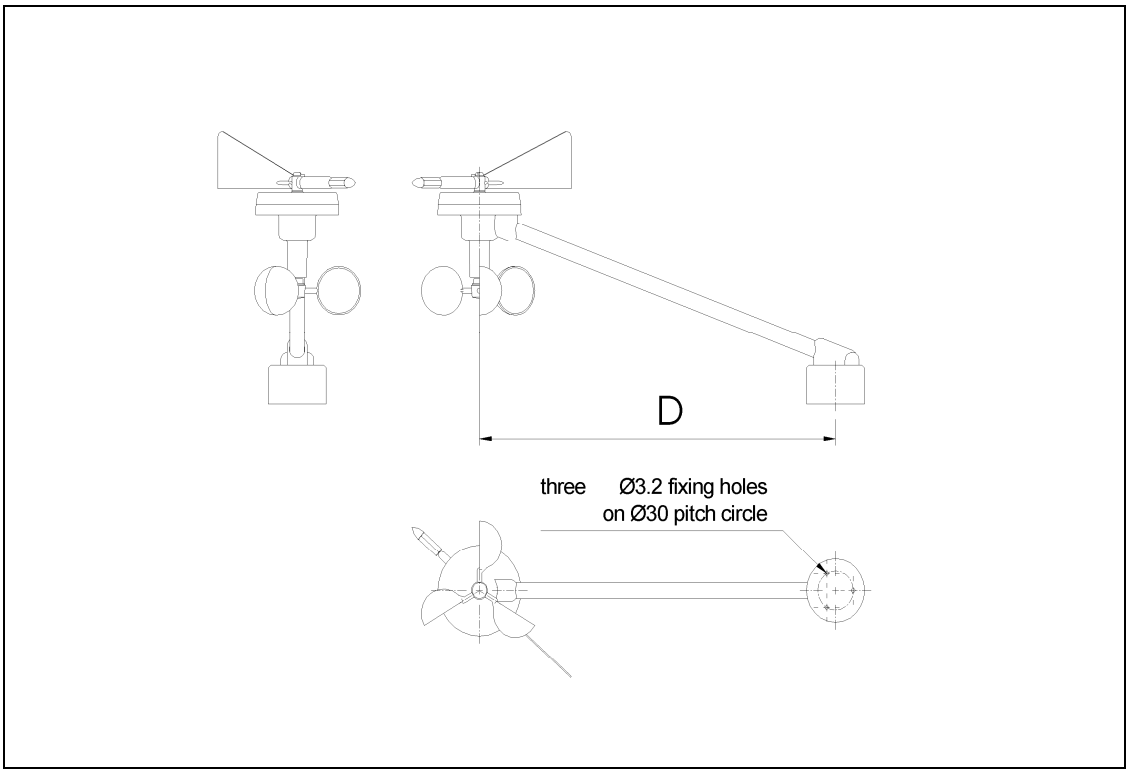
PARAMETER	DESCRIPTION	NOTES	MIN	TYP	MAX	UNITS
V_{CC}	Supply Voltage		8	12	28	Vdc
I_{CC}	Current consumption	No NMEA loads		20		mA
	Output Load				4	NMEA loads

ORDER INFORMATION

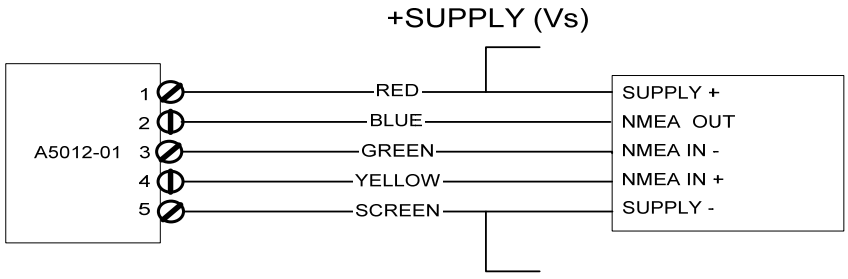
PART	DESCRIPTION
A5012-01	NMEA-0183 Windspeed & Direction Sensor
A5012-02	Analogue Windspeed & Direction Sensor

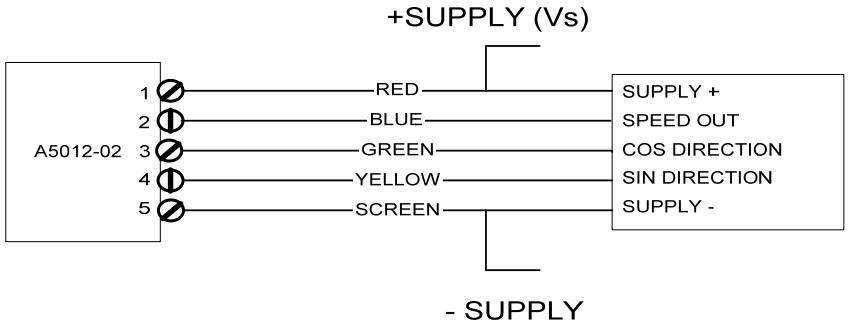
APPLICATION INFORMATION

MECHANICAL



D = 300mm





Speed:
0kt = 50mV,
50kt = 1.800v

Direction:
SIN = 2.5v + 0.7sinθ;
COS = 2.5v + 0.7cosθ

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
$YXXDR,C,x.x,C,WND*hhhh<CR><LF> x.x =˚C. This sentence not sent if y in configure command = 0; sent regularly if y=1 without *hhhh; if y=2 regularly with ID=hhhh
$YXXDR,Q,a.a,b.b,cc <CR><LF> where a.a is max temp and b.b is min (cc is for factory use only)
$PATC,WIMWV,ACK<CR><LF> acknowledgement that a command was received
$PATC,WIMWV,RID,xxxx<CR><LF> ID = xxxx

Input sentences

$PATC,IIMWV,AHD,x.x<CR><LF> set reference offset
$PATC,IIMWV,DWD,x.x<CR><LF> set dir damping % - 0.0 to 100.0
$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> set speed damping % - 0.0 to 100.0
$PATC,XDR,Q<CR><LF> report max and min temp values
$PATC,IIMWV,WSC <CR><LF> calibrate wind speed sensor
$PATC,IIMWV,RID<CR><LF>report ID
$PATC,IIMWV,CFG,xy<CR><LF> configure command. Default x=y=0. See Output sentences

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