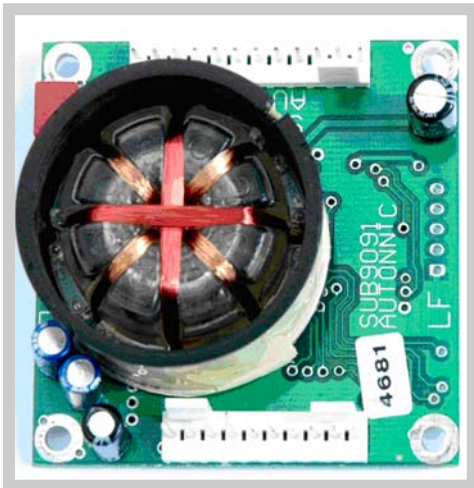




World Leaders in Fluxgate Technology

OEM INCLINOMETER COMPASS



FEATURES

- Pitch and Roll to 35° or 45°
- Azimuth by Compass
- Compact
- Low Cost
- Remote Input for Zero
- Analogue: Linear X and Y and Heading
- Serial Digital

APPLICATIONS

- Safety
- Survey Instruments
- Robotics
- Self Levelling Platforms

ABSOLUTE MAXIMUM RATINGS

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	VALUE	UNIT
θ_{STOR}	Storage Temp Range			-20 to +100	°C
θ_{OPER}	Operating Temp Range			-20 to +65	°C
	Shock Resistance		Single impact	±40	G
	Vibration Resistance		60Hz, 10 Minutes	±11	G
	Climate Test		+71°C, 95% Humidity -20°C, 85% Humidity	6	Hours
V_{CC}	Supply Voltage			6	Vdc
Φ_{MAX}	Operating Pressure Range		70°C	-0.3 to +3	Bar

ORDER INFORMATION

PART	DESCRIPTION
A4025-45	OEM 45deg Inclinometer Compass

OPTIONS

B - connectors down
(default is up)
N – no analogue

ELECTRICAL CHARACTERISTICS AT 20°C

PARAMETER	DESCRIPTION	NOTES	MIN	TYP	MAX	UNIT
V _{CC}	Supply Voltage		4.8	5	5.2	Vdc
I _{CC}	Current consumption	5		25	70	mA
	NMEA Output Loads			4		NMEA loads
I _{max-an}	Analogue output current				1	mA
V _{in}	Digital input range	1	1		4	V
I _{max-dig}	Digital output current	2			1	mA
I _{CC}	Current consumption	3			2	mA
I _{CC}	Current consumption	4		60		mA

NOTES 1 <1 for low, >4v for hi 2 either source or sink 3 shut-down 4 during compass autocalibration 5 typ=average

SERIAL OUTPUTS selectable from the following:

\$HCHPR,hhh.h,±pp.p,±rr.r,v<CR><LF>
\$HCHPR,hhh.h,+/-pp.p,+/-rr.r<CR><LF>
\$HCHPR,hhh.h,+/-pp.p,+/-rr.r,cc<CR><LF> where cc is the checksum.
\$HCHPR,hhh.h,+/-pp.p,+/-rr.r,ssss<CR><LF> where ssss is the decimal serial number.
\$HCHDG,hhh.h,,,,<CR><LF>
\$HCPNR,±pp.p,±rr.r<CR><LF>
\$,±pp.p,±rr.r<CR><LF>
\$,±pp.p<CR><LF>
\$,±rr.r<CR><LF>
\$,hhh.h<CR><LF>

Where hhh.h is the compass heading in degrees e.g. 047.3
 ±pp.p is the pitch in signed degrees e.g. +28.2
 ±rr.r is the roll in signed degrees e.g. -11.8

Update rate and filtering is also selectable

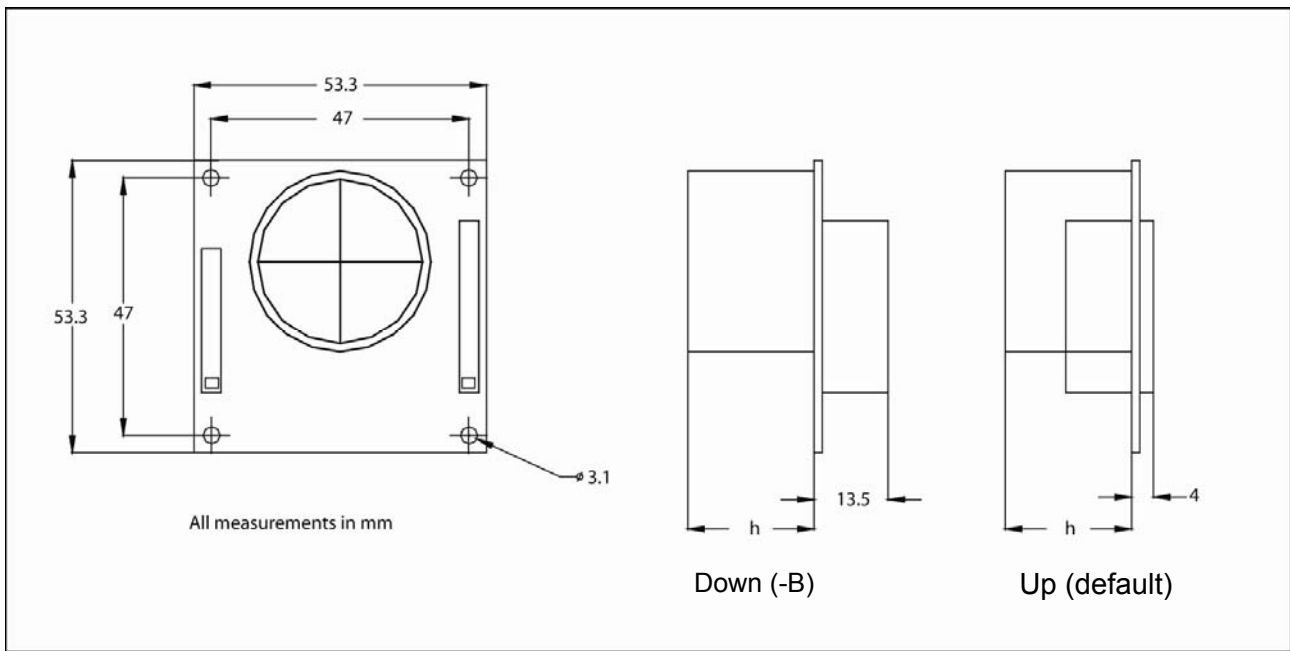
Analogue Format A1:

ANO1 = ANO3 ± Pitch where Pitch is represented as 1bit of a 9bit output with 2.5V reference. i.e. 30° is 2.5+(2.5 x 300/512) = 3.086V

ANO2 = ANO3 ± Roll where Roll is represented as 1bit of a 9bit output with 2.5V reference. i.e. -24.6° is 2.5-(2.5 x 246/512) = 2.019V

ANO3 = 2.5V Use this as the common signal for ANO1 and ANO2

ANO4 = Linear compass using 13.89mV per ° i.e. 0-4.998V = 0 – 359.9°



h=21

CONNECTIONS

J1 Header Block			
Pin	In or Out		
1	P	GND	Supply and signal ground
2	I	/AC	not Start Compass auto-cal.
3	I	/SZ	not Set Compass zero heading
4	I		not used
5	I	/SD	not Shut-down
6	O	CE	Compass cal status output
7	I	ANI	Analogue Input
8	O	SO	Serial output
9	I	SI	Serial input
10	O	NMEAO	RS422 / NMEA-0183 O/P (+)
11	I	NMEAI-	RS422 / NMEA-0183 I/P (-)
12	I	NMEAI+	RS422 / NMEA-0183 I/P (+)

J2 Header Block			
Pin	In or Out		
1	O	ANO4	Analogue Output 4
2	O	ANO1	Analogue Output 1
3	O	ANO2	Analogue Output 2
4	O	ANO3	Analogue Output 3
5			not used
6			not used
7			not used
8			not used
9	P	+PWR	+7-15 supply
10	P	GND	Supply and signal ground

