

## 0183 COMPASS PICKUP

### FEATURES

- IP68
- NMEA-0183
- 8-30V Supply (see notes)
- Manual calibration with PC software
- Zero rotate ring mounting
- Or Centre Hole
- Over-strength field protection
- Other versions available

### APPLICATIONS

- Marine Compass Pickup
- Rudder Angle
- Trim-tab angle
- Shaft-angle Encoder



This sub-system senses the angle of a strong external magnetic field. Such a field is produced by large marine permanent-magnet compasses. By placing the A4032 under the compass the angle of the magnet is sensed and available as an NMEA-0183 sentence.

A variety of options can be set. **Calibration** is assisted by a free Windows® software utility.

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	DESCRIPTION	NOTES	CONDITIONS	VALUE	UNIT
Q <sub>STOR</sub>	Storage Temp Range			-20 to +100	°C
Q <sub>OPER</sub>	Operating Temp Range		Note 1	-20 to +65	°C
	Shock Resistance		Single impact	±200	G
	Climate Test		+71°C, 95% Humidity -20°C, 85% Humidity	6	Hours
V <sub>CC</sub>	Supply Voltage			30	Vdc
P <sub>MAX</sub>	Operating Pressure Range			-2 to +20	Bar

Note 1 At V<sub>CC</sub> = 14V

### MECHANICAL

DESCRIPTION	NOTES	CONDITIONS	TYPICAL VALUE	UNIT
Dimensions			See Drawing	
Sensor Mounting			Any	
Cable Length			1	m
Weather Resistance			Sealed to IP68	

### ORDER INFORMATION

PART	DESCRIPTION
A4032A	0183 Compass Pickup

#### Calibration

The calibration software cannot be obtained via our website but it can be requested by email: [info@autonnic.com](mailto:info@autonnic.com)

## ELECTRICAL CHARACTERISTICS AT 20°C

PARAMETER	DESCRIPTION	NOTES	MIN	TYP	MAX	UNIT
V <sub>CC</sub>	Supply Voltage	Note 2	8	12	30	Vdc
I <sub>CC</sub>	Current consumption			25		mA

Note 2 For V<sub>CC</sub> greater than 18V (for operation at a nominal 24V supply) a 330R 1W resistor must be inserted in the supply wire. Check that V<sub>CC</sub> is greater than 10V at all times but not continuously greater than 18V. The absolute maximum is 30V. The A4032 will shut itself down if it overheats.

## NMEA-0183 OUTPUT FORMAT

The output from the compass is a standard NMEA-0183 sentence which can be configured to be in one of several standard forms: Eg:  
`$HCHDG,hhh.h,,,,*ss<CR><LF>`  
 or `$HCHDT,hhh.h,T<CR><LF>`  
 where hhh.h represents the magnetic heading with one decimal place of precision, i.e: 000.0 to 359.9 degrees. The two HEX digits, ss, are a checksum. Serial output is RS422, 4800 Baud, 8 data bits, 1 stop bit, no parity. Other commands are listed in the Manual to set damping, output interval, calibration and a rich set of other options.

## CONNECTIONS

Wire	Colour	Type	Function
1	Red	Power	+8 to +30V (see note)
2	Blue	Signal	NMEA OUT+
3	Green	Signal	NMEA IN+
4	Yellow	Signal	NMEA IN-
5	Screen	Power and Signal	GROUND 0V

## DIMENSIONS

