

Compass / Orientation Sensor

Mag3

Applications:

Complete under-water orientation system in a pressure-proof and sea water resistant vessel for completion of sensor packages, ROVs or AUVs;

Applications that require information about the orientation relatively to the earth magnetic field as well as about the inclination and – optionally – the depth.

Working principle:

Tilt compensated compass with triaxial magnetometer, gyrometer and accelerometer. Sensor fusion / Kalman filter for correction of tilt-related directional errors.

Option: pressure sensor for depth determination

Computation of compass direction and pitch and roll angles; routines for compensation of magnetic distortions.

Simple handling:

Connection via under-water pluggable Micro-WetCON or customized connector; power supply 9 to 36 V; serial RS485 interface and communication via a simple ASCII protocol; self-calibration (to activate by command).

Mounting position: cylinder axis vertical or horizontal.

Main data:

Angular resolution: 0.1°

Compass direction: 0...359.9° ± 0.5/1/1.5° (inclinations 0/30/60°)

Roll/ pitch angle: ± 90°; typ. ± 1° (up to 30° inclination)

Measuring rate: up to 40 per second

Housing: brass CuZn35Ni2 or titanium

Ø 40 mm x 145 mm (without connector)

Operating depth: brass up to 2000 m, titanium up to 7000 m

Connection: 8-pin Micro-WetCON connector (standard)

Temperature range: -20 ... 70 °C

Power supply: 9 ... 36 Vdc approx. 0.5 W

Interface: serial RS485 (optional RS422)

Communication: ASCII (1 start, 8 data, 1 stop, 0 parity)

Baud rate programmable (up to 115k baud)



Picture:
Titanium version