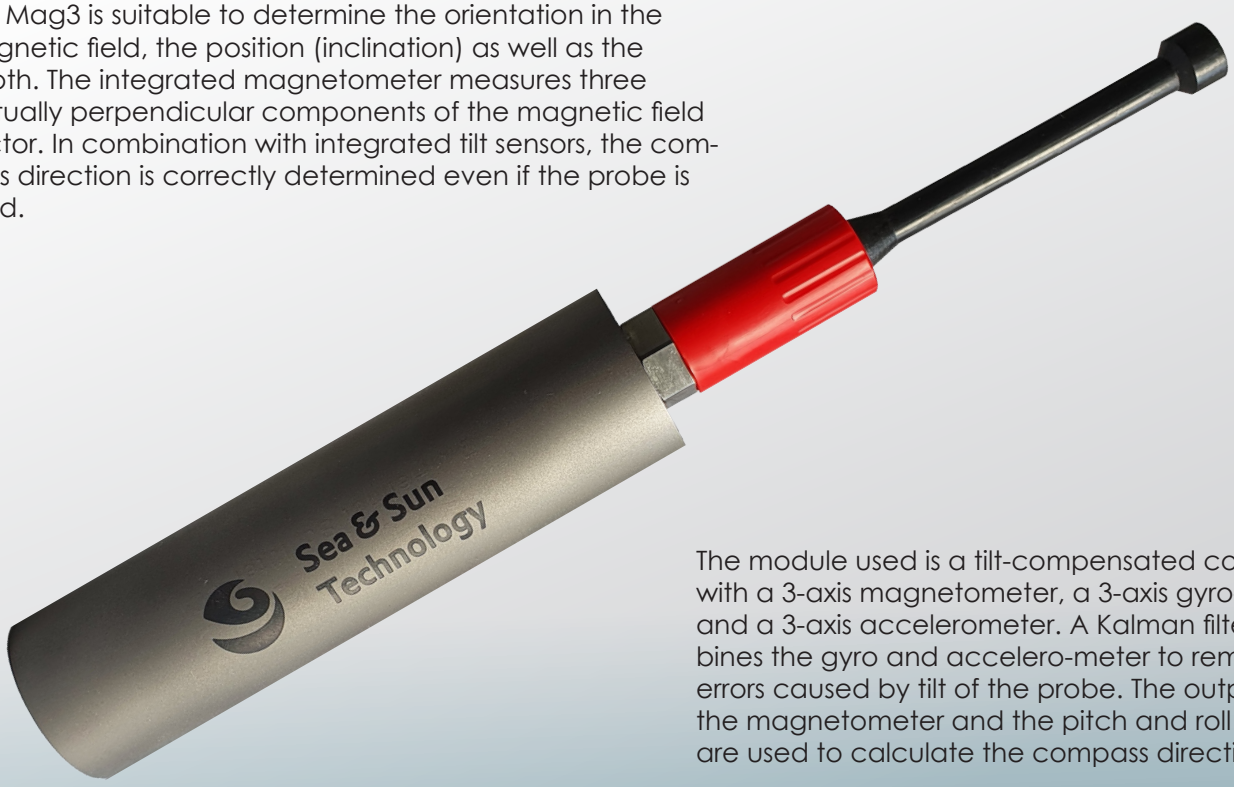
Mag3 underwater orientation system

max. depth 7000 m.

Sea & Sun Technology

The Mag3 is suitable to determine the orientation in the magnetic field, the position (inclination) as well as the depth. The integrated magnetometer measures three mutually perpendicular components of the magnetic field vector. In combination with integrated tilt sensors, the compass direction is correctly determined even if the probe is tilted.



The module used is a tilt-compensated compass with a 3-axis magnetometer, a 3-axis gyro-meter and a 3-axis accelerometer. A Kalman filter combines the gyro and accelero-meter to remove errors caused by tilt of the probe. The output of the magnetometer and the pitch and roll angles are used to calculate the compass direction.

Mag3 underwater orientation system	
Pressure resistance	2000 dbar or 6000 dbar
Housing material	Brass (2000 dbar), Titanium (7000 dbar)
Dimensions	145 mm length (without plug), 40 mm diameter
Compass resolution	0.1°
Heading	0...360° ± 0.5°/1°/1.5° (inclination 0°/30°/60°)
Roll angle	± 180°, ± 1° (up to 30° inclination)
Pitch angle	± 90°, ± 1° (up to 30° inclination)
integrated pressure sensor	± 0.5% over the temperature range 0...50°C
Measuring rate	1/s (standard), 10/s (optional)
Temperature	-10...+50°C for storage, -5...+40°C for operation
Power supply	9...30 VDC, ca. 0.3 W
Used for	CTD60Mc, CTD75M, CTD90, CTD90M, CTD115M

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