

Quadrans

IMO grade gyrocompass & attitude reference system

Quadrans, is a fully strapdown gyrocompass and attitude reference system. IMO and IMO-HSC certified, it provides all the necessary data for demanding navigation and control applications. High customizability and Ethernet/Serial connectivity provides a very easy integration on any platform. Based on a state-of-the-art interferometric Fiber-Optic Gyroscope technology (iFOG*), Quadrans does not require any maintenance during its unlimited service life. Quadrans is the ideal replacement for any mechanical gyro for whom is focused on total cost of ownership and maximizing availability and safety of their ships.



BENEFITS

- Fast settling time
- Maintenance-free
- Easy integration
- Stabilization and pointing capability
- Automatic speed and latitude correction
- Works in high sea state

FEATURES

- Compact and plug & play system
- AHRS: All in one gyrocompass & MRU
- Unique strap-down technology, interferometric FOG (iFOG*)
- Embedded Man Machine Interface (no proprietary CDU)
- IMO certification
- Heave, surge, sway measurement

Sea proven technology

Quadrans is based on a unique iFOG design* which has been in use in the harshest environment for 15 years. From land application to space environment through all main European navies first ranks platforms. Quadrans has been in use for years in many navies (French, Chile, UK, Portugal,...), multiple DP operators and, commercial shipping and yachts. In addition, Quadrans has also been the obvious choice for most competitors in the America's cup and the Vendée Globe, proving its performances in any sea state and its reliability.

Reliability and through life cost

The return of experience on Exail iFOG technology shows a MTBF of more than 150,000h, without any kind of maintenance (neither on board nor with factory return), and a life expectation that has already proven to be superior to 15 years. All this combined makes Quadrans a true install and forget equipment with an unbeaten low cost through the life of your ship. As a token of our confidence, Quadrans comes with a 5 years warranty.

An opened architecture

The Quadrans solution, as every Exail product, is an opened architecture, ready to interface with any other component. It includes, in addition to standard NMEA, a large library of open source protocols, to give autonomy to the user in the integration of the Quadrans in the life of the ship.

TECHNICAL SPECIFICATIONS

Performance

Heading accuracy ⁽¹⁾	0.23° seclat RMS no GNSS 0.15° with GNSS ⁽²⁾
Roll/Pitch accuracy	0.1 deg RMS no GNSS 0.02° RMS with GNSS ⁽²⁾
Settling time	< 30mn (all conditions) , 0.7° in 15mn
ROT	0.01 deg / sec
Heave	10 cm / 10% whichever is higher

Operating range/Environment

Heading ⁽¹⁾ /Roll/Pitch	0 to +360 deg/±180 deg/±90 deg
Latitude	+/- 85°
Max Rate	750°/s
Operating/Storage temperature	-20°C to 55°C/-40°C to 80°C
Humidity	IP66

Physical Characteristics

Weight	2.8 kg
Dimensions (L x W x H)	160 x 160 x 113 mm
Connections	Fisher connectors

Interfaces

Inputs ⁽³⁾	2 inputs serial or Ethernet 1 configuration port
Outputs ⁽³⁾	2 outputs serial and/or 5 on Ethernet
Pulse port	Pulse port 2 inputs, 5V (TTL Level)
Alerts	
Input/Output formats	Industry standards: NMEA 0183, ASCII, BINARY
Data output rate	0,1 Hz to 200 Hz
Power supply	24 VDC (15 to 32VDC)
Power consumption ⁽²⁾	15 W

Support

MTBF	150,000 hours
Warranty	5 years
Calibration interval	None required

(1) Is provided for navigation with GNSS

(2) For a navigation with GNSS for at least 30 minutes

(3) Typical value @24 V and ambient temperature