Octans E

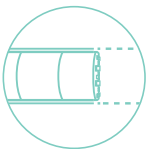
Survey-grade surface gyrocompass and motion sensor for civil engineering

Octans E is an all-in-one gyrocompass and motion sensor based on Exail renown Fiber-Optic Gyroscope (FOG) technology. With algorithms especially designed for civil engineering and industrial applications, Octans E offers highly accurate heading and attitude for those markets.

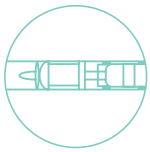
FEATURES & BENEFITS

- All-in-one high accuracy 3D orientation with true heading, roll and pitch
- Robust to harsh environments
- FOG unique strap-down technology
- Compact, lightweight and reliable
- Ethernet, web server (GUI)
- IMU option for high accuracy platform stabilization
- Static and dynamic alignment modes, with and without GNSS
- Embedded data logger
- Fast alignment (no aiding sensor)
- Versatile I/O options for integration
- Embedded web user interface
- Low latency for real time control loops
- Maintenance free
- ITAR-free

APPLICATIONS



Tunneling and mining



Pipe inspection

Industrial vehicle

Drilling

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TECHNICAL SPECIFICATIONS

Performance

Heading accuracy with GNSS during navigation	0.05° seclat RMS [1]
Heading accuracy in autonomous mode but with rotations during alignment	0.10° seclat RMS [1]
Heading accuracy after 15 minutes in static autonomous mode	0.13° seclat RMS [1]
Heading accuracy after 5 minutes in static autonomous mode	0.27° seclat RMS [1]
Roll	0.01° RMS
Pitch	0.01° RMS
Resolution for Heading/Roll/Pitch	0.001°
Range	Heading: 0° to 360° Roll: -180° to +180° Pitch: -90° to +90°

Operating range/Environment

Operating/Storage temperature	-20 °C to +55 °C / -40 °C to +80 °C
Rotation rate dynamic range	Up to 750 deg/s
Acceleration dynamic range	±15 g
MTBF	150,000 hours (system observed) 500,000 hours (FOG + accelerometers)
Heading/Roll/Pitch	0 to +360 deg / ±180 deg / ±90 deg
Special conditions	No warm-up effects, shock and vibration proof

Physical characteristics

Dimensions (L x W x H)	275 x 136 x 150 mm
Weight in air	4.5 kg
Material	Aluminum

Interfaces

Serial	RS422 or RS232
Ethernet	100 Mbit - UDP / TCP server / TCP client / Web server (GUI) / NTP synchro
Pulses	PPS input for < 100µs time synchronization
Inputs/Outputs	Configurable 2i / 3o - Pulses 4i / 2o - Configuration port
Baud rates	Up to 460 kbaud
Data output rate	0.1 Hz to 200 Hz real measurements
Power supply/Consumption	24 VDC (20 - 32 V) / < 21 W max

(1) Secant latitude = 1/cosine latitude

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