

Maritime Devices | Optical Magnetic Heading Sensor

MODEL 321 OPTICAL MAGNETIC HEADING SENSOR

The Model 321 is a heading sensor that uses an optical encoder that is magnetically aligned to the earth's North Pole. It provides accurate, reliable measurements under a variety of marine operating conditions worldwide. Because of the unique, patented, magnetically coupled optical encoder construction, the 321 is able to provide this accuracy worldwide without recalibration. When properly mounted with minimal magnetic interference, and calibrated; this sensor has achieved 0.5 degree accuracy, or better, in real world applications.



The 321 Heading Sensor is the industry standard in the seismic exploration industry with an installed base of more than 70,000. It has seen service in harsh environments and all latitudes and has been deployed in military, scientific and commercial applications.

The 0.35 degree resolution, 360 degree roll capability, 44.45mm diameter and 10,000 psi operating pressure enable it to meet many applications.

A ten bit digital number, indicative of orientation relative to magnetic North, is latched and shifted out serially in a 10-bit binary gray word format. The two-wire interface provides both power and data, minimizing cable wiring requirements.



**PERFORMANCE CHARACTERISTICS**

Resolution	0.35°
RMS performance	0.15°
Roll	360° continuous
Pitch	47.5°

ENVIRONMENTAL CHARACTERISTICS

Pressure rating	68,948 kPa (10,000 psi) maximum
Operating temperature	-20°C to +55°C (-4°F to +131°F)
Storage temperature	-55°C to +85°C (-67°F to +185°F)

ELECTRICAL CHARACTERISTICS

Output data frequency	1kHz (nominal)
Power consumption	96mW at 20 Hz sample rate
Output format	PWM 10-bit binary gray word

PHYSICAL CHARACTERISTICS

Length	92.84 mm (3.655 in)
Diameter	44.45 mm (1.75 in)
Weight	341 g (12 oz.)
Housing	Anodized aluminium (tied electrically to common return connection)

ORDER INFORMATION

Heading sensor	9000-321/02
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About ION

ION has been a technology leader for 50 years with a strong history of innovation. Leveraging innovative technologies, ION creates value through data capture, analysis and optimization to enhance companies' critical decision-making abilities and returns. Our offerings are focused on improving E&P decision-making, enhancing reservoir management and optimizing offshore operations.