



## LCI-100N Fiber Optic Northfinder

*High performance  
Northfinding System*



Northrop Grumman LITEF has more than 50 years of experience in inertial systems technology and was the first company in the world to introduce fiber optic gyroscopes in commercial aviation systems in the 1990s. With its family of inertial measurement units (IMUs) Northrop Grumman LITEF provides the high performance and superior quality of the airborne technology to industrial customers worldwide.

The LCI-100N is a compact gyro compass unit designed for challenging applications. It consists of the newest generation of fiber optic gyroscopes (FOG), micro-electromechanical (MEMS) accelerometers providing reliable north direction independent of magnetic fields and vibration impact. With its easy to integrate mechanical and electrical interfaces the LCI-100N is the best choice for all systems requiring accurate heading and attitude data.

### Main Features

- Alignment proceeding time  $\leq 5$  minutes
- Analytical platform calculation
- Data output fully compensated for temperature and misalignment
- Auto-Levelling and auto-alignment features (selectable) based on a rest and motion detection
- Extensive built-in-test features
- RS-422 interface (UART and HDLC)
- German technology
- No US export restrictions apply

### Typical Applications

- Navigation systems
- Heading reference for various applications:
  - Construction machines
  - Underground mining machines
  - RIG alignment
  - Autonomous vehicles
  - Remotely operated vehicles

# LCI-100N

## Fiber Optic Northfinder

### TECHNICAL DATA

Gyrocompassing Performance	
• Heading Accuracy <sup>(1)</sup> 1 $\sigma$ (alignment time $\geq$ 5 minutes)	$\leq$ 0.35 deg secant latitude
• Pitch & Roll Accuracy 1 $\sigma$	$\leq$ 0.05 deg
System & Environmental Parameters	
• Mass	$\leq$ 2.5 kg / $\leq$ 5.5 lb
• Dimensions (excluding mounting flanges and connector)	$\leq$ 100 x 131 x 160 mm $\leq$ 3.9 x 5.1 x 6.3 inch
• Volume	$\leq$ 2.6 liters / $\leq$ 159 inch <sup>3</sup>
• Power Consumption	max 18 Watt, $\leq$ 10 W typical
• Supply Voltage	18.0 VDC ... 32.0 VDC 28.0 VDC nominal
• Interface	Serial interface with RS-422 levels synchronous with HDLC or UART protocol + Sync-Pulse; Master Mode
• Data Update Rate	10 Hz, 20 Hz, 50 Hz, 100 Hz and 200 Hz (default)
• Built In Test (BIT)	Power up BIT, Continuous BIT
• Temperature Range for specified performance - full performance - operating	-20 °C ... +71 °C -40 °C ... +71 °C
• Shock - operational - non operating	6 g half-sine pulse for 20 ms single handling shock 20 g for 20 ms
• Random Vibration - operational - non operating	4.1 Grms (DO-160, section 8, CAT SC) 5.8 Grms (DO-160, section 8, CAT RC1)
• Electro Magnetic Compatibility	Fulfills IEC 61000-4 (2-8) and CISPR 22 requirements

<sup>(1)</sup> Secant latitude = 1/cosine latitude

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