PhantomLink™

Free Space Optical Communication Systems

Ultra high bandwidth, EW threat resilient optical communications system

- Variable data rate from 155Mb/sec to 10Gb/sec adjusts to operational requirements

- Bi-directional, full-duplex for 20 Gb/sec aggregate transport

- Reprogrammable optical waveforms support interoperability now and in the future

- Automated link establishment provides for rapid setup and teardown

Assured Communications When It Matters Most

The PhantomLink™ free space optical (FSO) system provides reliable laser communications for the tactical environment. The system combines a state-of-the-art optical terminal with a multi-waveform, fade-tolerant optical modem. This combination provides high link availability with maximum flexibility and interoperability.

The use of lasers and a novel error correction capability provides a high-capacity communications link that is operationally effective in otherwise challenging atmospheric conditions. The system operates outside of regulated spectrum allowing for rapid deployment in support of military operations.

Our Pointing, Acquisition and Tracking capability provides for a highly-directional, narrow-beam communication system that is resilient to RF threats

Capable of at-the-quick-halt operations, the system is upgradeable to on-the-move operations as well. It features standards based interfaces with open APIs and possesses proven EW resilience in advanced threat environments.

Technical Specifications

- **Operational Data**
  - Operating Range: >50km
  - Link Speed: Bidirectional, 10 Gbps Max (variable)
  - Link Availability: >99%

- **Payload SWAP**
  - Size (Includes Gimbal): 18.5" H x 13.4" W x 12.5" D
  - Weight: 46 lbs
  - Power: 48VDC, <200W Average

- **Environmental**
  - Operating Temperature Range: -30°C to +55°C
  - Storage Temperature Range: -40°C to +70°C
  - Enclosure Rating: IP65
  - Transport Shock: MIL-STD-810G

- **Data and Command**
  - Optical Wavelength/Frequency: 1528.77 - 1563.86nm; 191.700 - 196100 THz (optical C-band)
  - Optical Channel Spacing: 50 GHz ITU grid
  - Client Interface: 1G/10G Ethernet
  - Command and Control: 100MB/1G Ethernet

- **Gimbal Operation**
  - Pan Speed: 0.01 to 60°/sec
  - Pan Angle: +/- 180˚
  - Tilt Speed: 0.01 to 60°/sec
  - Tilt Angle: -30˚ to +60˚

Vendor: General Dynamics Mission Systems   **Availability:** Accepting orders Q1 2026

GENERAL DYNAMICS
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