



Blue Cubed

# Ethernet In, Photons Out

Lasercom made simple.










Cobalt Optical Terminal

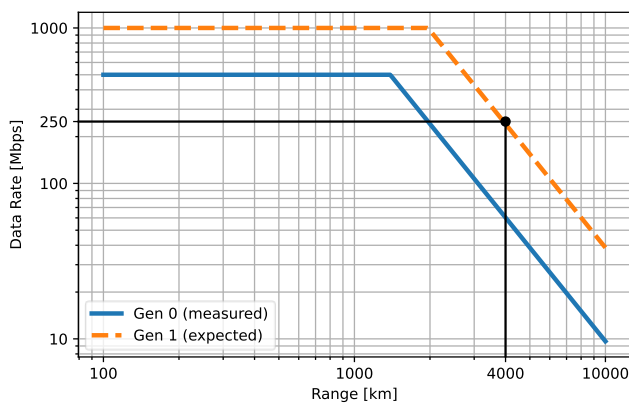
## Overview

Cobalt is a cutting-edge laser communication terminal tailored for small satellites, optimizing size, weight, and power (SWaP) to industry-leading standards. Delivering gigabit-per-second-class data links, Cobalt provides a seamless networking solution by functioning as an Ethernet connection between spacecraft. Cobalt supports a wide range of mission profiles, from low Earth orbit to beyond and enables satellite designers to achieve their mission objectives with minimal complexity and maximum performance.

## Key Features

-  Fully self-contained (no additional electronics)
-  Near-instantaneous link acquisition
-  License-free operation
-  Active jitter compensation
-  Self-orienting without host ADCS coupling
-  Dynamic rate to adapt to link conditions
-  Patented self-alignment system

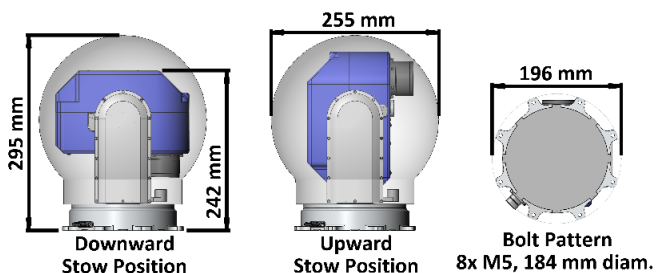
### Data Rate vs Range Performance



Gen 0: Initial prototype performance verified

Gen 1: Available pending customer interest

### Mechanics / Dynamic Volume



### General Specifications

Dimensions	295 mm tall, 255 mm diameter (dynamic)
Mass	5.3 kg
Power	20-30 W (mode dependent)
Bus Voltage	40 VDC max
Host Interfaces	Ethernet (1000BASE-T)

### Optical Link

Data Rate	Adaptive, see range/rate curve
Mode	Full-duplex, symmetric
Usage Scenarios	Cross-plane, In-plane, Space-to-air, Space-to-ground
Wavelength	850 nm
TX/RX Diversity	Polarization (in-flight reconfigurable)

### Pointing and Steering

Coarse Steering	Integrated, max slew 10 deg/sec
Fine Steering	Integrated FSM
Field of Regard	Hyper-hemisphere
Acquisition Process	Beacon-assisted (near instantaneous)
Acquisition FOV	2 degrees

### Environmental

Temperature	-20 to +55 C operational -40 to +85 C storage
Vibration	GSFC-STD-7000
Shock	GSFC-STD-7000

### Cubesat Applications

A Cubesat-compatible version without a gimbal is also available. Suitable for 6U and larger Cubesats. Contact Blue Cubed for details.

*Specifications subject to change.*

Proudly made in Colorado.



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