

VIASAT QUICKSILVER FSO

Expeditionary Free Space Optical (FSO) Communication Terminal



Fiber speeds — no trenches required.

Extend critical networks across islands, littorals, and remote positions with 10 Gbps full-duplex communications. Rapidly deploy links without reliance on fixed infrastructure.



Secure by design. Invisible by nature.

Inherently Low Probability of Intercept, Low Probability of Detection (LPI/LPD), Quicksilver can operate securely in contested environments.



Operate outside the RF fight.

Anti-jam. No spectrum clearances or licenses. No electromagnetic signature (EMS). Completely RF-silent operation.



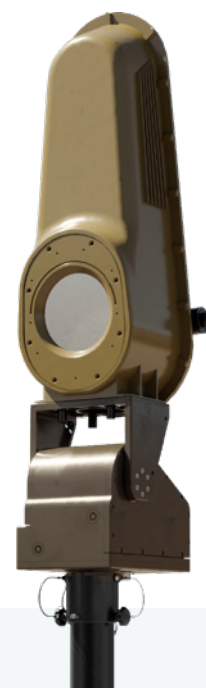
Push networks beyond the terrain.

Bridge connections across islands, coastlines, or rugged terrain. Reliable links beyond 50 km enable strategic reach with tactical flexibility.



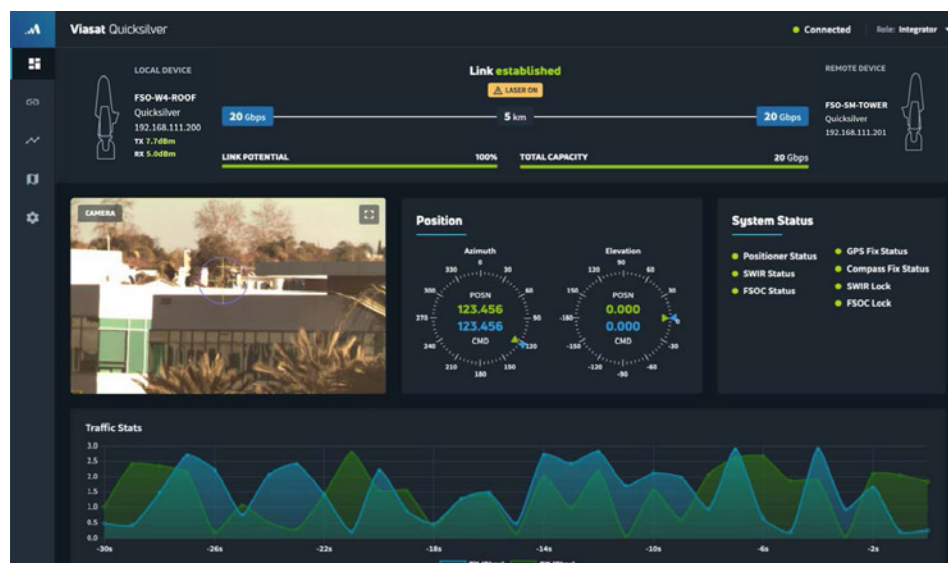
Link up. Move out. Stay Connected.

An intuitive, modern user interface allows rapid link acquisition in minutes. Dual-stage precision tracking and predictive algorithms ensure a stable, reliable connection, even in dynamic environments.



QUICKSILVER FSO PERFORMANCE SUMMARY

- › Data rates of up to 10 Gbps full-duplex
- › Operational range of 50 km (up to 70 km in optimal conditions)
- › Inherently LPI/LPD
- › No spectrum requirements (RF silent operation)
- › Setup and operate, day or night
- › Intuitive interface allows operators to quickly establish links with automated beam tracking after acquisition
- › Class 1M eye safe at the aperture
- › Rapid setup and tear-down
- › No external CPU required for operation



Viasat Quicksilver Free Space Optical (FSO) Communications Terminal

Viasat’s Quicksilver FSO terminal provides high capacity, RF silent, low latency tactical communications capability for comms-on-the-pause applications without the need for spectrum allocation. Quicksilver is eye safe (Class 1M) and is a fully integrated solution with dual stage active tracking to maintain line-of-sight link connection. Rapid acquisition and operation in day or night applications is enabled by Viasat’s unique proprietary acquisition approach and solar filtering.

Quicksilver leverages the high-TRL optical communications core deployed in Viasat’s Mercury FSO terminal as well as commercial applications to provide a SWaP-C efficient communications solution. An operator-friendly user interface and standard network interfaces enable rapid acquisition and interoperability with existing network infrastructure for the tactical edge user.

Specifications

OPTICAL		USER INTERFACES	
Range	50+ km	Terminal Setup	GbE or 1310 nm SFP
Data Rate	10 Gbps, full duplex	Telemetry	GbE or 1310 nm SFP
Transmit Power	Up to 30 dBm	Client Data	GbE or 1310 nm SFP
Wavelength	1550 nm, Wavelength multiplexed (DWDM)	FSO INTERFACES	
Link Latency	160 µs minimum, < 1 ms typical	1 x 1310 nm SMF	TFOCA-II® connector (client data)
ELECTRICAL		1 x 100 BASE-T + POE	Rugged RJ-45 (positioner interface)
Power	48 VDC, < 75 W nominal, 175 W peak	1 x 48 VDC + 1000 BASE-T	MIL-DTL-38999 connector (power, user interface)
RF Spectrum	None	MOUNTING OPTIONS	
MECHANICAL		2-Axis Positioner (Mast Deployments)	+/- 220° in azimuth +/- 30° in elevation 2.1° /s slew rate Integrated power using PoE from Quicksilver terminal
Dimensions (L x W x H)	27.2 x 9.9 x 8.9 in.	Fixed Mount (Fixed Deployments)	+/- 11° in azimuth +/- 14° in elevation 10° field of regard Clamp-based mount for fixed installations
Weight (including positioner)	< 50 lbs.		
ENVIRONMENTAL			
Operating Temperature	-30°C to 55°C		
Enclosure	Waterproof, MIL-STD-810 compliant		

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