



VANGUARD FOCUS^{NX}™ and VANGUARD FOCUS^{LX}™ represent the latest evolution of Network Intrusion Detection Systems from Network Integrity Systems (NIS). These advanced systems feature state-of-the-art long-range fiber optic sensors powered by Distributed Acoustic Sensing (DAS), enabling them to detect, classify, and pinpoint the exact location of network intrusions with unmatched accuracy.

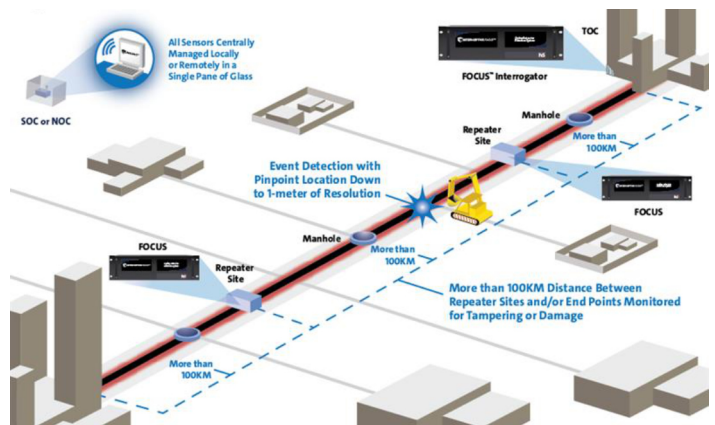
Proven in the most demanding environments, our FOCUS solutions are deployed to safeguard highly classified U.S. Government networks as well as critical infrastructure sites. By leveraging the unique properties of optical fiber, they provide a tamper-resistant sensing medium that delivers continuous protection across long-haul networks.

At the core of the system, a centrally located VANGUARD FOCUS interrogator transmits and receives light through optical fibers in long-haul cables and pathways, up to 100km in length. When physical disturbances occur—such as digging, conduit impact or cable tampering—the resulting vibrations alter the light patterns within the fiber. The interrogator detects these changes and, through machine learning-based AI analytics, instantly classifies the event type while accurately identifying its location in real time. This enables security teams to respond swiftly and decisively, thereby minimizing risk, potential damage, and costly downtime and repairs.

Two models are available to meet varying mission requirements:

- VANGUARD FOCUS^{LX} – Optimized for shorter distances, this cost-effective solution requires less processing power and is ideal for distances less than 20Km.
- VANGUARD FOCUS^{NX} – Designed for longer distances, this model provides greater processing power and expanded coverage, making it the preferred choice for longer installations where uninterrupted monitoring across extended distances is critical

Together, FOCUS^{NX} and FOCUS^{LX} deliver a scalable, mission-ready solution for securing critical long-haul networks. With unmatched accuracy, real-time threat detection, and proven reliability, they help ensure network uptime by detecting threats before damage occurs and maintaining operational resilience against ever-evolving threats.



VANGUARD FOCUS™ Technical Specifications

	VANGUARD FOCUS ^{NX}	VANGUARD FOCUS ^{LX}
OPTICAL SPECIFICATIONS		
Optical Sensing Ports	E2000-PS APC	SC/APC
Optical Range (@6.4m gauge length)*	Up to 150km per port ¹	Up to 20km per port
Fiber Type	Single-mode - ITU-T G.652, G.654, or G.65 Multimode: ITU-T G.651.1, et al. (Range limited: ~8km)	
Optical Connection	E2000-PS APC	
Ports	1 or 2	
Maximum Loss Budget	32 dB	10 dB
Maximum back reflection	< 3%	
Maximum Attenuation	0.2 dB per km	
Operating Wavelength	1550.12 nm 193,400 Ghz ITU CH34	

ELECTRICAL		
Power Input	100-230 AC, 50/60 Hz or 24/48V DC	100-240V AC w/ 65W AC/DC Converter or 24 or 48V DC
Power Supplies	Dual Redundant	External
Operating Power (Typical)	110 Watts Nominal	40 Watts Nominal

ENVIRONMENTAL		
Operating Temperature	-5°C – +50°C	
Storage Temperature	-40°C – +70°C	
Operating Humidity	95% Non-Condensing	

PHYSICAL		
Rack Installation	19" x 3 Rack Units	19" x 1 Rack Unit
Dimensions (in - HxWxD)	5.22 x 19 x 18.5	1.75 x 19 x 11.6
Dimensions (mm - HxWxD)	132.5 x 482.6 x 471	44.5 x 483 x 296
Weight (lbs)	37	13.2
Weight (kg)	17	6
Mounting	4 post rack w/ sliding rails	2 post rack

REMOTE MANAGEMENT		
Network	Ethernet Small Form-factor Pluggable (SFP)	
Protocols	ZeroMQ API	

INDUSTRY CERTIFICATIONS		
Laser Safety	Class 1 LASER PRODUCT (IEC 60825-2014, 21CFR1040.10/11)	
Safety (UL)	USA: UL 62368-1; EU: CE compliant - 2014/35/EU	
EMC Compliance	USA: FCC 47 CFR Part 15 B; EU: CE Compliant - 2014/30/EU	

*Note-Range is dependent upon quality of fiber, local environment and the specific activity detection required.

For specifications on all other products and the Warranty and Support Program, please refer to our website at www.networkintegritysystems.com