



NETWORK SECURITY INFRASTRUCTURE SOLUTIONS

## Features & Benefits

- Provides enhanced security to ANY singlemode optical network
- Enables uninterrupted test point access to any SM fiber
- Multiplexes 1625nm test signal with existing 1310/1550nm network traffic
- Filters out ANY potential interference with network traffic
- No affect on network bandwidth or performance
- Fully scalable to meet needs—both now and into the future
- Operates on active or dark fibers
- Variety of configurations to support network requirements

# SENTINEL™

## Secure Test Module

SENTINEL™ Communications Network Defense Modules incorporate state-of-the-art wave-division multiplexing & optical filter technology to allow uninterrupted test access to singlemode fiber optic networks for periodic security and performance testing, as well as locating potential breaches of network integrity (i.e. tampering, fiber tap, etc.). With increased reliance upon secure networks, many federal and DoD agencies are searching for ways to cost-effectively secure the integrity of their networks—especially in light of the increasing threats to communications networks and emerging requirements for Information Assurance across multiple layers in the Open System Interface (OSI) model. Integration of the SENTINEL™ modules seamlessly enhances the security of new or existing networks by eliminating the need to disrupt network operations or Global Information Grid connectivity to perform OTDR analysis—with no degradation of network performance.

The SENTINEL™ Communications Network Defense modules combine several state-of-the-art technologies to provide uninterrupted test point access to any singlemode network:

### Wave-Division Multiplexing (WDM) Technology: *Reducing Equipment Costs*

- Utilizes proven WDM technology to *optically* join existing network traffic (1310/1550nm) with the OTDR test signal (1625nm)
- The SENTINEL™ modules require no additional electronic equipment to operate

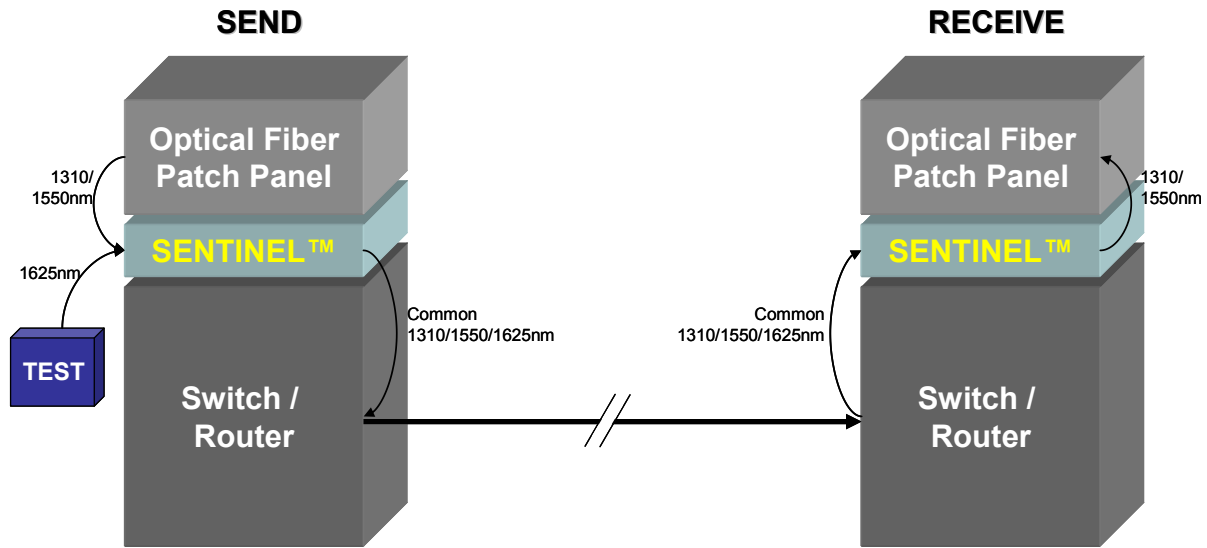
### Optical Filtering Assurance: *Eliminating Network Degradation or 'Noise'*

- A security system that degrades network performance sacrifices personnel efficiency to protect network integrity; with the increased reliance on the GIG and secure networks, operators have zero tolerance for reduced network performance
- The SENTINEL™ modules utilize state-of-the-art optical filters to ensure that the existing 1310/1550nm network traffic is 'shielded' from interference with the OTDR test signal—even if a 1310/1550nm OTDR signal is used by mistake.

### Plug & Play Integration: *Minimizing Installation Complexity*

- Provides seamless integration and scalability for both new and existing singlemode networks
- The SENTINEL™ modules operate independent of protocol or transmission format, for true plug & play convenience





## SENTINEL™ Technical Specifications

### Optical Specifications:

Parameter	Condition	Min.	Typ.	Max.	Units
Transmission Band	@1625	1615		1635	nm
Reflection Band 1	@1310	1260		1360	nm
Reflection Band 2	@1550	1480		1580	nm
Insertion Loss, 3→2	@1625		1.1	1.5	dB
Insertion Loss, 3→1	@1310+1550		0.8	1.2	dB
Isolation, 3→2	@1310	45			dB
Isolation, 3→2	@1550	40			dB
Directivity, 1→2	@1625	50			dB
Directivity, 2→1	@1310	50			dB
Directivity, 2→1	@1550	50			dB
PDL, 3→2	@1625			0.1	dB
PDL, 3→1	@1310+1550			0.1	dB
PMD, 3→2	@1625			0.1	ps
PMD, 3→1	@1310+1550			0.1	ps

### Mechanical Specifications:

Description	Mounting	Height	Width	Depth	Device Capacity
2 Rack Unit WDM Shelf	EIA 19" or 23"	3.4"	16.91"	12"	24 WDM Devices with SC Simplex Adapters

### Environmental Specifications:

Parameter	Min.	Max.	Units
Operating Temperature	-5	+65	°C
Storage Temperature	-40	85	°C

*Devices are Telcordia GR-1209-CORE and GR-1221-CORE qualified.*

For more information, please contact the CSC Secure(it) program at (888) 526-5888 or [secure-it@gocsc.com](mailto:secure-it@gocsc.com)



**22535 Gateway Center Drive  
Clarksburg, MD 29871  
(800) 586-3098**