

WaveReady™ CFM

Optical Link Monitoring System: Continuous Fiber Monitor



- Key Features**
- Enables protocol- and format-independent link loss monitoring
 - Enables real-time, in-service fiber pair monitoring
 - Requires no power for passive customer-end interfaces
 - Supports link budgets up to 40 dB
 - Provides direct TL-1 interfaces
 - Monitors up to six fiber links from a high-density 1-RU CO chassis

Applications

- Monitoring optical links consisting of up to six discrete optical fiber pairs
- Establishing an optical demarcation interface between the carrier and client networks

Compliance

- Telcordia NEBS Level 3
- UL 60950 Third Edition
- FCC Class A

The JDSU Continuous Fiber Monitor (CFM) offers a compact, modular solution for performance monitoring on optical fiber links. The CFM solution lets system operators isolate faults within the fiber plant to improve response time. The CFM also lets them monitor optical fiber health over time to address slow degradation in fiber performance before it results in unplanned service outages.

The CFM operates independently from the client optical power and will not disrupt service should a power failure occur. Unlike Layer 2 performance monitoring solutions, which may not differentiate between equipment or fiber failure, the CFM monitors fiber-plant health from the central office (CO) without relying on electronics located at the far end of the link.

With interfaces for remote TL-1 alarms over transmission control protocol/Internet protocol (TCP/IP), visual alarms, and local telemetry alarms, the CFM is readily integrated into a wide variety of network management interfaces and ready to deploy right out of the box.

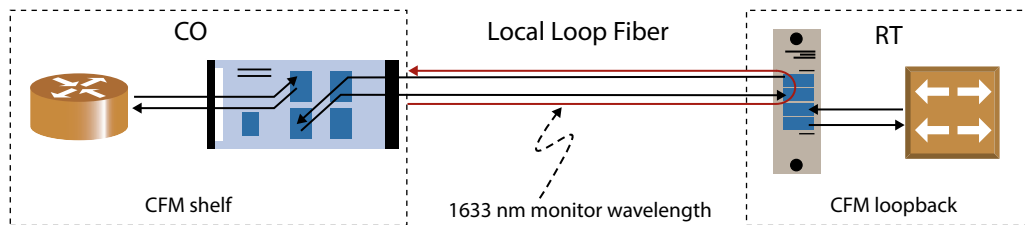


Figure 1. Local loop fiber

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Sample Configurations

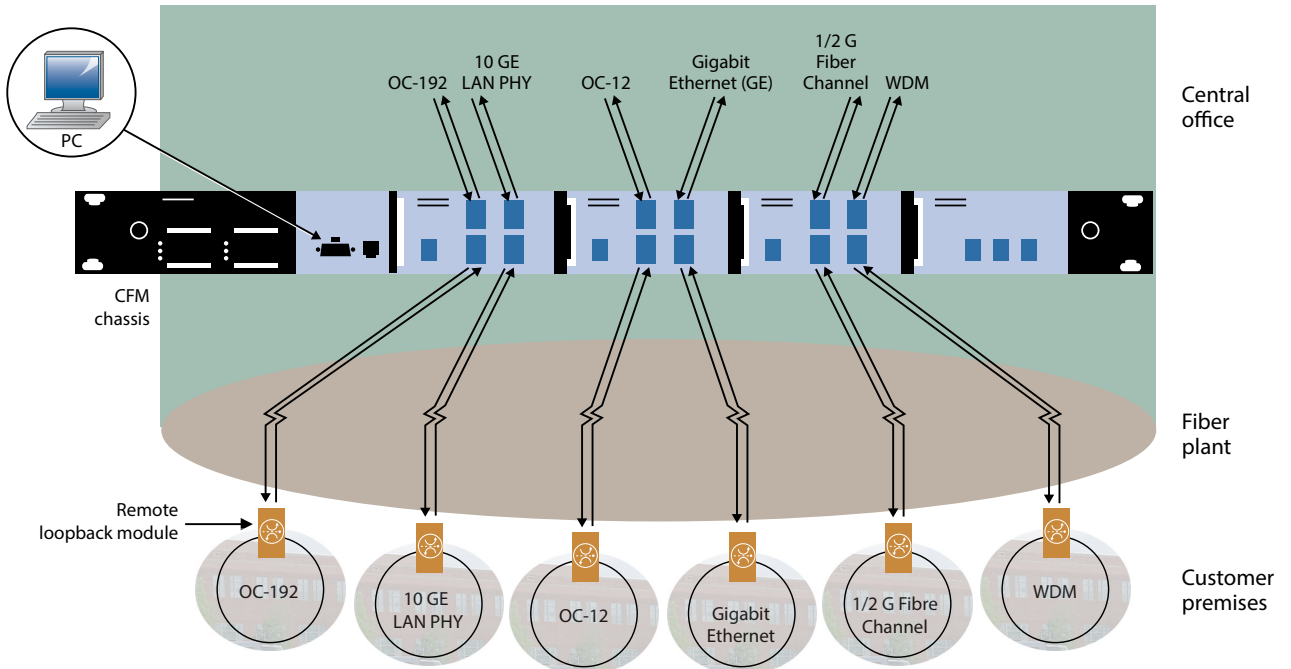


Figure 2. CFM system application

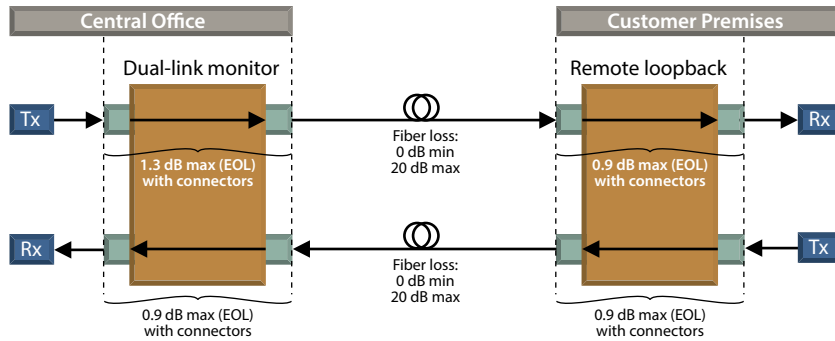


Figure 3. CFM system insertion loss

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Performance Specifications¹

Parameter	Minimum	Typical	Maximum
Optical Characteristics			
Supported data rates		Any	
Operating wavelength range	1260 nm	—	1617.5 nm
Monitor channel wavelength range	1625 nm	1633 nm	1640 nm
Client input power range	−10 dBm	—	3 dBm
Monitor input power	−8 dBm	−5 dBm	−1.4 dBm
Link loss range	0 dB	—	40 dB
Insertion loss ²			
End-to-end path from CO Client In to CP Client Out	—	—	2.4 dB
End-to-end path from CP Client In to CO Client Out	—	—	2.4 dB
Return loss	40 dB	—	—
Optical input power	—	—	300 mW
PDL	—	—	0.2 dB
PMD	—	—	0.2 ps
Electrical Characteristics (chassis)			
DC supply voltage (CO chassis) ^{3,4}	−40 V DC	−48 V DC	−57.5 V DC
DC current (CO chassis)	—	225 mA	300 mA
Power dissipation (CO chassis)	—	10.8 W	15 W
Power dissipation (remote loopback)	—	0 W	—
Physical Characteristics (chassis)			
External dimensions including brackets (H x W x L)	4.5 x 48.3 x 28.0 cm (1.75 x 19.0 x 11.0 in)		
Weight (approximate)	3.2 kg (7.0 lb)		
Physical Characteristics (remote loopback)			
External dimensions including brackets (H x W x L)	13.0 x 2.74 x 15.2 cm (5.1 x 1.08 x 6.0 in)		
Weight (approximate)	0.45 kg (1.0 lb)		
Environmental Characteristics			
Normal operating temperature	0°C	—	40°C
Extended operating temperature	−5°C	—	55°C
Storage temperature	−40°C	—	85°C
Relative humidity (noncondensing)	5%	—	85%
Interface Specifications			
Optical connectors	LC/PC on CO equipment, SC/PC or LC/PC on remote loopback module		
DB-9/RS232 craft user port	Three-wire serial TTL, 9600 baud, no parity, no flow control, 8 data bits, 1 stop bit TL1 command line via serial (RS232) or network (10/100Base-T) ports		

1. This product should be deployed in accordance with your company's deployment directives.
2. Refer to Figure 2 CFM insertion loss. Includes both CFM Dual Link Monitor and CFM Passive Optical Loopback devices.
3. The DC power supply must be −48 V SELV output and certified by a nationally recognized test laboratory (NRTL). UL tested at −48 V.
4. The Remote Loopback modules (BJK-CFMLBHC4B or BJK-CFMLBH2B) are passive optical devices with no applicable electrical connections or heat dissipation.

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at sales@jdsu.com.

Product Number	Description
BJK-CFMBCE19	CFM 4-slot chassis
BJK-CFMCM100	CFM controller module software rev. 1
BJK-CFMLMX3B	CFM extended-reach laser source
BJK-CFMDMX2B	CFM extended-reach dual-link monitor
BJK-CFMDC48V	CFM 48 V DC power supply plug-in
BJK-CFMLBHC2B	CFM module, single 1633, SC
BJK-CFMLBHC4B	CFM remote loopback module, dual 1633, LC