

OP831

Bi-Directional Insertion Loss

Overview

Bi-Directional Insertion Loss Meter

The **OP831** is designed to perform bi-directional insertion loss measurements on single-fiber and multi-fiber optical cables. The integrated source and power meter together with the **OPL8** application software allow for a fully automated bidirectional insertion loss analysis of the connected cable.

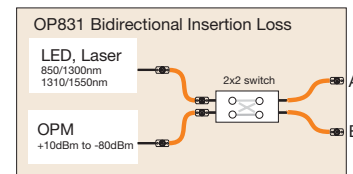
This rack-mountable instrument is available for singlemode and multimode fiber types and can be equipped with either single wavelength or dual wavelength Laser or LED sources.



Model OP831 Bi-Directional Insertion Loss Meter

Features

- Streamlines and automates the bi-directional insertion loss test.
- Integrated, precision optical power meter with +10dBm to -80dBm range.
- Integrated Laser or LED source available at most common wavelengths.
- Dual wavelength operation (1310nm/1550nm) for singlemode fiber on single optical port.
- Dual wavelength operation (850nm/1300nm) for multimode fiber on individual optical ports.
- Controlled launch condition (under-fill, full-fill, over-fill) for multimode fiber.
- Expandable to multichannel operation by adding a customer specific 2xN optical switch.
- USB Interface for seamless remote control.
- OPL8** Application Software integrates and automates functions of bi-directional measurement including data logging, serialization and report generation.



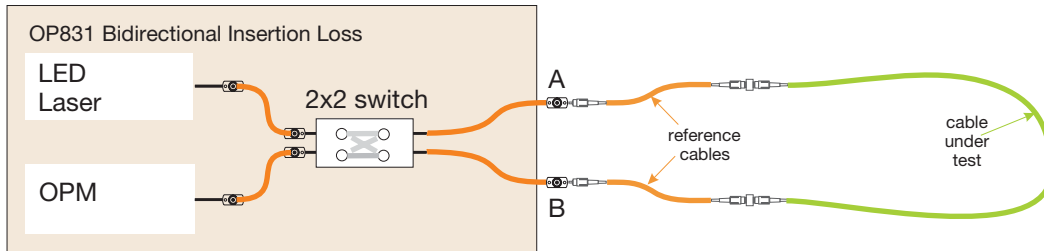
	OP831-MM	OP831-SM
Detail Specifications	Measurement Range for Insertion Loss (at nominal wavelength)	
	0dB to - 50dB (range depends on source power)	
	Wavelength Range	
	830nm .. 1700nm (wavelength range is limited by selected optical switch)	
	Selectable Wavelength (power meter)	
	Standard: 850/1310/1550/1625nm	
	Measurement Resolution (Display)	
	0.001dB	
	Measurement Repeatability IL (OP831 only)	
	+/- 0.075dB (includes 2x2 switch, source stability, power meter linearity)	
Measurement Repeatability IL, over all		
+/- 0.16 dB (includes OP831 and 2xN optical switch)		
Data Interface		
USB 1.1 (or later) compatible data rate and interconnect		
Measurement Time (per channel)		
3 sec (for maximal repeatability)		
Source		
LED 850nm or 1300nm, 62.5/125 overfill, typ. -20dBm, +/- 0.02dB stability		Laser 1310nm/1550nm, typ. -3dBm, +/- 0.02dB stability
Connector/Fiber Options		
50/125µm or 62.5/125µm 9/125µm		FC/PC, SC/PC, ST/PC, LC/PC and angled polished versions

Specifications are subject to change, please confirm specific performance characteristics of the product at the time of ordering.

Bi-Directional Insertion Loss

Applications

Bi-Directional Insertion Loss Test on Single Cable



Test Report

Measurement	A-B 1310nm	A-B 1550nm	B-A 1310nm	B-A 1550nm	Avg 1310nm	Avg 1550nm	
#1 SNCBL 10101	-0.23dB	-0.32 dB	-0.21 dB	-0.34 dB	-0.22 dB	-0.33 dB	FAIL
#2 SNCBL 10102	-0.15dB	-0.26 dB	-0.17 dB	-0.26 dB	-0.16 dB	-0.26 dB	Pass
#3 SNCBL 10103	-0.08dB	-0.12dB	-0.11 dB	-0.13 dB	-0.10dB	-0.13 dB	Pass
#4 SNCBL 10104	-0.07dB	-0.07dB	-0.11 dB	-0.08 dB	-0.09dB	-0.07 dB	Pass

Block Schematic

Multichannel Bi-Directional Insertion Loss Test System

