

# How to test the return loss of fiber optic cable tailpipes



## Overview

It is convenient to measure return loss with an optical return loss meter (or ORL meter or back-reflection meter or optical continuous wave reflectometer or OCWR). Beginning with software release 1. the reflection above the fiber backscatter level, relative to the source pulse, is called reflectance. -50dB reflectance is 50dB return loss. However, there is a widely conflicting common usage of these and related terms, so unfortunately there is no safe assumption about which is what, so it's. Reflectance (which has also been called "back reflection" or optical return loss) of a connection is the amount of light that is reflected back up the fiber toward the source by light reflections off the interface of the polished end surface of the mated connectors and air. It represents the measurable amount of light lost between two fixed points, primarily due to. We use the established optical CW reflection (OCWR) method to measure optical return loss. As shown in the figures above, the OCWR Testing setup for reflectance or return loss tests of connectors or passive fiber components per industry standards (TIA FOTP-107 or IEC 61300-3-6) using a light source. Your customers need to know that you've tested every fiber optic jumper and cable and have acquired accurate IL/RL measurements that meet their specs. Why is this important to them?

Systems won't work if inadequate power reaches the receiver at the far end of the path. (The receiver could be a data.

## Article Content

### Fiber Optic System Testing Tutorial

Return loss (dB) is a measure of how much power is reflected back to the source from all reflective events in the fiber optic link relative to how much power was launched into the link.

### How To Measure The Return Loss of A Fiber Optical Device

In order to calculate the reflectance or return loss, you need to know the magnitude of the test signal and the split ratio of the coupler, including the excess loss of the coupler.

### Fiber Optical Return Loss (ORL) and Reflectance Testing| Fluke ...

This document discusses the limitations on these optical return loss measurements. There is a limit to the range of values that can be measured for optical reflectance.

### ORL & Back Reflection Guide | Kingfisher International

Application note: Practical guide and overview of optical return loss management, test methods and ORL / back reflection fault finding concepts.

### The FOA Reference For Fiber Optics

The OTDR can measure the amount of light that's returned from both backscatter of the fiber and reflected from a connector or splice, leading to two independent tests, reflectance and optical return ...

### How to Test Fiber Cable Inertion Loss and Return Loss?

The performance of Fiber Optic Assemblies, specifically their Insertion Loss (IL) and Return Loss (RL), is paramount to a healthy network. Several key factors can detrimentally impact ...

### How to Accurately Measure IL/RL

To measure Return Loss, some means of isolating the connector part of the reflected signal is required: a mandrel wrap, index matching gel, or Optical Time Domain Reflectometer (OTDR).

### Comparing Optical Return Loss (ORL) Measurement Methods

Comparing Optical Return Loss (ORL) Measurement Methods This paper reviews two techniques for measuring ORL: time-domain measurements and optical-continuous-wave reflectometry (OCWR).

### Return Loss & Insertion Loss Testing

Tech Optics offers a range of return loss and insertion loss test equipment in single channel, multichannel and bi-directional configurations. Contact us to discuss your application with our ...

The FOA Reference For Fiber Optics

Testing the optical return loss of cables and cable assemblies is very important for singlemode laser systems, since light reflected back into the laser may cause instability, noise or nonlinearity.

## Contact Us

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