

Application Note

Micro OPM the Essential Tool for the Fiber Optic Technician

Introduction

When the fiber optic technician is tasked with troubleshooting a fiber link that is not operational, they need the basic tools to quickly isolate and identify the problem. The Micro OPM (OPM210 and OPM220) has both a Visual Fault Locator (VFL) and an Optical Power Meter (OPM) which are the essential tools for the first responding technician.

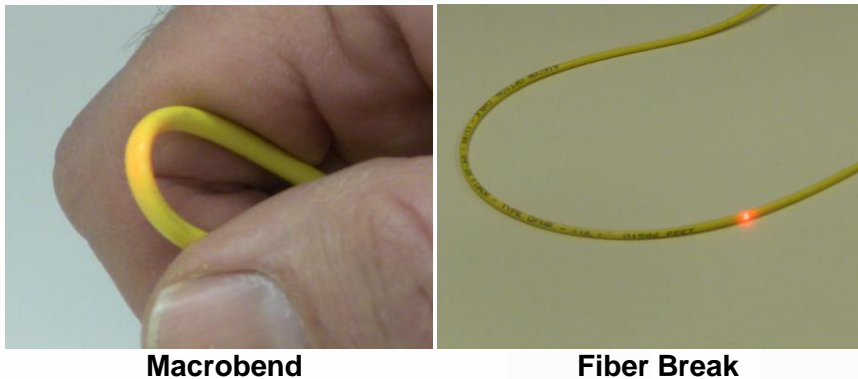
Typical Scenario

When the technician arrives at the fiber service they can use the OPM function to quickly determine if the power at the optical network terminal is within the prescribed tolerances. Optical data levels can be measured at 1310nm or 1490nm and video at 1550nm. The OPM220 is typically used by the MSO technician to measure high power video signals at 1550nm. Using a lower power Telco version to measure these higher power signals will likely result in permanent damage.

If no power is measured the technician knows that the fiber is cut or severely damaged. The VFL can then be connected to the fiber and the technician will be able to potentially visually locate the fault location.

Visually Locating Loss locations and Fiber Breaks

When the VFL is connected to a fiber cable and the technician can visually locate loss locations be it a Macrobend, faulty connectors, a break in the fiber or a poor splice. When there is a fiber discontinuity the red laser light escapes the fiber and the technician can pin point the loss location. The Micro OPM can be placed into modulation mode so that the red laser light is modulated at a rate of approximately 2Hz. This aids in the identification of loss events in high ambient light conditions.



Visually Identify Fibers

The technician can connect one end of a fiber to the Micro OPM VFL port and then visually locate the other end of the fiber. The red light will be visibly emitted from the end of the fiber and indicates that the fiber does have continuity but it does not confirm that the fiber has no loss. The maximum transmission distance of the 180XL is approximately 7km in single mode fiber. The technician should not look directly into the fiber so as to avoid possible eye injury. The Micro OPM VFL is Class 2 compliant and is safe as specified by CDRH FDA standards.

Summary

The Micro OPM is the essential tool that every front line technician needs to be able to efficiently troubleshoot fiber installations. The ease of use, rugged construction and small form factor combine to provide the technician with the reliable tools they need for the most demanding of conditions