



## 1. General Information and Operation

- 1.1 The LFI 110 utilizes a macro bend technique to induce a small amount of loss into the fiber. This macro bend will not damage the fiber nor place an excess loss into the fiber should it be an active channel. This macro bend technology has been used very effectively for many years with no reported degradation to the fiber. When the LFI 110 trigger is fully depressed the loss induced will be typically 0.2dB @ 1310nm and 1.2dB @ 1550nm. It should be noted that the signal measured will be approximately 30 dB less than the actual core value. The optical power coupled into the RP 400 series power meter is displayed as an absolute (dBm) level provided the RP 400 is set to display dBm (see RP 400 users guide). The LFI 110 is designed to operate on 250 micron coated fibers, 900 micron coated fibers as well as 2mm and 3mm jacketed pigtailed and jumpers. The LFI 110 is not intended for use on multimode fiber networks.
- 1.2 The LFI 110 offers the user a unique modular concept to live fiber identification. Prior to operation please ensure that the RP 400 power meter has the connector adaptor removed. Simply snap the LFI 110 onto any of the RP 400 (RP 450, 455 or 460) series optical power meters until the device bottoms out in the detector head housing (see figure 1). Carefully insert the patch cord or pigtail under test into the slot of the LFI 110. The fiber under test must be placed such that the fiber is evenly placed along the guides on both ends of the curved detector housing. Next, carefully squeeze the trigger until fully depressed. To remove the LFI 110 from the power meter hold the LFI 110 firmly between the thumb and fore finger of one hand and pull the device away from the power meter with the other hand.

## 2. Measurement Results & Determination of Signal Direction

- 2.1. No signal Indication – With the fiber placed in the groove and the trigger fully depressed, the RP 400 power meter will provide an indication of power by displaying an absolute value (dBm). The RP 400 displays ( -- -, -- ) if there is no signal present or the signal is below the measurement range of the power meter (see RP 400 specifications). This display condition will also be present when the LFI 110 trigger is fully depressed without a fiber under test. Please note that the RP 400 power meter will timeout unless the instrument is set into the continuous ON position. Please see the RP power meter for more information on this feature.
- 2.2. Active Channel Indication – The LFI 110 provides active channel power when the RP 400 power meter displays a measurement in dBm. Please note that the displayed signal will be approximately 30dB below the actual core power on a typical 3mm yellow jacketed fibre. When the LFI 110 is used in a PON (Passive Optical Network) the active signal originates from the OLT (line terminal) or ONT (subscriber). Please contact ODM for additional information on PON active channel identification and wavelength specific signal detection.
- 2.3. 2 kHz Tone Detection – The RP 400 power meter includes a built in 2kHz audible and visual alarm. This 2 kHz tone is generated from a light source capable of modulating the laser at 2 kHz. All single and dual laser sources manufactured by ODM include this 2 kHz tone feature. This feature allows the user to modulate a 2 kHz signal at either end of the network and look for this signal at any intermediate splice enclosure or patch panel. When the LFI 110 is fully engaged on a fiber with 2 kHz tone present, the RP 400 power meter will provide audible and visual indication.
- 2.4. Determinations of Signal Direction – To confirm signal direction, reverse the patch cord in the LFI 110 and observe the next measurement on the RP 400. Signal direction is confirmed when the higher power measurement is as shown in Figure 1. Using Figure 1 as an example, the signal direction is shown to be travelling into the RP 400. If the fiber patch cord were reversed the measurement on the RP 400 would read approximately 4-6dB.



Figure 1

## 3. Customer Support, Maintenance & Warranty

- 3.1 The LFI 110 contains no serviceable parts. For application support, repair or warranty questions please contact ODM Inc @ 603-524-8350 or e-mail [support@odm-inc.com](mailto:support@odm-inc.com)

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