

Fiberdyne Labs, Inc. Hand-Held Optical Fiber Identifier FL-OFI-1 & FL-OFI-2

Introduction

FL-OFI-X denotes, both, **FL-OFI-1 (advanced)** and **FL-OFI-2 (CATV) Probes**. These two units operate basically the same, with the only difference being the operation of the relative power level as shown on page 2.

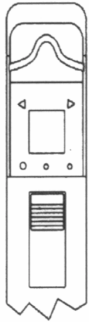


Figure 1

The Fiberdyne Labs, Inc. Model **FL-OFI-X** Probe is a rugged, hand-held, easy to use, maintenance and installation instrument that identifies optical fibers by detecting the optical signals that are transmitted through a singlemode fiber. The **FL-OFI-X** utilizes non-destructive macro-bend detection, which eliminates the need to identify a fiber by opening it at the splice point. Thus, the probability of interrupting service is eliminated.

Signals that the **FL-OFI-X** detect include continuous wave live optical transmission, and low frequency modulated tones at 270, 1000, and 2000 Hz. When the **FL-OFI-X** detects traffic on a fiber being tested, one of two LEDs on the **FL-OFI-X** illuminate to indicate the presence and direction of transmission. The presence of tone is indicated by illumination of one of three LEDs (figure 1). The relative level of core power within the fiber is also displayed on the two-digit, seven-segment LED display.

Operation

Operation of the **FL-OFI-X** is simple and is outlined in the following steps:

1. Choose an adapter head for the type of fiber to be tested. The **FL-OFI-X** is supplied with three adapters (as shown in Figure 2): (A.) *foam-covered*, to accommodate 900 μm buffered fiber; (B.) *smooth-surfaced with foam perimeter*, for use with ribbon or a 250 μm coated fiber; and (C.) *slotted*, for 3mm and *optional* 2 mm jacketed fiber (i.e., pigtails and jumpers) or loose tube fiber.
2. Select the appropriate adapter and slide it into the matting slotted channel of the FL-OFI-X with slight downward pressure, as shown in Figure 3.
3. Insert the fiber to be tested between the adapter and the top of the clamp (refer to Figure 4). Slide the thumb switch upward and ensure that the fiber is installed properly in the alignment groove.

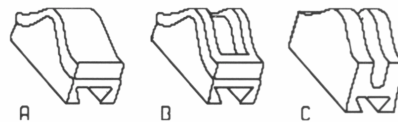


Figure 2

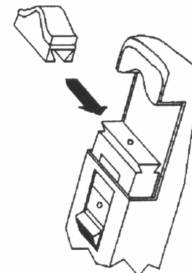


Figure 3

Presence of Traffic. Illumination of either Traffic LED indicates that detection and direction of traffic. This is useful in determining whether the fiber is transmitting or receiving at equipment terminal locations.

Test Tone Detection. Illumination of any one of the 2 kHz, 1 kHz, or 270 Hz LEDs indicates that a test tone is being detected, which ensures accurate identification of the fiber that is under test.

The 2 kHz tone can be generated by a source such as the Fiberdyne Model FD-FS1316 (also includes 1kHz and 270Hz), 1550nm is the recommended wavelength for tone identification.

FL-OFI-1 Relative Power Level. The relative core power in the fiber is displayed as a minus dB value between -5 and -40 dBm. The **FL-OFI-1** will operate with core powers greater than 0 dBm. Under these conditions the **FL-OFI-1** displays a "05" and the traffic LED indications remain valid. When the core powers are below -40 dB, the **FL-OFI-1** displays a "LO" and the Traffic LED indications are no longer valid. The signal level is below the range of the **FL-OFI-1**.

FL-OFI-2 Relative Power Level. The relative core power in the fiber is displayed as a minus dB value between +15 and -19 dBm. The **FL-OFI-2** will operate with core powers greater than +15 dBm. Under these conditions the **FL-OFI-2** displays a "15" and the Traffic LED indications remain valid. When the core powers are below -19 dB, the **FL-OFI-2** displays a "LO" and the Traffic LED indications are no longer valid. The signal level is below the range of the **FL-OFI-2**

Self Test. Each time the thumb switch is operated, the **FL-OFI-X** performs a self test. When this occurs all LEDs will illuminate and, after approximately 1/2 second, turn off.

Low Battery Indication. When the battery voltage becomes low, "Lb" is displayed after the selftest. The unit will continue to operate for some time, but the battery should be replaced with a fresh 9-volt alkaline battery as soon as possible.

Battery Replacement. To replace the battery, hold the probe in hand and with the thumb on the grip slide the cover downward and replace the battery. To re-install the cover, reverse the steps. Gently place the cover on the probe and align the cover keys with the probe sideways; slide the cover forward.

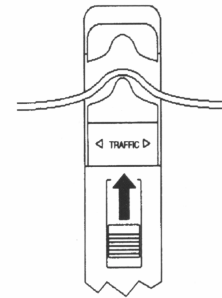


Figure 4

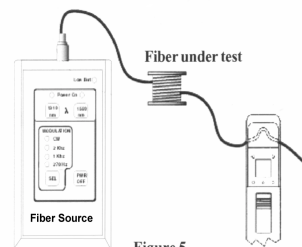


Figure 5

Maintenance. It is important that the optical ports remain clean and free of dust, dirt, grease, or other foreign matter. Cleaning with lint free swabs and isopropyl alcohol is recommended for optimum performance.

This document, and others may be found at:
<http://www.fiberdyne.com/techinfo/index1.html>

Further product information may be found at:
<http://www.fiberdyne.com>