The Lightwave OSD

The Digital Lightwave LW OSD is a low-cost handheld instrument for identifying signals in fiber-optic cables without service interruption.

The Digital Lightwave LW OSD™ (Optical Signal Detector) is a low-cost, handheld instrument designed for identifying signals in fiber-optic cables. During maintenance, installation, rerouting, or restoration, it is often necessary to isolate a specific fiber from a bundle without disrupting service.

By simply clamping the LW OSD onto a fiber before making any cuts, the identifier will indicate if there is "Traffic," "Tone," or "No Signal."

Although the LW OSD is recommended for up to 3 mm jacketed fiber, it is equipped with a unique two-position head design that can be configured to work with 250 µm, 900 µm, ribbon, or jacketed fiber in seconds—without tools or CAM adjustments. Front-panel LEDs indicate "Traffic" with direction, 2 KHz "Tone," "No Signal," and "Low Battery." Additionally, an audible beeper sounds when the tone is detected. No tools or adjustments are required. Using a low-insertion-loss macro-bending technique, the LW OSD detects optical signals without interrupting service or damaging the fiber.

When testing coated fibers, the slim design of the LW OSD allows easier access on a splice tray, where workspace is limited. The clamping trigger is ergonomically designed to fit the natural motion of the operator's hand.

Lightwave OSD (LW OSD)

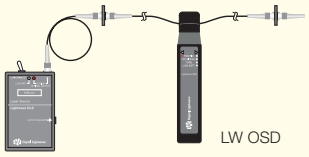
Digital Lightwave®

The Lightwave OSD

The Lightwave (LW) product series is a comprehensive line of handheld and ultra-compact test equipment for measuring, maintaining, and documenting the physical-layer performance of fiber-optic networks.

Applications

- The LW OSD is used during restoration or rerouting to positively identify fibers prior to cutting and splicing.
- By sending a 2 KHz tone into a desired fiber at the head-end or central office, a field technician can use the LW OSD to locate the correct fiber without interrupting service. Locating a fiber with a 2 KHz signal is known as "toning out" the fiber.



LW DLS™ (Dual Light Source) — LW OSD

Major Features

- Accepts 250 µm, 900 µm, coated fiber, 3 mm jacketed fiber cable, and ribbon fiber
- No head swapping or CAM adjustments
- Identifies light-carrying fiber
- Low cost, easy to use
- Handheld, 9 V battery operated
- Low insertion loss—traffic remains uninterrupted
- Indicates 2 KHz tone visually and audibly
- Indicates direction of traffic

Specifications are subject to change without notice.

Detectable Signal Range

250 um Coated Fiber	SMF-28 with 250 µm CPC6 coating **Detect Range (average power, typical):** 1310 nm, CW or Traffic, +23 to -24 dBm 1310 nm, 2 KHz Tone, +20 to -27 dBm 1550 nm, CW or Traffic, +23 to -33 dBm 1550 nm, 2 KHz Tone, +20 to -36 dBm **Insertion Loss (typical)** 1310 nm: 0.2 dB 1550 nm: 2.5 dB
3 mm Jacketed Fiber	SMF-28 with 250 µm CPC6 coating and a 3 mm, yellow jacket **Detect Range (average power, typical):** 1310 nm, CW or Traffic, +23 to -30 dBm 1310 nm, 2 KHz Tone, +20 to -33 dBm 1550 nm, CW or Traffic, +23 to -37 dBm 1550 nm, 2 KHz Tone, +20 to -40 dBm **Insertion Loss (typical):** 1310 nm: 0.2 dB 1550 nm: 1.8 dB

Optical Specifications

Detector Type	InGaAs
Specified Wavelength of Operation	1310 and 1550 nm
Fiber Stress	<100 kPSI max
Fiber Size	250 µm, 900 µm, 3 mm jacketed, and ribbon fiber
Tone Detection	2000 ±100 Hz
Measurement Time	<1.0 second

General Specifications

Operating Temperature	0° to 40° C
Storage Temperature	-30° to 60° C
Battery Life	>10,000 operations typical (9 V DC alkaline)
Dimensions (H x W x D)	8.5 x 1.5 x 1.1 in (22.0 x 3.8 x 2.8 cm)
Weight	7.5 oz (210 kg)

Notes:
1. 250 µm-coated fiber parameters are specified with LW OSD plunger in the "250/900/RIB" position. 3 mm jacketed fiber parameters are specified with LW OSD plunger in the "3 mm" position.
2. Unless noted otherwise, all specifications are typical. Actual results can vary by several dB depending on fiber type, coating material, jacket color, jacket hardness, and other factors.
3. "CW" or Continuous Wave is a light signal that is not modulated. "Traffic" is a light signal modulated by a random data sequence. "Tone" is a light signal modulated into a nominal 50% duty cycle square wave.

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Ordering Information For feature availability, ordering, and pricing information, call +1 727 442 6677 or visit www.lightwave.com.

Digital Lightwave provides industry-leading products, technologies, and services for deploying and managing communications networks. Telecommunications service providers and equipment manufacturers rely on our offerings to develop, install, maintain, and manage high-performance networks. With a presence in more than 80 countries, Digital Lightwave enables customers to successfully implement optical-based networks worldwide. To find the nearest sales office, please visit www.lightwave.com.