# OLS 1 LED Light Source

The OLS 1 Series of LED light sources are inexpensive, practical instruments designed for performing insertion loss measurements on fiber optic links when used with an optical power meter. The OLS 1 is easy to operate with only a power switch and a wavelength select slide switch. The power switch will illuminate when on and flashes to indicate a low battery condition. The LED outputs are stabilized to ensure accurate test results. Weighing only 4.5 ounces, the OLS 1 is compact and convenient for field use. The OLS 1 operates over 80 hours from a typical 9V alkaline battery. An AC adapter is optional for extended use.

## applications

- Operating at 850nm, the OLS 1-1C can be used for testing Ethernet, Gigabit Ethernet, Token Ring, and other multimode LAN systems.
- Operating at 660nm, the OLS 1-1C can test 1000µ fiber and trace fibers with the visible 660nm output.
- The OLS 1-2C (two port) and OLS 1-Dual (single port) operate at 850 and 1300nm for use on Ethernet, Token Ring, and FDDI. The 1300nm output can also be used to test short distance (up to 10km) single-mode fiber links.

## features

- 850 and 1300 nm LED (multimode) light sources (660 nm available)
- Certify 50 or 62.5 µm multimode fiber links for any 850 or 1300 nm application, including Gigabit Ethernet (GBE)
- Includes 50 and 62.5 µm mandrels
- Low cost, easy to use
- Hand held, portable
- Long battery life
- SC/ST swappable output adapter (OLS1-Dual)
- Easy cleaning of output ferule (OLS1-Dual)

## specifications

| Optical Specifications | OLS 1-1C | OLS 1-2C | OLS 1-DUAL (single port) |
|---|---|---|---|
| Output wavelength (nm) | 660 - red,<br>850 + 35/-40 | 850 + 35/-40,<br>1300 +50/-10 | 850 + 35/-40,<br>1300 +50/-10 |
| Spectral width (nm) (typ) (FWHM) | 30, 40 | 40, 120 | 40, 120 |
| Output power (dBm) | -10*, >-20 | >-20, >-20 | >-20, >-20 |
| Fiber size (µm) | 1000, 62.5** | 62.5** | 62.5** |
| Output connector | ST | ST | ST, SC swappable |
| Emitter classification | Class 1 (IEC 60825 - 1) | | |
| Stability | ± 0.1 dB over 8 hours (after 5 min. warm-up) | | |

**General Specifications**

| | |
|---|---|
| Power | Typical 60 hours with 9V battery, optional AC adapter |
| Operating temperature | -10 to 50°C |
| Storage temperature | -30 to 60°C |
| Size (H x W x D) | 5.5 x 3.2 x 1.5 in (14.0 x 8.1 x 3.8 cm) |
| Weight | 0.65 lb (.29 kg) |

* -10 dBm output is into 1000 micron fiber.
** May be used to test 50 or 62.5 µm fiber with supplied mandrels.
All specifications at 25°C

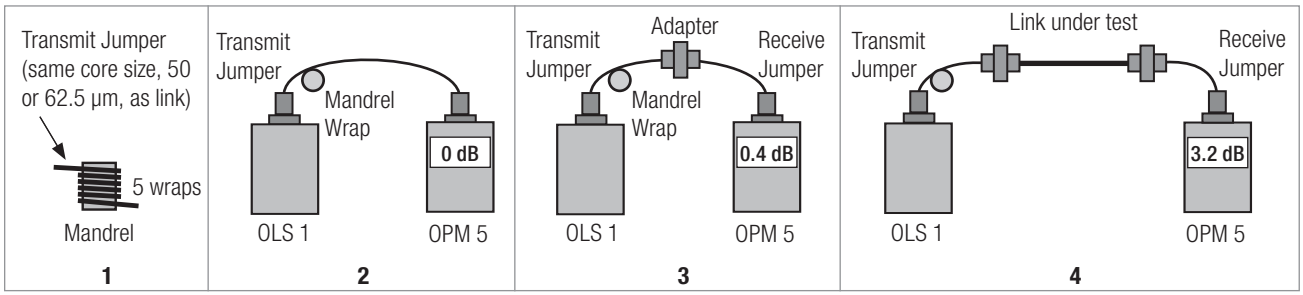
NOYES
AFL Telecommunications

OLS1-00-2001 Rev. L 08.28.03

www.AFLtele.com or 1.800.321.5298 / 1.603.528.7780

# OLS 1 LED Light Source

## loss testing with the OLS 1 and OPM 5 optical power meter




### 1 Attach Mandrel (multimode links only)

When testing multimode fiber links using an OLS 1 (or any overfilled LED source), always wrap the transmit jumper 5 times around the proper diameter mandrel. This is specified by TIA/EIA-568-B and will improve insertion loss measurement repeatability and accuracy.

**Do NOT use mandrels on multimode receive jumpers or single-mode jumpers.**

Note: The transmit and receive jumpers must use same fiber type (50 or 62.5 µm) as link under test.

### 2 Set Reference (One Jumper Method)

Connect the output of the OLS 1 directly to the input of the OPM 5. Then press and hold the Set Ref (set reference) key until the word "HELD" appears. When you release the Set Ref key the OPM 5 should display "0 dB" (± 0.05 dB) indicating that the power measured at output of the transmit jumper has been recorded as the reference level for your insertion loss measurements.

### 3 Check Jumpers

Disconnect the transmit jumper from the OPM 5 (be sure NOT to remove the end of the jumper connected to the OLS 1). Attach the receive jumper to the OPM 5. Mate the free ends of the transmit and receive jumpers. Verify that the insertion loss of this mated connector pair is well under 0.75 dB, the maximum allowed by the TIA. Noyes recommends that the loss of your mated test jumpers be ± 0.4 dB. If not, clean both jumpers and repeat steps 2 and 3.

### 4 Test Links

Connect the OLS 1 and OPM 5 to opposite ends of the first link to be tested. Store the insertion loss measured by the OPM 5 by pressing the STORE key. The OPM 5 can store insertion loss results at 850 and 1300 nm for up to 500 fibers.

## ordering information

All Optical Light Sources come with 50 and 62.5µm mandrels for 3mm test jumpers, soft carry case, protective rubber boot, instruction card, and a 9 volt battery.



www.AFLtele.com or 1.800.321.5298 / 1.603.528.7780