

Quick Card

OLP-82 and OLP-85 Optical Power Meters Measuring Optical Insertion Loss

This quick card describes how to use VIAVI SmartClass OLP Optical Power Meters (OPMs) to measure Optical Insertion Loss (OIL). Prior to measuring OIL, the Power Meter must be referenced to an Optical Light Source (OLS). This procedure explains how to Reference the Power Meter to a Light Source and how to measure OIL using the OLP-8x. Refer to your OLS documentation for instructions to operate the Light Source.

Equipment Requirements:

- SmartClass OLP-8x Optical Power Meter:
 - OLP-82 Optical Power Meter
 - OLP-82P Optical Power Meter w/ Patch Cord Microscope
 - OLP-85 Optical Power Meter
 - OLP-85P Optical Power Meter w/ Patch Cord Microscope
- Fiber optic cleaning and inspection tools
- Fiber optic patch cord (Reference Cable)
- Optical Coupler to connect Reference Cable to Fiber Under Test



The following information is required to complete the test:

- Type of Fiber (Multimode or Single Mode)
- Type of Connectors (SC UPC, SC APC, LC UPC, etc.)
- Wavelength of signal(s) to measure

Referencing the Power Meter to the Light Source:

1. Inspect and, if necessary, clean the fiber end face of the OLP Reference Cable.
2. Connect the OLP Reference Cable to the Power Meter port, under the flap on top of the OLP.
3. Inspect and, if necessary, clean the other fiber end face of the OLP Reference Cable.
4. Inspect and, if necessary, clean the fiber end face of the OLS Reference Cable.
5. Connect the OLP Reference Cable to the OLS Reference Cable via the coupler.

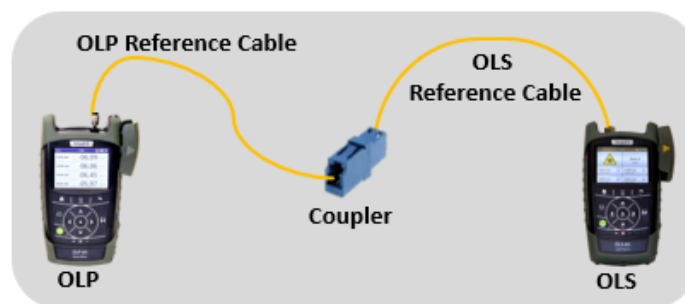


Figure 1: Connecting the OLP to an OLS for Reference



Figure 2: OLP-82P Layout

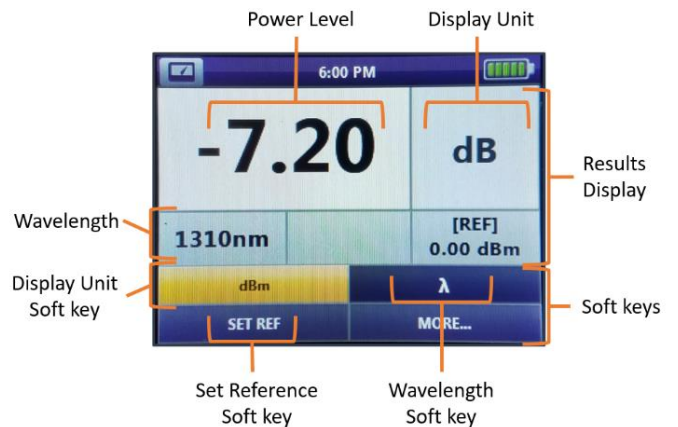







Figure 3: Power Meter Results screen

6.  Press the **Power button** to turn on the OLP and display the **Home** screen.
7.  Tap the **Power Meter** icon to launch the power meter.
8.  Tap the **dBm/dB Display Unit** soft key and set the Display Units to **dB**. The soft key will be labeled **dBm**, when the unit is set to **dB** in the **Results Display**.
9.  Tap the **Wavelength** soft key and select the wavelength to measure.
10.  Confirm that the OLS laser is on, and tap the **SET REF** soft key to reference the Power Meter to the OLS. The signal level will change to 00.00 dB.
11. Repeat steps 9 and 10 for all wavelengths to be tested.
12. Disconnect the Reference Cable from the coupler. Do not disconnect the Reference Cable from the OLP port or power off the OLP until all OIL testing is complete. If the OLP is powered off or the fiber is disconnected from the OLP, you must reference the OLP and OLS again.

Measuring Insertion Loss:

If you are performing an Optical Insertion Loss test and the OLP-8x has been referenced to an OLS, the Reference Cable should already be connected to the OLP-8x and the OLP-8x should be powered on and in the **Power Meter Results** view.

1. If the interface to the Fiber under Test (FUT) is a patch cord, connect the patch cord to an optical coupler with the same connector type.
2. Inspect and, if necessary, clean the FUT connected to the coupler or OPP.
3. Inspect and, if necessary, clean the fiber end face of the Reference Cable.
4. Connect the OLP Reference Cable to the coupler or OPP leading to the light source.

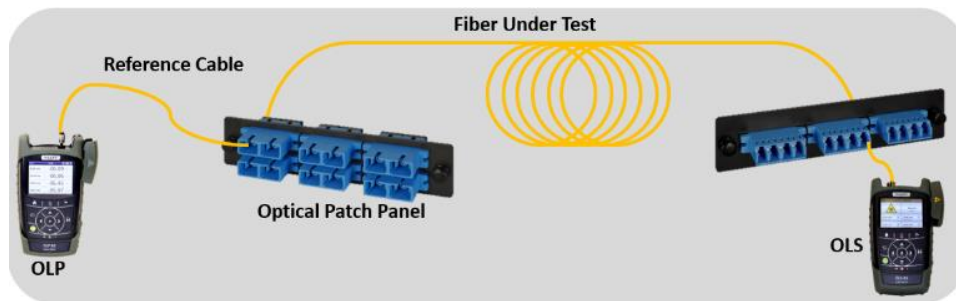


Figure 4: Connecting the OLP to an OPP or coupler


5.  Tap the **Wavelength** soft key and select the wavelength to measure.
6. View the Relative Power Level (dB) in the **Results Display** at the top of the screen.



Figure 5: Optical Insertion Loss Results

7. Repeat steps 5 and 6 for all wavelengths to be tested.
8. Disconnect the Reference Cable from the FUT. Do not disconnect the Reference Cable from the OLP or power off the OLP until all testing is complete. If the fiber is disconnected, you must reference the Power Meter again.
9. Repeat steps 1 through 8 for all fibers to be tested.