



PRODUCT OVERVIEW

The OP740 is a multichannel, high-speed, optical power meter. Unlike other solutions, all channels are measured simultaneously. Up to 24 channels of data can be acquired at up to 125,000 readings per second. This is just 8 μ s between samples. This surpasses the IEC 61300-3-28 standard* for measuring transient loss as well as the military standard 1678-2A for monitoring high-speed optical discontinuities.

The 2RU housing is both rack mountable and shallow enough for convenient benchtop use. The color touchscreen can control the unit and display the readings on one channel or all them simultaneously. PC software can also be used for instrument control, setting pass/fail limits, and monitoring readings.

*For full standards compliance, a stabilized light source such as the [OptoTest OP715](#) or [OP750](#) is recommended.

KEY FEATURES & BENEFITS

• Full Color Configurable Touchscreen Display

An integrated front panel touchscreen summarizes measurement status at a glance and allows you to set color-coded pass/fail criteria. Monitor a single channel on up to 24 channels, or change test parameters, by simply touching the screen.

• Software Driven High Speed Data Capture

The OP740 includes OPL-740 software for customizable high-speed data capture from one to 24 channels. The OPL-740 software allows for simultaneous monitoring of all 24 channels and performs automated IEC 61300-3-28 transient loss tests.

• Unparalleled Variable Sample Rate

A maximum rate of 125,000 samples per second with an 8 μ s sampling period, from one to 24 detectors simultaneously, exceeds all requirements of the IEC 61300-3-28 standard.

• Universal Adapter Interface

Our universal OPM adapter system readily accommodates industry standard connector types including FC, SC, LC, and ST, as well as universal adapters for 1.25mm and 2.5mm ferrules. The OP740 can also be built with electrical ports for remote head detectors.

• Backward Compatibility

The OP740 is a plug-in upgrade for existing multichannel optical power meters, such as the [OP710](#), in an existing OptoTest measurement system, and can be used with OptoTest software including [OPL-CLX](#), [OPL-Max](#), and the [OPL-SDK](#) via the USB port on the instrument.



CALIBRATION

This product can be calibrated in-house, on-site, or remotely.



TECH SUPPORT

Our team of experts is ready to assist you.



WARRANTY

OptoTest offers a three-year warranty on this product.

APPLICATIONS

- Transient Loss measurements per IEC 61300-2-38
- Shock and Vibration Testing
- Cable Strain and Retention Testing
- High-Speed IL and RL Monitoring

SOFTWARE

The OPL-740 software included with the OP740 has two different modes. Mode 1 allows the user to view optical power for up to 24 channels simultaneously. Mode 2 performs user-configurable automated transient loss tests per IEC 61300-3-28 with the OP740 in high-speed acquisition mode.

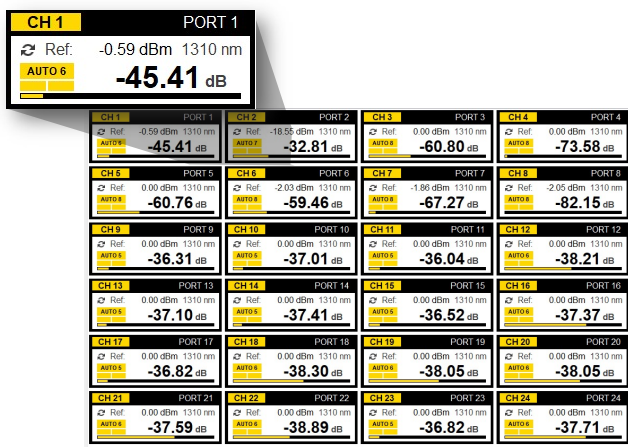
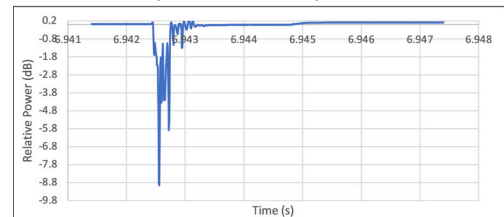


Figure 1: All 24 channels can be configured and monitored simultaneously.



Figure 2: OPL740 in high-speed acquisition mode.

Shock Event (Insertion Loss)



Shock Event (Return Loss)

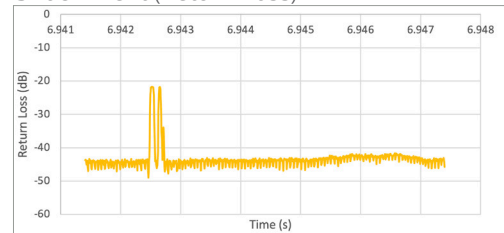


Figure 3: Insertion loss and return loss data of a shock event captured using the OP740.

KEY FEATURES & BENEFITS

- **Address and Configure Individual Optical Power Meters**
 - Enable or disable individual channels based on testing needs with the click of a mouse.
 - Configure signal level thresholds with green and red visual indicators for passing and failing power levels.
- **Independently Set Gain Stage and Monitor Relative Power for Each Channel**
 - The gain stage and relative power within the gain stage can be monitored for each channel to maximize the dynamic range in the high-speed acquisition mode.
 - Easily configure the optical source level per channel using the visual indicators in the OPL-740 software.
- **Endless Buffer Extends Measurement Time**
 - The OPL-740 software provides an endless measurement buffer, using computer memory to store acquired data for an extended timeframe. No need to fear running out of memory during long-term tests.
- **Auto Analysis Feature Scans and Locates Areas of Interest**
 - The OPL-740 software scans large acquired data sets to find optical discontinuities.
 - Eliminates tedious and time consuming manual scanning to find discontinuity events. Saves time and labor.

PRODUCT SPECIFICATIONS

	1mm InGaAs	3mm Silicon
Sampling Speed	Variable, max 125,000 samples/second	
Measurement Range	+6dBm to -72dBm	+3dBm to -65dBm
Wavelength Spectrum	830nm to 1700nm	400nm to 1100nm
Relative Accuracy	±0.02dB	
Channel Count	Up to 24 in one enclosure	

DETECTOR OPTIONS

Detector Size	Detector Specifications
IN1	1mm InGaAs detector with 5/8" Adapter
IN3	3mm InGaAs detector with 5/8" Adapter
IN5	5mm InGaAs detector with LAAD Adapter
IN10	10mm InGaAs detector with LAAD Adapter
HP	2mm High Power InGaAs detector with 5/8" Adapter
SI3	3mm Silicon detector with 5/8" Adapter
SI10	10mm Silicon detector with LAAD Adapter
R	Electrical port for Remote Head Detector

Mainframe	OP740
Dimensions	42.5cm x 8.9cm x 20.3cm
Power Supply	Input: 90VAC ... 264VAC; 47Hz to 63Hz Output: 9V 5A
Warm-up time	5-15 minutes
Operating Temperature	5°C to 40°C
Maximum Relative humidity*	95%

* For temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C.

Gain	Range
1	8dBm ... -8dBm
2	3dBm ... -16dBm
3	-6dBm ... -30dBm
4	-16dBm ... -38dBm
5	-26dBm ... -45dBm
6	-36dBm ... -51dBm
7	-46dBm ... -62dBm
8	-57dBm ... -74dBm

* In autorange, the user has at least +1.0dB above the highest signal in the gain stage and at least -3dB below the lowest signal allowed in autorange.

** Above values are typical for 1550nm and will vary per wavelength.

*** Applies to IN1 and IN3 detector types.



ISO CERTIFIED

Our Quality Management System is certified and in compliance with ISO 9001:2015.



MADE IN THE USA

We proudly design & manufacture our equipment in California, United States.



Visit www.optotest.com or contact one of our sales engineers at +1 (805) 987-1700 | sales@optotest.com to learn more.