HIOKI

OPTICAL POWER METER 3664

From Blue-Ray, High Definition DVD to Near-Infrared Rays

An Advanced Optical Power Meter to Meet Next Generation Needs

- Great Cost Performance in a Compact Package
- Ideal for all applications - from Production to R&D to Maintenance
- USB Ver.1.1 Compatible
- Scaling
- MAX/MIN/AVG Measurement
- Large, easy-to-read LCD display
- Analog Output

A Truly Flexible Instrument Catering to Applications in R&D,

Optical Power Meter 3664 serves as a convenient tool for the R&D, manufacture and maintenance of equipment that incorporate laser light sources, such as DVD recorders, CD drives, copiers, and laser printers. With the addition of the Optical Sensors 9743 and 9743-10 specifically designed for blue-violet optical lasers that have low dependency on the incidence angle and flat wave sensitivity characteristics over its 405 nm bandwidth, the 3664 also proves to be a powerful instrument for inspecting next generation optical pickup drive devices.

Four Sensors to Accommodate All Types of Testing Needs

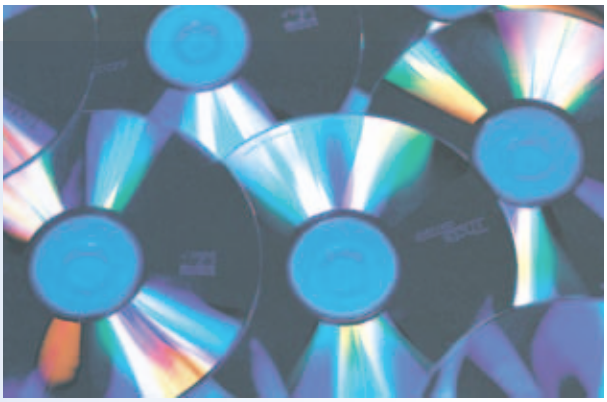
Choose from 4 different optical sensors according to wavelength and sensor structure to aptly meet your application requirements.

■ Two Different Bandwidths

9743/9743-10: optional sensor for blue-violet optical lasers only

Incorporated with characteristics that are ideal for measuring blue-violet lasers found in high-definition DVDs, Models 9743 and 9743-10 offer the following features:

- Planar wavelength sensitivity characteristics at the 405 nm bandwidth
- Low Incident Angle Dependency and Low Reflection



General-purpose Sensors 9742/9742-10 for an Extensive Range of Uses

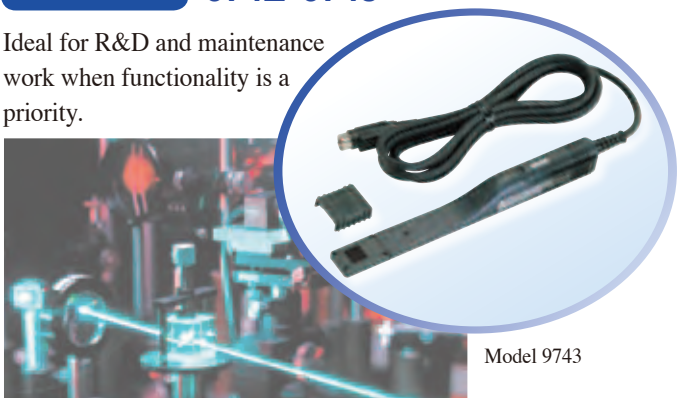
Test DVD and CD drives, Copiers, Printers and much, much more.

- Wide 320 to 1100 nm wavelength

■ Two Different Styles

Handheld model **9742/ 9743**

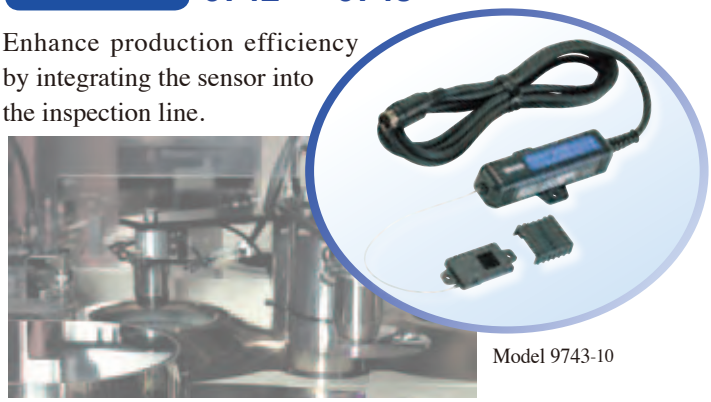
Ideal for R&D and maintenance work when functionality is a priority.



Model 9743

Detachable model **9742-10/ 9743-10**

Enhance production efficiency by integrating the sensor into the inspection line.



Model 9743-10

Production and Maintenance of Laser- and LED-Dependent Equipment

Powerful Features

■ Superior cost performance

Guaranteed accuracy of ±5%, ideal for the production and testing of optical pickup devices (in combination with the Optical Sensor 9742/9742-10/9743/9743-10) Scaling functionality and USB compatibility all for one reasonable price.

■ Scaling

Adjust for sensitivity at the wavelength level, and easily integrate the 3664 into an inspection standard device.

■ Wavelength setting resolution up to 1 nm

Up to 10 wavelength memory presets can be configured, including the defaults for each optical sensor. The default wavelengths for each optional sensor are already stored in memory. Add up to 6 more custom wavelengths and call them up simply by pressing the λ key.

■ MAX/MIN/AVG measurement

Display maximum, minimum, and averages, as well as make relative measurements.

■ 2 Power settings

Compatible to both DC power and AC power. Choose a power method to suit your application.

■ Relative measurement

Display measurements as relative values, i.e., the difference from a set reference value. Load reference values from a measured value or define according to your requirements.

■ Upload data through the USB interface

Program your PC to download captured data, configure and even control the 3664 through the USB interface.
(USB driver software included)

System requirements

■ OS: Windows 8/ 7/ Vista (32 bit/ 64 bit)
Hardware requirements, such as those involving the CPU, RAM, and display monitor, shall conform to the system requirements of the OS.
■ HDD space: 10 MB or more of free disk space
■ Interface: USB Ver 1.1 or higher (connectable to only one PC)

Specifications

Accuracy: 23°±5°C (73°±9°F), less than 80% rh
Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year

■ OPTICAL POWER METER 3664 Specifications

Optical power measurement	Units W/dBm
Range	Auto (manual settings available)
Accuracy	± 0.7 % (± 5 % when used with optional light sensor)
Calibration wavelength	Resolution of 1 nm, automatic calibration of sensor, up to 10 wavelength presets available (including defaults for each sensor)
Scaling	Configurable for each wavelength
Optical loss measurement	Displays a measured value compared with a reference value (Displayed value = measurement − reference) * Reference value can be based on a measurement, or input manually * Settings range: 0.001 nW to 1.9999 W (−90.00 dBm to 33.00 dBm)
Display	4 1/2 digits, up to 19999. Display resolution: 0.01 dBm/0.01 dB
Measurement display	Units: nW/µW/mW/dBm/dB
Wavelength display	4 digits, unit: nm
Display refresh rate	Approx. 330 ms
MAX/MIN display	Displays MAX/MIN during measurement
AVE display	Moving average, average count configurable from 2 to 100
Analog Output	According to optional Optical Sensor in use 9742/9742-10: 1V at sensor correction input 9743/9743-10: 0.7V at sensor correction input
Output resistance	50 Ω
Output connector	φ3.5 mini jack
Interface	USB Ver1.1 Output of measurement data, configuration and control supported
Included features	Auto power save, configuration backup, battery check
Applicable standards	Safety standard: EN61010 EMC:EN61326, EM61000-3-2, EM61000-3-3
Power	LR6 (AA) Alkaline battery ×4, AC adapter (9445-02/9445-03)
Max. rated power	1.6 VA
Operating time	60 hours (when using battery, continuous use with 9742 optical sensor as correction input)
Operating conditions	0°C to -40°C (32°F to 104°F), up to 80 % rh (no condensation)
Dimensions and mass	(excluding protrusions), 270g (9.5 oz.) (without batteries)

■ OPTICAL SENSOR Specifications

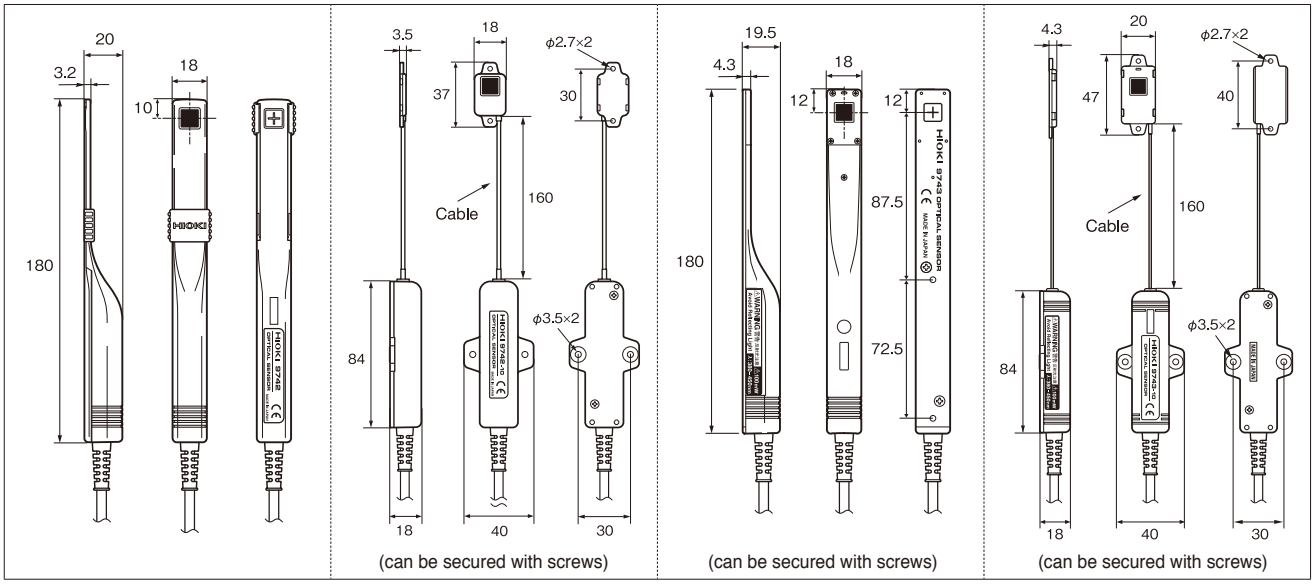
9742/ 9742-10	
Measured wavelength	320 to 1100 nm
Measured power	−59 dBm to +17 dBm (correction wavelength)
Maximum rated value	50 mW (+17 dBm) (under direct lighting)
Receiving element	Si Photo diode
Receptor size	Approx. 9.6 mm × 9.6 mm (0.38" × 0.38")
Accuracy	± 4.3 % (± 5 % when used with Optical power meter 3664) [Correction conditions] correction wavelength 633 nm, correction power 100 µW, when ø approx. 2 mm (0.08") parallel beam strikes perpendicular to center of optical sensor, CW light
Wavelength configuration defaults	633 nm, 635 nm, 650 nm, 780 nm
Operating conditions	0 °C to -40 °C (32°F to 104°F), up to 80 % rh (no condensation)
Storage conditions	−10 °C to 50 °C (14°F to 122°F), up to 80 % rh (no condensation)
Operating environment	Indoor, elevation up to 2000 meters (6562 ft)
Mass	100 g (3.5 oz.)

9743/ 9743-10	
Measured wavelength	380 to 450 nm
Measured power	−50 dBm to + 20 dBm (correction wavelength)
Maximum rated value	100 mW (+20 dBm) (under direct lighting)
Receiving element	Si Photo diode
Receptor size	10 mm × 10 mm (0.39" × 0.39")
Accuracy	±4.3% (±5% when used with Optical power meter 3664) [Correction conditions] correction wavelength 405 nm (Using a 405 ± 5 nm wavelength as the reference wavelength) , correction power 100 µW, when φ 1.5 mm (0.06") parallel beam strikes perpendicular to center of optical sensor
Wavelength configuration defaults	400 nm, 403 nm, 405 nm, 408 nm
Operating conditions	0 °C to -40 °C (32°F to 104°F), up to 80 % rh (no condensation)
Storage conditions	−10 °C to 50 °C (14°F to 122°F), up to 80 % rh (no condensation)
Operating environment	Indoor, elevation up to 2000 meters (6562 ft)

Please refer to the external diagrams depicted on the next page for the exact dimensions of the optical sensors.

OPTICAL SENSOR exterior view

■ **OPTICAL SENSOR 9742** ■ **OPTICAL SENSOR 9742-10** ■ **OPTICAL SENSOR 9743** ■ **OPTICAL SENSOR 9743-10**



Model : OPTICAL POWER METER 3664

Model No. (Order Code)

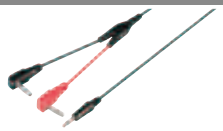
3664

Accessories: AC adapter 9445-02 (for USA) ×1 or 9445-03 (for EU) ×1, Output cord L9094 ×1, Driver software (CD-R) ×1, LR6 (AA) alkaline batteries ×4, USB cable ×1, Strap ×1, Instruction manual ×1

The **OPTICAL POWER METER 3664** must be used in conjunction with either the Optical sensor 9742 or 9742-10 or 9743 or 9743-10, sold separately.

Accessories

AC ADAPTER 9445-02
For USA, 100 to 240 V AC, 9 V/ 1 A
AC ADAPTER 9445-03
For EU, 100 to 240 V AC, 9 V/ 1 A



OUTPUT CORD L9094
3.5 mm (0.14 in) dia. mini plug to banana, 1.5 m (4.92 ft) length

USB CABLE
1 m (3.28 ft) Cord length

Options

OPTICAL SENSOR 9742

Handheld sensor

OPTICAL SENSOR 9742-10

(detachable model)

OPTICAL SENSOR 9743

Handheld sensor specifically for blue-violet optical lasers

OPTICAL SENSOR 9743-10

Sensor specifically for blue-violet optical lasers (detachable model)

CARRYING CASE 9246

Handy for travel and storage

Optical Power Meters installed with firmware version 1.01 or earlier must be updated to support compatibility with the new Optical Sensor 9743/ 9743-10

When using Model 9743/9743-10 with an earlier version of Model 3664, upon connecting the sensor to the optical power meter and turning on the power, "Err1" will be displayed.

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