

P-9801

<https://www.gigahertz-optik.com/en-us/product/p-9801>

Product tags: Dosimeter , Multi-Channel



Description

The P-9801 series optometers are one of the most powerful light measurement instruments available for multiple light detector head applications.

For use in those applications the P-9801 features:

Industries most powerful and fastest multichannel light meter

- simultaneous measurement of all eight detector channels
- wide linear detector signal dynamic range
- short rise time with variable sampling rate
- fast multi-channel data-logging
- manual and remote control operation
- RS232 and IEEE488 interface
- powerful 16 bit microprocessor with large memory
- external trigger input with pre-trigger function

True eight-channel operation

The P-9801 is a true eight-channel optometer designed with eight photocurrent-to-voltage amplifiers (no multiplexing) and eight 12 bit highly linear analogue-to-digital converters (ADC) enabling signal sampling of all channels simultaneously.

Ten magnitudes dynamic current measurement range

Each channel's wide 0.1 pA to 2 mA signal range covers the dynamic range of most current semiconductor photodiodes for nearly unrestricted use in any light measurement application. The dynamic range is supported by 8 gain ranges each calibrated for 0.2 % precision.

Adjustable integration time

The fast sampling rate of the P-9801 ADC enables an adjustable integration time of 1 ms up to 999 s formed by the average of multiple measurements with 100 μ s integration time. This averaging feature support fast data logger measurements used in peak-to-peak, short pulse energy measurements and other modes.

Metal housing for use in strong electromagnetic environments

The P-9801 features a high quality metal housing for best EMV shielding and rack mount option for protection in strong ambient electromagnetic environments, as in high power arc lamp measurement for example.



P-9801 Front



P-9801 Back

Three different versions for universal use in high speed applications

P-9801-V01 is set-up with a gain dependent slew rate of 2 ms to 10 ms for universal light measurement purposes.

P-9801-V02 amplifier offers a gain range independent rise time for the pulse energy measurement of short light flashes using a pulse stretching method.

P-9801-V03 offers a fast rise time of 1 ms for high speed data logger applications with external trigger and pre-trigger function.

Measurement Range Specifications with Light Detectors

The measurement range of optometer combined with light detector is calculated by the measurement range specification of the optometer and the responsivity of the detector head as follows:

- **Offset signal**
= Maximum Resolution = meter current offset signal / detector sensitivity
Sample: $0.1 \text{ pA } (0.1 \text{ E} - 12 \text{ A}) / 3 \text{ nA/(mW/cm}^2\text{)} \text{ (irradiance detector)} = 0.33 \text{ nW/cm}^2$
- **Minimum measureable irradiation**
= offset signal * signal to noise ratio factor
Sample: $0.33 \text{ nW/cm}^2 * 50 = 17 \text{ nW/cm}^2$
- **Maximum measureable irradiation ***
= max. signal current detector / detector sensitivity
Sample: $1 \text{ mA } (10 \text{ E} - 3 \text{ A}) / 3 \text{ nA/(mW/cm}^2\text{)} = 333333 \text{ W/cm}^2$
- **Display range**
= Offset signal to maximum measureable signal
Sample: $0.33 \text{ nW/cm}^2 \text{ to } 333333 \text{ W/cm}^2$
- **Measurement range**
= min measureable irradiation to maximum measureable irradiation
Sample: $17 \text{ nW/cm}^2 \text{ to } 333333 \text{ W/cm}^2$

**) The maximum measureable irradiation value may also be limited by thermal radiation, intense UV radiation or other application dependent parameters which must be considered by the end-user.*

Specifications

General

Short description	Powerful and fast multichannel optometer for a multitude of applications thanks to the large selection of different detectors.
Main features	simultaneous measurement of all eight detector channels, large linear dynamic range, short rise time with variable sampling rate, fast multi-channel data logging, manual or interface operation, powerful 16 bit microprocessor, trigger input with pre-trigger function. Three different versions available (different time constant).
Measurement range	depending on the detector, dynamic of 8 ranges available: 2,000 mA to 0,1 pA manuell or autorange
typical applications	Due to the large variety of different measuring heads suitable for a variety of applications

Calibration	Calibrate and adjust the current sensitivity in all eight gain levels. Memory for the calibration data of several measuring heads for the measurement in the absolute unit of the selected measuring head.							
Product								
Power Supply	(6.5 – 7.5) VDC / 1 A Plug: 5,5 / 2,5 mm / 10 mm							
Detector interface	8 BNC sockets <i>Information: By color measurements four channels are needed for one detector, this is why two color channels are possible.</i>							
Trigger	CMOS level (0/5V) / BNC socket, internal pull-up 10 k to + 5 V							
Analog output	± 2.5 V (max. + - 5 V), Ri = 100 R, max. Current = 2 mA, BNC socket							
Inputs	Amperes, optical units corresponding to calibration data, factor, percent, log (depends on the measurement quantity)							
Measurement range	8 (2.000 mA to 0.1 pA) manual or autorange							
CW integration time	1 ms – 999.999 s							
Pulse trigger	Key run / stop for all channels (channel 1 – channel 8) rising edge or trailing edge							
Pulse integration time	1 ms – 999.999 s							
Pulse pre trigger time	0 ms – 400 ms							
Offset	Correction range transcending							
Parameter adjustment	Remote control or front panel keys (menu), adjusted values permanently stored (EEPROM)							
Calibration information	Stored in EEPROM max. 20 detectors (each 80 entries, e.g. wavelength, interpolation between the entries), manual calibration factor (keys) E (illuminance) and Ø (total flux) each with one calibration entry							
Logger memory	Max. 5957 entries each channel, stored in RAM							
Measurement range	range nr.	range (A/V)	range max.	slew rate (10–90)% P-9801-V0	slew rate (10–90)% P-9801-V0 2	slew rate (10–90)% P-9801-V0 3	gain error * ± offset error (at 20 °C)	gain (A/V) analogue output
	0	1x10-3	± 2.500 mA	2 ms	20 ms	1 ms	0.2 % ± 0.001 mA	1x10-3
	1	1x10-4	± 250.0 µA	2 ms	20 ms	1 ms	0.2 % ± 0.1 µA	1x10-4
	2	1x10-5	± 25.00 µA	3 ms	20 ms	1 ms	0.2 % ± 0.01 µA	1x10-5
	3	1x10-6	± 2.500 µA	3 ms	20 ms	1 ms	0.2 % ± 0.001 µA	1x10-6
	4	1x10-7	± 250.0 nA	4 ms	20 ms	1 ms	0.2 % ± 0.1 nA	1x10-7
	5	1x10-8	± 25.00 nA	4 ms	20 ms	1 ms	0.2 % ± 0.01 nA	1x10-8
	6	1x10-9	± 2.500 nA	10 ms	20 ms	10 ms	0.5 % ± 2 pA	1x10-9
	7	1x10-10	± 250.0 pA	10 ms	20 ms	10 ms	0.5 % ± 2 pA	1x10-10
* Current calibration of each range by use of a precise current source with DAkKS calibration								

Plug Types

DSUB 9pin female	Function
2	TxD
3	RxD
5	GND
1-4-6	connected
7-8	connected

To connect the P-9801 to the RS232 interface of a PC a 1:1 cable has to be used (one side male connector, the other side female connector, no null modem cable!)

Measurement modes

Menu item	Submenu item	Function
Display Mode	Absolute	displays the measurement respective of any offset and calibration factors programmed
	Relative Percent	displays the measurement as percentage of a reference value
	Relative Factor	displays the measurement referred to a reference value
	Relative Logarithmic Dose	displays the measurement in dB in relation to a reference value accumulates the single readings and displays the result as exposure for measured quantity
	No Display	no display of the selected channel
	Range	selects the range 1 to 8 or switches into the autorange mode (9)
	Detector	shows the reading in ampere units
		allows entering a calibration factor manually
		selects calibration data table entry
		selects calibration data table performs recalibration of selected calibration table entry with a reference lamp
	Offset	performs an automatic offset adjustment
	Reference	sets a reference value, used in different display modes
	Main Mode	measurement display of single channels
		measurement display color mode
		measurement of short and single light pulses
		measurement of short and single light pulses, result displayed as color values
	Setup	remote control RS232
		remote control IEEE488
		sets the integration time
		selects the channel switched to analog output
		sets the maximum time duration for exposure measurement
		sets the max. dose level for the exposure measurement mode
		display backlight on / off
		adjusts the number of displayed digits (4, 5, or automatic)
		adjustments for color measurement
		selection of address for IEEE488 interface

Miscellaneous

Front panel control	16 keys, menu system
Interface	RS232: 600 – 57600 Baud, 8 Data Bit, 1 Stop Bit, No Parity, Connector DSUB 9pins, female IEEE488: AH1, SH1, L4, T4
temperature range	Operating: (5 to 40) °C Storage: (-10 to 50) °C
Dimensions	280 mm x 250 mm x 70 mm
Warranty	12 months
Humidity	<80%, non-condensing
Info	Regular recalibration of the current calibration is recommended. Especially when very small measurement currents have to be measured. In the case of very high humidity, fault currents of the radiometer are possible at low measuring currents and should be taken into account.
Accessories	
Power Supply	230 VAC / 7 VDC / 1.2 A or 120 VAC / 7 VDC / 1.2 A

Configurable with

Product Name	Product Image	Description	Show product
VL-3701		Detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 3 \%$, $f_2 \leq 1.5 \%$, 0.5 nA/lx, 20mm height, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-3701
VL-3702		Detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 6 \%$, $f_2 \leq 3 \%$, 0.5 nA/lx, 20mm height, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-3702
VL-3704		Detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 5 \%$, $f_2 \leq 3 \%$, 20pA/lx, 20mm height, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-3704
VL-3705		Detector head for the measurement of scotopic illuminance in Lux [lx]. Features: $f_1 \leq 5 \%$, $f_2 \leq 3 \%$, 0.2nA/lx, 20mm height, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-3705
PD-9310A		High sensitive detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 3 \%$, 2.8nA/lx, 20mm diffuser, for the usage with optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/pd-9310a
PD-9310B		High sensitive detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 6 \%$, 2.8nA/lx, 20mm diffuser, for the usage with optometers and amplifiers, calibration	https://www.gigahertz-optik.com/en-us/product/pd-9310b

Product Name	Product Image	Description	Show product
PD-9310B-N		Very high sensitive detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f1 \leq 3\%$, 28nA/lx, no diffuser, for the usage with optometers and amplifiers, calibration	https://www.gigahertz-optik.com/en-us/product/pd-9310b-n
LP-9901		Detector head to measure LASER radiant power in W and LASER irradiance in W/m ² . Features: Low height detector with 7mm dia active area, 400 to 1100nm, for the usage with optometers and signal amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/lp-9901
VL-3701 with SRT-M37-L		Detector head to measure the photopic illuminance in lx and the luminance in cd/m ² . Features: front lenses with 1°, 2° or 5° viewing angle, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-3701-with-srt-m37-l
PD-9310 with SRT-M37-L		High sensitive detector head to measure the photopic luminance in cd/m ² . Features: front lense for 1°, 2°, 5° or 10° viewing angle, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/pd-9310-with-srt-m37-l
CT-4501		RGB detector head for photopic illuminance and luminous color. Features: four sensor design, xy, u'v', CCT, for the usage with X1 and P-9801 Optometer, part of HCT-99D, calibration certificate, for polychromatic light,	https://www.gigahertz-optik.com/en-us/product/ct-4501
LDM-9810		Detector head to measure the photopic spot luminance in cd/m ² . Features: selectable 20', 1° and 6° viewing angles, view finder, focus able achromatic lens, for the usage with Optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/lm-9810
VL-1101		Photometric detector head with VL-11 mount. Features: modular detector for use with integrating spheres, front lenses etc. For use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/vl-1101
LDM-9901		Detector head to measure the photopic spot luminance in cd/m ² . Features: 1.1° viewing angle, simple to use, very low stray light, for the usage with Optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/lm-9901
S-SDK-P9801		Software Development Kit for P9801 variants.	https://www.gigahertz-optik.com/en-us/product/s-sdk-p9801

Product Name	Product Image	Description	Show product
S-P9801		Application software for P9801 variants.	https://www.gigahertz-optik.com/en-us/product/s-p9801
VL-1101 + UMPA-0,5-11-RD Detector head		Module detector head for the measurement of photopic illuminance in Lux [lx]. Features: UMPA adapter for usage with integrating spheres, for the usage with optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/vl-1101uumpa-05-11-rd
ISD-5-VL		Integrating sphere detector for luminous flux (lm) of 2π spot sources. Features: 50mm dia, BaSO4 coating, 12.5mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5-vl
ISD-10-VL		Integrating sphere detector for luminous flux (lm) of 2π spot sources. Features: 100 mm dia, BaSO4 coating, 15 mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-10-vl
ISD-15P-VL		Integrating sphere detector for luminous flux (lm) of 2π sources. Features: 150mm dia, synthetic coating, 38.1mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-15p-vl
TD-11VL01		Photometric, temperature stabilized detector with DP-11 mount. Features: for use with integrating spheres, Operation temperature 50 °C, for use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/td-11vl01
RW-3701		Detector head for the measurement of irradiance in W/m². Features: spectral responsivity from 400-500nm (BLUE), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3701
RW-3702		Detector head for the measurement of irradiance in W/m². Features: spectral responsivity from 700-800nm (RED), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3702
RW-3703		Detector head for the measurement of irradiance in W/m². Features: spectral responsivity from 400-800nm (VIS), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3703
RW-3704		Detector head for the measurement of irradiance in W/m². Features: spectral responsivity from 800-1000nm (NIR), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3704

Product Name	Product Image	Description	Show product
RW-3705		Detector head for the measurement of irradiance in W/m ² . Features: spectral responsivity from 400-1000nm (VISNIR), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3705
RW-3708		Detector head for the measurement of irradiance in W/m ² . Features: spectral responsivity from 950-1700nm (NIR), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rw-3708
UV-3701		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 315-400nm (UV-A), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3701
UV-3702		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 280-315nm (UV-B), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3702
UV-3703		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 200/250-280nm (UV-C), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3703
UV-3710		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 320-400nm (UV-A), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3710
UV-3711		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 280-320nm (UV-B), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3711
UV-3716		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 305-400nm (UV-A), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3716
UV-3717		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 315-400nm (UV-A), low cross talk from radiation > 400 nm, cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3717
UV-3719		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 250-400nm (UV), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3719
UV-3720		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 240-320nm (UV), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3720

Product Name	Product Image	Description	Show product
UV-3721		Detector head for the measurement of irradiance of UV radiation in W/m ² . Features: spectral responsivity from 350-400nm (UV-A), cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3721
UV-3711-308		Detector head for the measurement of irradiance of 308nm Eximer Lasers in W/m ² . Features: flat spectral responsivity beside 308nm. cosine field-of-view, dose measurement in conjunction with P-9710-2 optometer, calibration certificate	https://www.gigahertz-optik.com/en-us/product/uv-3711-308
UV-3718		Detector head for the measurement of high irradiance of UV-C 254nm radiation in W/m ² . Features: pre-aging for long time stability, cosine field-of-view, metal shielded cable, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3718
UV-3725 not active		Detector for the measurement of UV-C 254 nm irradiance in air disinfection applications. Features: wide dynamic range for UV hazard and effective irradiance, wide angle cosine F.O.V. for straylight measurements, for the usage with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3725-1
ISD-5-VISNIR		Integrating sphere detector for radiant power in W of 2 π sources. Features: 400 nm - 1100 nm radiometric responsivity, 50 mm dia, 12.5 mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5-visnir
ISD-3P-Si		Integrating sphere detector for Laser power in W. Features: 30 mm dia, 5 mm dia port, synthetic ODM98 coating, 400 nm - 1100 nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-3p-si
UV-3706		Detector head to measure irradiance W/m ² in Bilirubin phototherapy. Features: Bilirubin actinic responsivity, cosine field-of-view, for use with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3706
UV-3711-308		Detector head for the measurement of irradiance of 308nm Eximer Lasers in W/m ² . Features: flat spectral responsivity beside 308nm. cosine field-of-view, dose measurement in conjunction with P-9710-2 optometer, calibration certificate	https://www.gigahertz-optik.com/en-us/product/uv-3711-2
UV-3724		Detector head for the measurement of UV-B irradiance of TL1 sources in W/m ² . Features: calibrated with TL1 source, cosine field-of-view, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3724
UV-3709		Detector for Blue-light hazard measurements. Features: Single-cell detector, BLH actinic irradiance, for the use with optometer, calibration certificate	https://www.gigahertz-optik.com/en-us/product/uv-3709

Product Name	Product Image	Description	Show product
UV-3725		Detector for the measurement of UV-C 254 nm irradiance in air disinfection applications. Features: wide dynamic range for UV hazard and effective irradiance, wide angle cosine F.O.V. for straylight measurements, for the usage with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3725
ISD-3P-IGA		Integrating sphere detector with InGaAs photodiode and 30 mm sphere for Laser power in W. Features: 800 nm - 1800 nm spectral responsivity, 5 mm dia measurement port, synthetic ODM98 coating, optional SMA Adapter, for the usage with Optometer and signal amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-3p-iga-2
ISD-5-Si		Integrating sphere detector for Laser power in W. Features: 50 mm dia, 12.5 mm dia port, BaSO4 coating, 400 nm - 1100 nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5-si
RCH-116		Detector head for high intensity UV and BLUE LED sources. Features: Separate light integrator and detector with rigid fiber coupling, (365-440)nm responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-2
RCH-102		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, (320-460)nm UVABLUe responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-1
MD-37-SU100-VL		Photometric detector head with M30x1 mount. Features: modular detector for use MD-37, SRT and other accessories. For use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/md-37-su100-vl
MD-37-SU100-VLS		Scotopic detector head with M30x1 mount. Features: modular detector for use MD-37, SRT and other accessories. For use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/md-37-su100-vls
PD-9304		Universal detector head for LASER power, illuminance and 400-1100 nm irradiance. Features: Si-photodiode with 1 cm ² , exchange able filters and cosine diffuser, for the usage with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/pd-9304
ISD-5P-Si		Integrating sphere detector for Laser power in W. Features: 50 mm dia, 10 mm dia port, synthetic ODM98 coating, 400 nm - 1100 nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5p-si

Product Name	Product Image	Description	Show product
ISD-10-Si		Integrating sphere detector for Laser power in W. Features: 100mm dia, 15mm dia port, BaSO4 coating, 400-1100nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-10-si
ISD-15-Si		Integrating sphere detector for Laser power in W. Features: 150mm dia, 38.1mm dia port, BaSO4 coating, 400-1100nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-15-si
RCH-006		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 200-400nm UV-Broadband responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-006
ISD-30		Integrating sphere detector for Laser power in W. Features: 300mm dia, 101.6mm dia port, BaSO4 coating, 400-1100nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-30-si
RCH-008		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, UVA-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-008
RCH-009		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, BLUE-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-3
RCH-010		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 240-320nm H-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-4
RCH-011		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 350-400nm D-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-5
RCH-012		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 400-450nm V-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-6
RCH-013		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 305-485nm UVA-VIS responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-7

Product Name	Product Image	Description	Show product
RCH-014		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, 400nm+436nm BLUE responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-8
RCH-015		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 436nm BLUE-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-9
RCH-106		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 200-400nm UV-Broadband responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-10
PD-11 series		Detector head with DP-11 mount. Features: modular detector for use with integrating spheres, front lenses etc, Si, SiLP, InGaAs, SiC, GaP photodiodes, for use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/pd-11-serie
RCH-108		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, UVA-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-11
RCH-109		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, BLUE-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-12
RCH-110		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 240-320nm H-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-13
RCH-111		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 350-400nm D-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-14
RCH-112		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 400-450nm V-Type responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-15
RCH-113		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 305-485nm UVA-VIS responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-16
RCH-114		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, 400nm+436nm BLUE responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-17

Product Name	Product Image	Description	Show product
RCH-115		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, light, 436nm BLUE-Peak responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-118
MD-37 series		Detector head with M30x1 mount. Features: modular detector for use MD-37, SRT and other accessories, Si, SiLP, InGaAs, SiC, GaP photodiodes, for use with optometers and signal amplifiers	https://www.gigahertz-optik.com/en-us/product/md-37-serie
RW-37 with SRT-M37-L		Detector heads to measure the irradiance in W/m ² and the radiance in W/(m ² *sr). Features: front lenses with 1°, 2° or 5° viewing angle, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/rw-37usrt-m37-l
RCH-002		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, (320-460)nm UVABLUe responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-002
RCH-005		Detector head for high intensity irradiation in UV or blue light curing processes. Features: Separate light integrator and detector with rigid fiber coupling, (320-460)nm UVABLUe responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-005
K-xx-C		Calibration of the signal current sensitivity of optometers. Features: calibration of all gain stages, traceable calibrated current source, calibration certificate	https://www.gigahertz-optik.com/en-us/product/k-xx-c
ISD-5P-SiUV		Integrating sphere detector with UV-enhanced Si photodiode and 50 mm sphere for Laser power in W Features: 250 nm - 1100 nm spectral responsivity, 10 mm dia measurement port, synthetic ODM98 coating, optional SMA Adapter, for the usage with Optometer and signal amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5p-siuv-2
UV-37 with SRT-M37-L-UV		Detector heads to measure the UV irradiance in W/m ² and the UV-radiance in W/(m ² *sr). Features: front lenses with 1°, 2° or 5° viewing angle, for the usage with Optometers and amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/uv-37usrt-m37-l-uv
RCH-0		Detector head for high intensity irradiation as in UV or blue light curing processes. Features: Separate light integrator and detector with flexible fiber coupling, light, 320-460nm UVABLUe responsivity, wide viewing angle, for the usage with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/rch-0
UV-3726		UV detector for UV-C LEDs and low-pressure Hg germicidal lamps Features: UV LED (260-290nm) and Hg lamp (254nm) calibration factors , cosine field-of-view, for the use with optometers and amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/uv-3726
RCH-xxx Series		UV detectors for measuring the irradiance in UV curing	https://www.gigahertz-optik.com/en-us/product/rch-xxx-series

Product Name	Product Image	Description	Show product
ISD-5P-IGA		Integrating sphere detector with InGaAs photodiode and 50 mm sphere for Laser power in W. Features: 800 nm - 1800 nm spectral responsivity, 10 mm dia measurement port, synthetic ODM98 coating, optional SMA Adapter, for the usage with Optometer and signal amplifiers, calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-5p-iga-2

Purchasing information

Article-Nr	Modell	Description
Product		
15295256	P-9801-V01	Meter, with power supply and manual
15295254	P-9801-V02	Meter, with power supply and manual
15295255	P-9801-V03	Meter, with power supply and manual
Calibration		
15300323	K-P9801-C	Current calibration and adjustment of all eight gain ranges in one channel of P-9801. Calibration certificate.
15300685	K-P9801n-C	Calibration of additional channel(s) together with K-P9801-C.
Options		
15295279	P-98Z-01	Rack mount option to mount model P-9801 into 19in standard racks
	Light Detectors	Please check the light detector datasheets for specification and purchasing information
Software		
15298142	S-P9801	User software for P9801 and variants.
15298842	S-SDK-P9801	Software Development Kit for the implementation of the P9801 or variants into custom made software
Accessories		
15295220	BHO-02	Hard case to carry and store P-9801 with light detector and accessories. Separate document partition.