

P-9710

<https://www.gigahertz-optik.com/en-us/product/p-9710>

Product tags: Dosimeter



Description

P-9710-1 – Multi-functional light meter for high-quality photometric measurements

The P-9710-1 optometer is a high-quality device designed by Gigahertz-Optik for mobile use. Its signal amplifier provides a wide dynamic range for the detectors' signal currents ranging up to 2 mA. The noise-equivalent current signal is as low as 0.1 pA. The device has eight gain ranges that can be manually or automatically selected for adjustment to match the signal levels.

Variable integration time

One of the characteristic properties of the P-9710-1 optometer is the short integration time of the input amplifier that only ranges around 100 μ s. This enables reduction of signal noises through multiple measurements with averaging. The 100 μ s integration time also makes it possible to perform many other measurement functions:

- Adjustable integration times in CW measurement mode
- CW measurement with noise proportion (peak-to-peak)
- Peak value measurement
- Pulse energy measurements of short light pulses
- Dose measurement
- Fast data logger for up to 12000 measurement values

Photometer, radiometer, UV-meter, laser-intensity-meter

For use as optometer the P-9710-1 can be combined with all offered detector heads intended for photometric and radiometric measurements. The plugged detector head determines the photometric or radiometric measuring size as well as the spectral range of the measurement. Gigahertz-Optik offers a wide range of detector heads for various measuring tasks. The optometers' signal input amplifiers offer a very wide dynamic range, in order to adjust the devices to detectors with various sensitivities and optical radiation intensities. The calibration data of the detector heads are saved in the calibration data plug of the detector heads.

Simple and safe detector exchange

Upon attachment of a detector head with a calibration data plug onto the P-9710-1 optometer, its calibration data as well as the device settings are automatically applied. This ensures that improper operation that might result from exchange of measurement heads is basically ruled out.

Remote operation

The P-9710-1 optometer can be connected to a PC via its RS232 interface.



The P-9710-4 offers a trigger input for a remotely controlled triggering of measurement



The optometers P-9710 provide connections for power supply, detector heads with calibration data plug and a RS232 interface (from left to right).

Light measurements and light analysis

The P-9710-1 optometer has eighteen different measurement modes that can easily be selected using a user-friendly menu hence enabling its multifunctional application.

P-9710-2 – Optometer for dose measurement of short pulses using the pulse stretching method

Unlike the P-9710-1, the P-9710-2 optometer has a 20 ms standard time constant in all eight gain ranges. Thus light pulses shorter than 1 ns are stretched to 20 ms. The pulse energy of the stretched pulse can then be measured precisely with the 100 μ s sample rate of the optometer.

P-9710-4 – multi-functional light meter for synchronized measurement of short light pulses

Similar to the optometer P-9710-2, the P-9710-4 also has a 20ms standard time constant in all eight gain levels. Besides the manual start of via keyboard, the dose measurement can also be started remotely via the trigger input.

Specifications

General

Measured Quantity	Ampere (absolutely calibrated), light measurement units depending on the used detector head. Ratio as a percentage, logarithmic and as a factor
P-9710-1	High-quality optometer for mobile use. Trans-impedance amplifier with alterable rise times in 8 gain levels. Mainly used in CW measurements.
P-9710-2	Equivalent to the optometer P-9710-1, but with a time constant of 20ms in all eight gain levels. Mainly used for measuring the pulse energy of single pulses.
P-9710-4	Equivalent to the optometer P-9710-2, with an additional trigger input for a synchronized triggering of the pulse energy measurement.

Specification

Display	Alpha-numerical LCD display, 2 rows each with 16 characters, height of the characters 5 mm, LED backlight can be switched on and off.
Detector interface	9pin DSUB
Analog output	Output voltage corresponding to the input current of the signal amplifier. Connection plug: TRIAD01 5pin (Tyco)
Signal amplifier	Trans-impedance amplifier with voltage amplifier connected in series. A total of eight gain levels with both manual and automatic selection of the measurement range.
CW integration time	100 μ s – 5.9999 s

Pulse integration time	10 ms – 199.99 s																																																						
Offset correction	Exceeding correction range																																																						
Parameter adjustment	Via RS232 or using control panel on the front side. Settings are permanently saved (EEPROM). Ten different settings can be saved																																																						
Calibration	Saved in the detector terminal (EEPROM). Tables for calibration values of the spectral responsivity with up to 250 values are supported. Interpolation between two wavelength points are also possible. Manual input of a calibration value via the key pad is also possible.																																																						
Data logger	Max. 12288 entries, permanently saved in flash memory																																																						
Key pad	10 buttons, menu-guided																																																						
Measurement ranges	8 (2.000 mA to 0.1 pA) manual or autorange <table><tr><th>range nr.</th><th>range (A/V)</th><th>range max.</th><th>slew rate (10 - 90%) variant -1</th><th>slew rate (10 - 90%) variant -2 / -4</th><th>gain (@ 1000 nm)</th></tr><tr><td>0</td><td>1x10-3</td><td>±2.000mA</td><td>2 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>1</td><td>1x10-4</td><td>±200.0 µA</td><td>2 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>2</td><td>1x10-5</td><td>±20.00 µA</td><td>3 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>3</td><td>1x10-6</td><td>±2.000 µA</td><td>3 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>4</td><td>1x10-7</td><td>±200.0 nA</td><td>4 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>5</td><td>1x10-8</td><td>±20.00 nA</td><td>4 ms</td><td>20 ms</td><td>0.2</td></tr><tr><td>6</td><td>1x10-9</td><td>±2.000 nA</td><td>10 ms</td><td>20 ms</td><td>0.5</td></tr><tr><td>7</td><td>1x10-10</td><td>±200.0 pA</td><td>10 ms</td><td>20 ms</td><td>0.5</td></tr></table>	range nr.	range (A/V)	range max.	slew rate (10 - 90%) variant -1	slew rate (10 - 90%) variant -2 / -4	gain (@ 1000 nm)	0	1x10-3	±2.000mA	2 ms	20 ms	0.2	1	1x10-4	±200.0 µA	2 ms	20 ms	0.2	2	1x10-5	±20.00 µA	3 ms	20 ms	0.2	3	1x10-6	±2.000 µA	3 ms	20 ms	0.2	4	1x10-7	±200.0 nA	4 ms	20 ms	0.2	5	1x10-8	±20.00 nA	4 ms	20 ms	0.2	6	1x10-9	±2.000 nA	10 ms	20 ms	0.5	7	1x10-10	±200.0 pA	10 ms	20 ms	0.5
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Miscellaneous																																																							
Power Supply	Rechargeable battery, battery capacity: 3,7 V, 1400 mAh Rechargeable battery, battery capacity: 6 V, 500 Ah (Version before 2017) Operation time: 5 hours with display backlight switched on, 12 hours with display backlight switched off 5.5 mm / 2.5 mm / 9.5 mm socket for plug-in power supply unit																																																						
Interface	RS232 (9600 baud, 8 data bits, 1 stop bit, no parity) Plug: TRIAD01 (Tyco)																																																						
temperature range	Operating: (5 to 40) °C Storage: (-10 to 50) °C																																																						
Dimensions	195 mm x 100 mm x 40 mm / 500 g																																																						
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	D, USA or GB																																																						

Configurable with

Product Name	Product Image	Description	Show product
LP-9901		Detector head to measure LASER radiant power in W and LASER irradiance in W/m². 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		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
PD-9310B-N		Very high sensitive detector head for the measurement of photopic illuminance in Lux [lx]. Features: $f_1 \leq 3 \%$, 28nA/lx, no diffuser, for the usage with optometers and amplifiers, calibration	https://www.gigahertz-optik.com/en-us/product/pd-9310b-n
VL-3701 with SRT-M37-L		Detector head to measure the photopic illuminance in lx and the luminance in cd/m². 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/m². Features: front lens 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

Product Name	Product Image	Description	Show product
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-P9710		Software Development Kit for the P9710 variants.	https://www.gigahertz-optik.com/en-us/product/s-sdk-p9710
S-P9710		Application software for P9710 variants.	https://www.gigahertz-optik.com/en-us/product/s-p9710
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-1101umpa-05-11-rd
ISD-5-VL		Integrating sphere detector for luminous flux (lm) of 2π spot sources. Features: 50mm dia, BaSO ₄ 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, BaSO ₄ 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

Product Name	Product Image	Description	Show product
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
RW-3705		Detector head for the measurement of irradiance in W/m². 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/m². 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/m². 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/m². 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/m². 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/m². 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

Product Name	Product Image	Description	Show product
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
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

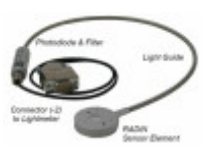
Product Name	Product Image	Description	Show product
ISD-3P-Si		Integrating sphere detector for Laser power in W. Features: 30 mm dia, 5 mm dia port, synthetic ODM98 coating, 400 nm - 1100 nm responsivity, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-3p-si
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
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, BaSO ₄ 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

Product Name	Product Image	Description	Show product
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
ISD-10-Si		Integrating sphere detector for Laser power in W. Features: 100mm dia, 15mm dia port, BaSO ₄ 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, BaSO ₄ 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, BaSO ₄ 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

Product Name	Product Image	Description	Show product
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
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

Product Name	Product Image	Description	Show product
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
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-18
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
PS-3701		Detector head for plant growth. Features: 400-700nm PAR actinic irradiance, cosine field-of-view, for use with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/ps-3701
PS-3702		Detector head for plant growth. Features: 320-500nm phototropism actinic irradiance, for use with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/ps-3702
PS-3703		Detector head for plant growth. Features: 590-900nm photomorphogenesis actinic irradiance, for use with optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/ps-3703

Product Name	Product Image	Description	Show product
RW-37 with SRT-M37-L		Detector heads to measure the irradiance in W/m^2 and the radiance in $\text{W}/(\text{m}^2 \cdot \text{sr})$. 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
LDM-9811		Detector for Blue-light and retinal thermal hazard of expanded light sources. Features: 1.7mrad, 11mrad and 100mrad field-of-view. view finder, focusable, for the usage with Optometers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/ldm-9811
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
ISD-0.8-SiLP		Integrating sphere detector with short rise time for Laser power in W. Features: 8 mm dia, ODM98 coating, 400 nm - 1100 nm responsivity, optional SMA Adapter, for the usage with fast optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-0.8-silp
ISD-1.6 Si		Integrating sphere detector for Laser power in W. Features: 16mm dia, 3mm 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-1.6-si
ISD-15-VL		Integrating sphere detector for luminous flux (lm) of 2π sources. Features: 150mm dia, BaSO4 coating, 38.1mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-15-vl

Product Name	Product Image	Description	Show product
ISD-21-VL		Integrating sphere detector for luminous flux (lm) of 2π sources. Features: 215mm dia, BaSO ₄ coating, 63.5mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-21-vl
ISD-30-VL		Integrating sphere detector for luminous flux (lm) of 2π sources. Features: 300mm dia, BaSO ₄ coating, 101,6mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-30-vl
ISD-50HF-VL		Integrating sphere detector for luminous flux (lm) of 2π and 4π sources. Features: 500mm dia, BaSO ₄ coating, sphere to open, auxiliary lamp, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-50hf-vl
ISD-50-VL		Integrating sphere detector for luminous flux (lm) of 2π sources. Features: 500mm dia, BaSO ₄ coating, 127mm dia port, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-50-vl
PD-9304		Detector head to measure low intensity LASER radiant power in W. Features: 11.28mm dia (1cm ²) active area, 400 to 1100nm, for the usage with optometers and signal amplifiers, calibration certificate.	https://www.gigahertz-optik.com/en-us/product/pd-2
PD-9310A		PD-9310A measurement head with GB-GD-360 photogoniometer for measurement of the luminous intensity distribution of 2π spot lamps and LEDs. Goniometer bench with adjustable measurement distance of up to 2000 mm. PD-9310A photometric detector corresponding to the DIN 5032 quality class A. Calibration certificate conforming to the ISO 17025 specifications. For use with all optometers and signal amplifiers from Gigahertz-Optik GmbH.	https://www.gigahertz-optik.com/en-us/product/pd-9310a-2
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
ISD-100HFT-VL		Integrating sphere detector for luminous flux (lm) of 2π and 4π sources. Features: 1000mm dia, BaSO ₄ coating, rotatable sphere to open, auxiliary lamp, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-100hft-vl

Product Name	Product Image	Description	Show product
ISD-100HF-VL		Integrating sphere detector for luminous flux (lm) of 2π and 4π sources. Features: 1000mm dia, BaSO ₄ coating, sphere to open, auxiliary lamp, for the usage with optometers and signal amplifiers, Calibration certificate	https://www.gigahertz-optik.com/en-us/product/isd-100hf-vl
VL-1101 module light detectors with photometric $V(\lambda)$ responsivity		Photometric detector head with DP-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-1101-2
ISS-5P-SR-FS		Integrating sphere source for use as transfer standard for spectral radiance in fluorescence spectroscopie. Features: Low spectral radiance. Compact size with 20mm dia light port. Synthetic ODM98 coating. lamp. Calibration of the spectral radiance 380-1700nm. Calibration certificate.	https://www.gigahertz-optik.com/en-us/product/iss-5p-sr-fs
UV-37 with SRT-M37-L-UV		Detector heads to measure the UV irradiance in W/m^2 and the UV-radiance in $W/(m^2 \cdot sr)$. 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
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
UV-3727		UV detector for germicidal lamps. Calibration factors for excimer lamps at 222nm, UV LEDs from 250 nm to 300 nm and low pressure Hg lamps at 254nm.	https://www.gigahertz-optik.com/en-us/product/uv-3727
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		

Article-Nr	Modell	Description
15295217	P-9710-1	Measurement device, power adapter (D, USA or GB), handbook
15295575	P-9710-2	Meter, power supply (D, USA or GB), manual
15295576	P-9710-4	Meter, power supply (D, USA or GB), manual
Options		
	Light detectors	See " Configurable with " for all detector heads suitable with the P-9710. More information about each detector head are given at it's product page.
Software		
15298278	S-P9710	User software for P9710 and variants.
15298231	S-SDK-P9710	Software Development Kit for the implementation of the P9710 or variants into custom made software
Accessories		
100001	P-9710Z-01	RS232 adapter cable
100371	P-9710Z-02	Relay card with RS232 interface
100867	P-9710Z-04	Connection plugs kit for combined RS232 and analog output socket
100385	P-9710Z-1S/2B	Adapter cable for detectors with BNC (type 1) plugs
100010	BHO-01	Hard-top casing for the measurement device and accessories
100002	BHO-02	Hard-top casing for the measurement device and accessories