

P-2000

<https://www.gigahertz-optik.com/en-us/product/p-2000/>

Product tags: Dosimeter , Multi-Channel



Description

Available in two versions the P-2000 optometers are highly efficient dual-channel instruments designed for multipurpose use in most photometric and radiometric applications including pulsed light measurement. Its compact size, four line blue back-lit display and unlimited detector interchange, functions and features characterize the P-2000 as all purpose laboratory grade instrument.



P-2000 with Optional Integrating Sphere Detector

Safe Detector Head exchange

A unique feature of the P-2000 is its detector head calibration data connector which stores all data pertaining to a light detector head including model and serial number and calibration data. When connected to the meter, this data is automatically transmitted and the light meter is ready to go. Combined with one or more of the wide range of available light detectors the P-2000 can be configured as a high level photometer, UV-A, B and C radiometer, laser power meter, PAR meter plus many other configurations.



Seventeen different measurement modes

Along with the ability to use the P-2000 optometers with an unlimited range of light detectors, seventeen measurement modes enable the user to specify light sources in different ways.

P-2000 with Relay Board (Option)



P-2000Z-01 RS232 cable required for remote control operation

CW and pulse energy measurement

The P-2000-1 features a fast sample rate ADC with a variable integration time from 0.1 to 6 seconds in CW mode. The P-2000-2 model is designed for pulse energy measurement of single pulses or pulse chains down to μ s pulse lengths.

Manual and remote control operation

The RS232 and IEEE488 interfaces allows remote control operation. The meter is DC low voltage operated with external AC power supply.



Relay board for P-2000 to control external accessories

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 pA (0.1E-12 A) / 3 nA/(mW/cm²) (irradiance detector) = 0.33 nW/cm²
- **Minimum measureable irradiation**
= offset signal * signal to noise ratio factor
*Sample: 0.33 nW/cm² * 50 = 17 nW/cm²*
- **Maximum measureable irradiation ***
= max. signal current detector / detector sensitivity
Sample: 1 mA (10E-3 A) / 3 nA/(mW/cm²) = 333333 W/cm²
- **Display range**
= Offset signal to maximum measureable signal
Sample: 0.33 nW/cm² to 333333 W/cm²
- **Measurement range**
= min measureable irradiation to maximum measureable irradiation
Sample: 17 nW/cm² to 333333 W/cm²



Adapter cable to connect detectors with BNC connectors (-1 type) to the 9PIN SUBD socket

*) 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.

P-2000Z-02
Relay board for P-2000 to control external accessories (e. g. yellow, green and red indication lamps for low-ok-high indications in binning processes). Solid state relays controlled via P-2000 RS232 interface. Low-ok-value setting in the CW level set mode of the P-2000.

Specifications

Product	
Detector interface	2x 9pin DSUB
Analog output	Output voltage corresponding to detector input current (Ri = 10k), connector: BNC
Inputs	Amperes
	optical units corresponding to calibration data
	factor, percent, log (depending on mode)
Measurement range	8 ranges (2.000 mA to 0.1 pA) manual or auto range
CW integration time	100 µs – 5.9999 s
Measurement time	Puls: 10 ms – 199.99 s
Offset correction	Correction range transcending
Parameter adjustment	Remote control or front panel keys (menu), adjusted values permanently stored (EEPROM)
Calibration information	Stored in the detector connector (EEPROM) Manual calibration factor (keys) Max. 250 calibration table entries + interpolation between the entries

Logger memory	Max. 5734 entries for each channel, permanently stored in flash memory						
Interface	RS232: 9600 Baud, 8 Data Bit, 1 Stop Bit, No Parity, Connector DSUB 9pins, female IEEE488: AH1, SH1, L4, T4						
Rise time	Input Amplifier Slew Rate: 20 ms						
Measurement range	range nr.	range (A/V)	range max.	slew rate (10 – 90%) P-2000-1	slew rate (10 – 90%) P-2000-2	gain error *) ± offset error (at 20 °C)	gain (A/V) analogue output
	0	1x10-3	± 2.000 mA	2 ms		20 ms	0.2% ± 0.001 mA
	1	1x10-4	± 200.0 µA	2 ms		20 ms	0.2% ± 0.1 µA
	2	1x10-5	± 20.00 µA	3 ms		20 ms	0.2% ± 0.01 µA
	3	1x10-6	± 2.000 µA	3 ms		20 ms	0.2% ± 0.001 µA
	4	1x10-7	± 200.0 nA	4 ms		20 ms	0.2% ± 0.1 nA
	5	1x10-8	± 20.00 nA	4 ms		20 ms	0.2% ± 0.01 nA
	6	1x10-9	± 2.000 nA	10 ms		20 ms	0.5% ± 2 pA
	7	1x10-10	± 200.0 pA	10 ms		20 ms	0.5% ± 2 pA
	*) Current calibration of each range by use of a precise current source with DAKKS calibration						
Interface	DSUB 9pin female		Function				
	1	input current (detector current)					
	2	GND					
	3	connection detection (has to be connected to GND by the external detector, this is the case by Gigahertz-Optik detectors)					
	4	GND					
	5	SCL (I2C, eeprom)					
	6	GND					
	7	GND					
	8	+5V Output (Ri = 100 Ohm)					
	9	SDA (I2C, eeprom)					
Output Interfaces	Pin (TRIAD01 female)		Function				
	1	Analog Out (Rin = 10k)					
	2	TxD (has to be connected to RxD of ext. PC)					
	3	RxD (has to be connected to TxD of ext. PC)					
	4	GND					
	5	GND					

Menu Item	Submenu Item	Function
1. Mode	CW	displays the measurement respective of any offset and calibration factors programmed
	CW Maximum	displays the highest detected reading
	CW Minimum	displays the lowest detected reading
	Peak Maximum	shows the maximum detected peak level
	Peak Minimum	displays the minimum detected peak level
	Peak to Peak	displays the difference between the detected peak maximum and peak minimum level
	I-Effective	enables the measurement of pulsed light signals with evaluation of the effective intensity according to the form-factor method defined by Schmidt-Clausen
	Pulse Energy	enables the measurement of short and single light pulses with direct display of exposure for the pulse duration, considering the respectively measured (radiometric) quantity
	Relative (%)	displays the measurement as percentage of a reference value
	Relative (Log)	displays the measurement in dB or dBm in relation to a reference value
	Relative (Fact.)	displays the measurement referred to a reference value
	Relative (CCT)	displays the CCT value calculated out of the current ratio of channel 1 and channel 2
	CW Level Check	compares actual CW readings with previously defined limit values and indicates status
	Dose (C)	accumulates the single readings and displays the result as exposure for measured quantity
	Logger	stores the single readings, which are taken in predefined intervals up to a number of 5734 for each channel
	Remote RS232	enables the instrument to be controlled by a computer via the built in RS232 interface
	Remote IEEE488	enables the instrument to be controlled by a computer via the built in IEEE488 interface
2. Range		selects the range 1 to 8 or switches into the autorange mode (9)
3. Detector	Detector information	if a detector with calibration data connector is attached to the instrument, optionally programmed calibration factors can be selected
	Ampere	shows the reading in ampere units
	Manual	allows entering a calibration factor manually
4. Offset		performs an automatic offset adjustment
5. Reference		sets a reference value, used in different display modes
6. Setup	Integration time	sets the integration time (100 µs to 6 s)
	Zero Adjust Mode	sets the mode for the internal zero adjustment

Front panel control	10 keys, menu system
Dimensions	230 mm x 215 mm x 115 mm
Power Supply	230 AC / 7.5 VDC / 500 mA
Warranty	12 months
Weight	800 g
Temperature range	Operation: (5 to 40) °C Storage: (-10 to 50) °C
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.

Configurable with

Product Name	Product Image	Description	Go to product
VL-3701		Detector head for the measurement of photopic illuminance in Lux [lx]	https://www.gigahertz-optik.com/en-us/product/vl-3701/
VL-3702		Detector head for the measurement of photopic illuminance in Lux [lx]. Class B, $f_1 \leq 6 \%$	https://www.gigahertz-optik.com/en-us/product/vl-3702/
VL-3704		Detector head for the measurement of photopic illuminance in Lux [lx]	https://www.gigahertz-optik.com/en-us/product/vl-3704/
VL-3705		Detector head for the measurement of scotopic illuminance in Lux [lx]	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/

Product Name	Product Image	Description	Go to product
LP-9901		Detector head to measure Laser radiant power in W and Laser irradiance in W/m ²	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	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/
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	https://www.gigahertz-optik.com/en-us/product/lm-9901/
S-SDK-P2000		Software Development Kit for P2000 and variants.	https://www.gigahertz-optik.com/en-us/product/s-sdk-p2000/
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-1101-umpa-05-11-rd/

Product Name	Product Image	Description	Go to product
ISD-5-VL		Integrating sphere detector for luminous flux (lm) of 2π spot sources	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	https://www.gigahertz-optik.com/en-us/product/isd-10-vl/
ISD-15P-VL		Integrating sphere detector for luminous flux (lm) of 2π sources	https://www.gigahertz-optik.com/en-us/product/isd-15p-vl/
TD-11VL01		Photometric, temperature stabilized detector with DP-11 mount	https://www.gigahertz-optik.com/en-us/product/td-11vl01/
RW-3701		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3701/
RW-3702		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3702/
RW-3703		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3703/
RW-3704		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3704/
RW-3705		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3705/
RW-3708		Detector head for the measurement of irradiance in W/m^2	https://www.gigahertz-optik.com/en-us/product/rw-3708/

Product Name	Product Image	Description	Go to product
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/
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-3718		Detector head for the measurement of high irradiance of UV-C 254nm radiation in W/m ²	https://www.gigahertz-optik.com/en-us/product/uv-3718/

Product Name	Product Image	Description	Go to product
ISD-5-VISNIR		Integrating sphere detector for radiant power in W of 2 π sources	https://www.gigahertz-optik.com/en-us/product/isd-5-visnir/
ISD-3P-Si		Integrating sphere detector for Laser power in W	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 optometer, calibration certificate	https://www.gigahertz-optik.com/en-us/product/uv-3711-2/
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	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.	https://www.gigahertz-optik.com/en-us/product/isd-3p-iga-2/
ISD-5-Si		Integrating sphere detector for Laser power in W	https://www.gigahertz-optik.com/en-us/product/isd-5-si/
RCH-116		Detector head with rigid fiber for high intensity UV and BLUE LED sources.	https://www.gigahertz-optik.com/en-us/product/rch-2/
RCH-102		Detector head for high intensity irradiation in UVA and blue light curing processes with rigid fiber	https://www.gigahertz-optik.com/en-us/product/rch-1/

Product Name	Product Image	Description	Go to product
MD-37-SU100-VL		Photometric detector head with M30x1 mount	https://www.gigahertz-optik.com/en-us/product/md-37-su100-vl/
MD-37-SU100-VLS		Scotopic detector head with M30x1 mount	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	https://www.gigahertz-optik.com/en-us/product/isd-5p-si/
ISD-10-Si		Integrating sphere detector for Laser power in W	https://www.gigahertz-optik.com/en-us/product/isd-10-si/
ISD-15-Si		Integrating sphere detector for Laser power in W	https://www.gigahertz-optik.com/en-us/product/isd-15-si/
RCH-006		Detector head for high intensity irradiation in UV wide range curing processes	https://www.gigahertz-optik.com/en-us/product/rch-006/
ISD-30		Integrating sphere detector for Laser power in W	https://www.gigahertz-optik.com/en-us/product/isd-30-si/
RCH-008		Detector Head for High-Intensity Irradiation in UV-A Curing Processes	https://www.gigahertz-optik.com/en-us/product/rch-008/
RCH-009		Detector Head for High-Intensity Irradiation in Blue Light Curing Processes	https://www.gigahertz-optik.com/en-us/product/rch-3/
RCH-010		Detector head for high intensity irradiation in UV H-type light curing processes.	https://www.gigahertz-optik.com/en-us/product/rch-4/

Product Name	Product Image	Description	Go to product
RCH-011		Detector head for high intensity irradiation in UVA peak light curing processes.	https://www.gigahertz-optik.com/en-us/product/rch-5/
RCH-012		Detector head for high intensity irradiation in blue light curing processes.	https://www.gigahertz-optik.com/en-us/product/rch-6/
RCH-013		Irradiance Detector for UV or Blue light curing processes	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 wide range curing processes	https://www.gigahertz-optik.com/en-us/product/rch-10/
PD-11 Series		Detector head with DP-11 mount	https://www.gigahertz-optik.com/en-us/product/pd-11-serie/
RCH-108		Detector head for high intensity irradiation in UVA Peak light curing processes	https://www.gigahertz-optik.com/en-us/product/rch-11/
RCH-109		Detector head for high intensity irradiation in blue-peak light curing processes	https://www.gigahertz-optik.com/en-us/product/rch-12/
RCH-110		Detector head for high intensity irradiation in H-Type light curing processes	https://www.gigahertz-optik.com/en-us/product/rch-13/
RCH-111		Detector head for high intensity irradiation in UVA light curing processes	https://www.gigahertz-optik.com/en-us/product/rch-14/

Product Name	Product Image	Description	Go to product
RCH-112		Detector head for high intensity irradiation blue light curing processes.	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	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/
RW-37 with SRT-M37-L		Detector heads to measure the irradiance in W/m ² and the radiance in W/(m ² sr)	https://www.gigahertz-optik.com/en-us/product/rw-37usrt-m37-l/
RCH-002		Detector Head for High-Intensity Irradiation in UVA or Blue Light Curing Processes	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	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)	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	https://www.gigahertz-optik.com/en-us/product/uv-3726/

Product Name	Product Image	Description	Go to product
RCH-xxx Series		UV Detectors for measuring the UV Curing Irradiance	https://www.gigahertz-optik.com/en-us/product/rch-xxx-series/

Purchasing information

Article-Nr	Modell	Description
Product		
15295970	P-2000-1	Meter, power supply, manual
15297598	P-2000-2	Meter, power supply, manual
Software		
15298227	S-SDK-P2000	Software Development Kit for the implementation of a P2000 or variants into custom made software
Accessories		
15296020	P-2000Z-01	RS232 adapter cable
15296034	P-2000Z-02	Relay board with RS232 interface
15296235	P-9710Z-1S/2S	Adapter cable to connect detector heads with BNC (-1) type connector

Contact, Calibration, Service & Support

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- Technical Consulting & Sales
- After-Sales Support
- Calibrations & Re-Calibrations ([ISO/IEC 17025 Calibration Services](#), [factory calibration](#), [Calibration of Third-Party Products](#))
- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

[Send us your inquiry](#) or contact us by phone or e-mail. We would welcome your feedback too or review us on [Google](#).

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