gentec-eo
PARTNERS for ACCURACY


# LASER BEAM MEASUREMENT & BEAM PROFILING

## COMPANY PROFILE 2025

■ POWER ■ ENERGY ■ PROFILING ■ TERAHERTZ

# WHO WE ARE

Gentec-EO: Partners for accuracy


## MILESTONES

The first laser energy meter in the world has been initially developed for internal use as Gentec Inc. were putting the first high repetition rate TEA $CO_2$ lasers on the market in 1970. Gentec, Inc. introduced the first pyroelectric joulemeters shortly after that. They were also the first to manufacture both thermopile wattmeters and pyroelectric joulemeters. In the mid 1990's, Gentec introduced the WB series with an average power density damage threshold of 100 kW/cm² that is still unrivalled today. In 2000, Gentec Electro-Optics, Inc. was formed from Gentec, Inc. so that the focus was entirely on laser measurement. And in 2010, the acquisition of Spectrum Detector Inc. allowed Gentec-EO to cover new markets, like THz detectors, ultrafast pyroelectric detectors and highly sensitive photodetectors, to name a few.

## OUR ESSENCE

gentec-eo
PARTNERS for ACCURACY

The decision of adopting "PARTNERS for ACCURACY" as our branding slogan is the result of a long evolution that spanned over more than 50 years. It came to us naturally since it represents our very essence. We have always aspired to be more than a simple supplier of state-of-the-art laser measurement technologies. We truly believe that developing a very close partnership with our customers is essential and beneficial for every party. By definition, "partnership" means "aiming at the same goal" and "working together". This is what is driving us. As for "accuracy", it does not solely refer to the precise measurements we are able to provide, but also to the complete understanding of our customers' needs and expectations. Finally, the key to our success is to focus all our energy into "rigor". No matter what the situation, Gentec-EO is always proud to offer its customers the most accurate laser measurements as well as the most personalized help for the development of custom products and solutions.

Let us be your **PARTNERS for ACCURACY**.

## WORLDWIDE PRESENCE

Gentec-EO has an evergrowing presence everywhere around the world. We currently have partners in over 40 countries, and each year, we keep adding new partners. We also have a strong presence in most of the European and Asian countries and we now have offices in USA and in Japan. When you send a unit to us for repair or recalibration, you are entitled to expect your unit back in as short a time as possible.

With calibration centers on 3 continents, and offices in Canada, USA and Japan, Gentec-EO has a solid presence and fast turnaround times, just what you need to keep pace with today's rapid market.

# HIGHEST CALIBRATION STANDARDS

Measuring with Gentec-EO accuracy

## THE GENTEC-EO ADVANTAGE

We use only **GOLD Calibration Standards**, guaranteeing our customers the lowest calibration uncertainty possible

Our uncertainty values are based on **Proven Statistical Calculation Processes**

For each detector that we calibrate, **50 Parameters are collected and logged** in our ISO-certified quality system

Our Personnal Wavelength CorrectionTM (PWC) data offers you **NIST and/or NRC Traceability over the entire range of the detector**

NIST* Traceable

**The calibration reference is checked 2 to 3 Times** during EACH calibration process

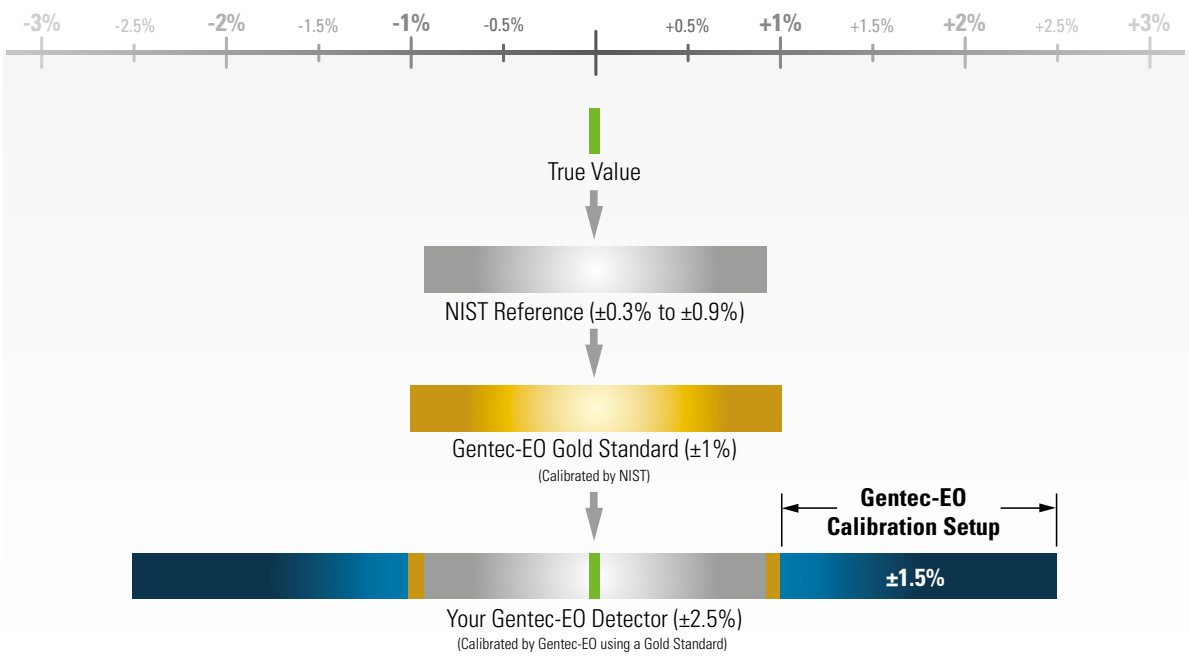
Each of these steps contributes to the **TOTAL ACCURACY** of your detector

## HOW GENTEC-EO CALIBRATES YOUR DETECTOR

Every detector is individually calibrated to the best possible accuracy traceable to NIST standards. Stable laser sources at various wavelengths are used in our calibration process.

Gentec-EO's gold standards are detectors that were compared directly to NIST references.

In our calibration laboratories, we use laser beams with the appropriate diameter and power level for each detector that we test. Before the measurements are performed, the test instrument is allowed to reach equilibrium with the laboratory environment. The laser power or energy impinging upon the tested instrument is measured using a gold standard and a calibrated beam splitter. The calibration factor is found by dividing the instrument's output reading by the calculated average incident laser power. The figure below shows these steps and their respective contribution to the value of uncertainty. As you can see, the manufacturer itself is only one of these sources.



# POWER DETECTORS

Low power measurement

Available with integra

## PH: PHOTODETECTORS

- Photodetectors for measurements up to 750 mW
- Available from UV to IR
- Silicon, UV-silicon and germanium sensors
- OD.3/OD1/OD2 attenuators available

FAST RESPONSE POWER DETECTORS

## PRONTO-SI: ALL-IN-ONE PHOTODETECTOR + METER

- Compact laser power meter up to 800 mW
- 10 x 10 mm aperture
- Integrated OD1 slide-in attenuator
- Color touchscreen display

PORTABLE & EASY TO USE

## UM: BROADBAND PYROELECTRIC DETECTORS

Our pyroelectric power detectors have the noise level of a photodetector, but with the large bandwidth of a pyroelectric sensor. They have everything you need to accurately measure extremely low powers from the DUV to the FIR.

- 9 mm Ø aperture
- Broadband, flat spectral response
- Very low noise, down to 5 nW

MEASURE LOW POWER AT ANY WAVELENGTH

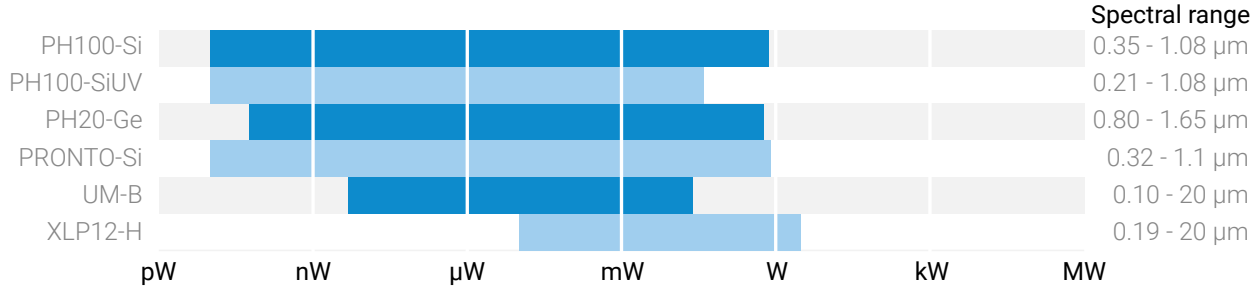
Available with integra

## XLP12: LOW-POWER THERMOPILES

- Low noise level: only ±0.5 µW
- IR filter available
- Available with volume absorber for short pulses

THERMAL POWER DETECTORS WITH LOW NOISE

## COMPARISON TABLE - LOW POWER MEASUREMENT



# POWER DETECTORS

General use power detectors

Available with integra blu

## UP-H: BROADBAND THERMAL DETECTORS

Our standard absorber offers high damage thresholds and a flat spectral response, making this series of power detectors a versatile solution that can cover most of your laser power measurement needs.

- Available in 6 sizes:

  10 mm Ø  12 mm Ø
  17 mm Ø  19 mm Ø
  25 mm Ø  55 mm Ø

- Available with 5 cooling modules:

  Convection (S)
  Small heatsink (H)
  Large heatsink (L)
  Fan (F)
  Water (W)

■ THE WIDEST RANGE OF LASER MEASUREMENTS

New product


## PRONTO-250-EZ

Adapted to dirty environments, the PRONTO-250-EZ offers the same performance as PRONTO-250-FLEX, with the added advantage that it can be cleaned on-the-go.

- Compact laser power meter up to 250 W
- Three measurement modes:

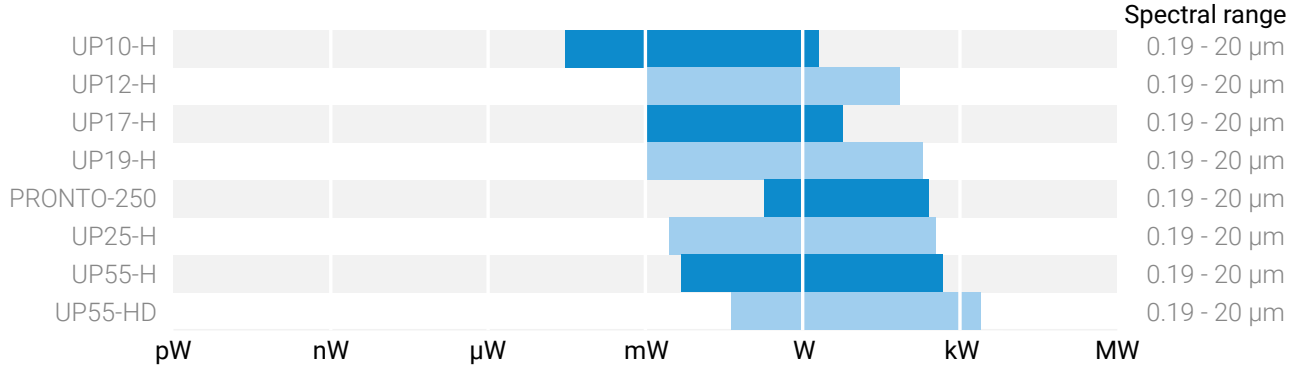
  Single-Shot Power (SSP): up to 250 W
  Continuous Power (CWP): up to 8 W
  Single Shot Energy (SSE): up to 25 J

- The flexibility to pick only the calibrations you need:

  Default calibration "Y": for visible to NIR wavelengths (248 nm to 2.5 µm)
  Additional calibration "C": for $CO_2$ lasers (10.6 µm)
  Additional calibration "E": for energy measurements with ± 5% accuracy

■ PORTABLE & EASY TO CLEAN

## COMPARISON TABLE - GENERAL USE POWER DETECTORS



# POWER DETECTORS

High performance power detectors

Available with integra blu

## UP-W

Our “W” absorber can handle tightly focused beams thanks to its extremely high damage threshold for average power density. It can be used to measure up to 50 W, from the UV to IR.

- Available in 2 sizes: 19 mm or 55 mm Ø aperture
- High damage threshold absorber (100 kW/cm²)
- Our highest maximum average power density

IDEAL FOR UV LASERS & TIGHTLY FOCUSED BEAMS

Available with integra blu


## UP-QED

The UP-QED series are power detectors for lasers with extreme power and energy density, such as laser micromachining systems. Thanks to a proprietary absorber that diffuses the measured beam and absorbs it in a larger volume, these detectors have the highest damage thresholds on the market.

- Available in 2 sizes: 16 mm or 52 mm Ø aperture
- Our highest maximum average power density
- Our highest maximum energy density
- Not suitable for UV lasers

THE HIGHEST DAMAGE THRESHOLDS ON THE MARKET!


Available with integra

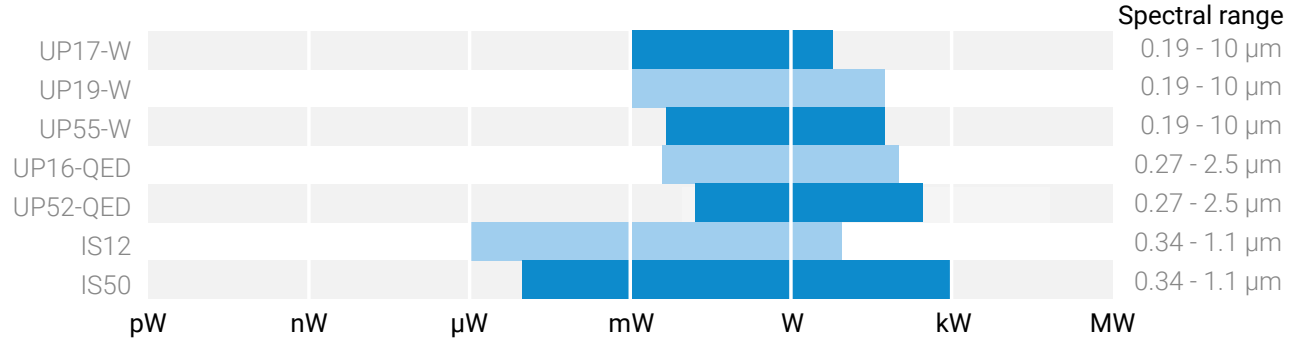
## IS: INTEGRATING SPHERE POWER METER

Get the best of both worlds with our new integrating sphere power meters. This technology offers the fast risetime of photodetectors with the high average power of thermal detectors.

- Fast risetime: 0-95% in less than 0.2 seconds
- Measures up to 1000 W of continuous power
- Available in 2 sizes: 12 mm or 50 mm Ø aperture

FAST AND ROBUST POWER MEASUREMENT

## COMPARISON TABLE - HIGH PERFORMANCE POWER DETECTORS



# POWER DETECTORS

High power measurement

## HP60: HIGH POWER, LOW BACK-REFLECTIONS

The gold reflector cone of the HP60 series is specifically designed to handle the high intensities of very small beams. By reflecting the incident light on the sides of the aperture, the cone effectively spreads the intensity on a larger area, thus raising the damage threshold to 10 kW/cm$^2$ at the full power (15 kW).

- FOR SMALL BEAMS UP TO 15 KW

## HP100/125: LARGE APERTURE, COMPACT DEVICE

The HP100A and HP125A are the smallest in our HP series of high-power detectors. They are versatile high-power detectors that measure up to 15 kW of continuous power with a noise level of only a few watts. These models feature a very large aperture of 100 or 125 mm Ø.

- CONTINUOUS POWER MEASUREMENT UP TO 15 KW

## SUPER HP: CUSTOM, HIGH-POWER MEASUREMENT

Our unique high-power design allows for infinite customization capabilities. Do not hesitate to contact us with your specific needs. Our Super HP models feature a USB output for direct measurements on a PC as well as our standard DB15 connector. RS-232 output is also available.

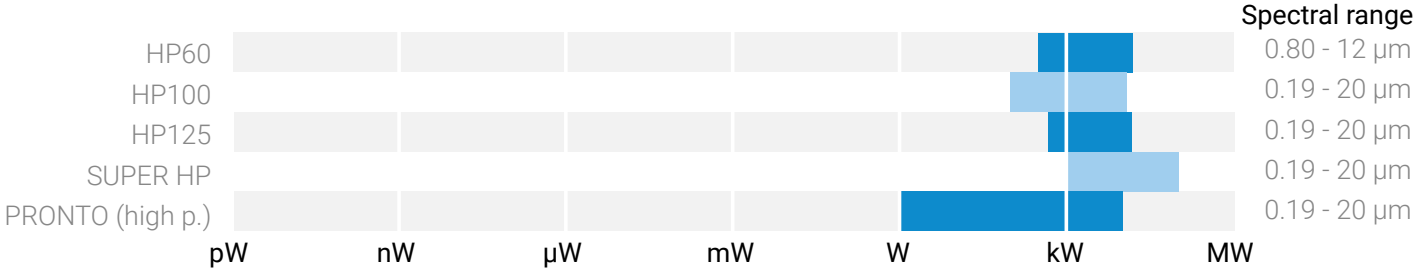
- CUSTOM SOLUTIONS FOR UP TO 150 KW

## PRONTO: PORTABLE HIGH-POWER PROBES

When you are on the go and water cooling is not easily accessible, the PRONTO high-power probes are the best solution. These all-in-one power meters with touchscreen controls come in 4 models: 500 W, 3 kW, 6 kW and 10 kW. Their integrated display is encased in a rugged metallic casing to withstand the harshest of environments.

- UP TO 10 KW WITHOUT WATER COOLING

## COMPARISON TABLE - HIGH POWER MEASUREMENT



# ENERGY DETECTOR

Low energy measurement and general use energy detectors

Available with integra

## PE: PHOTODETECTORS

- Available in 3 sizes: 3, 5 or 10 mm Ø
- 3 choices of absorber for different wavelength ranges:
  - Silicon
  - Germanium
  - InGaAs

LOWEST NOISE LEVEL OF ALL ENERGY DETECTORS

Available with integra

## QE-B: HIGH-SENSITIVITY PYROELECTRIC DETECTORS

Our pyroelectric energy detectors have everything you need to accurately measure extremely low energy from the DUV to the FIR.

- Very low noise: as low as 50 nJ
- 8 mm Ø aperture
- 2 choices of absorber:
  - MT: fast response and high sensitivity
  - BL: flat spectral response

MEASURE LOW ENERGY AT ANY WAVELENGTH

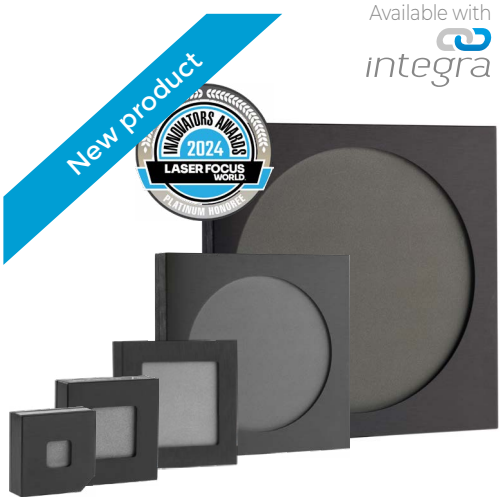
## MACH 6: MEASURE ALL PULSES UP TO 200 kHz


- High-speed digital joulemeter: Measures EVERY PULSE at 200 kHz
- Capture and store up to 4 million pulses at the maximum repetition rate
- Track missing pulses and pulses below threshold
- Wide energy range: measure from pJ to mJ

200 kHz ENERGY METER

Available with integra

## QE: GENERAL USE PYROELECTRIC DETECTORS




Pyroelectric energy meters cover a very wide range, going from nanojoules to several tens of joules per pulse, making this series of energy detectors a versatile solution that can cover most of your energy measurement needs.

- 2 choices of broadband absorbers:
  - MB: broadband absorber with high damage thresholds
  - MT: fast response, up to 10 kHz repetition rate
- Available in 7 sizes:

| | | |
|---|---|---|
| 12 x 12 mm | | 65 x 65 mm |
| 25 x 25 mm | | 95 mm Ø |
| 50 x 50 mm | NEW | 195 mm Ø |

- Available with 2 cooling modules: convection (S), or heatsink (H)

THE WIDEST RANGE OF LASER ENERGY MEASUREMENT

# ENERGY DETECTORS

High energy detectors

Available with integra blu

## THERMOPILES IN SINGLE-SHOT ENERGY MODE

MEASURE ENERGY WITH A POWER DETECTOR

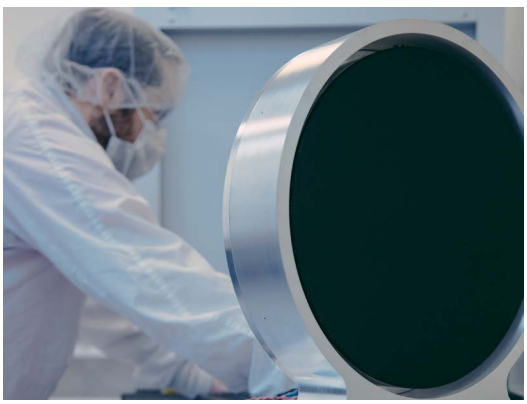
The single-shot energy mode, available with all our thermal power detectors, allows you to measure the energy of single pulses or pulse trains.

SEE "ENERGY MODE" IN THE POWER DETECTOR SPECIFICATIONS

## PRONTO-500-IPL

- Compact energy meter for up to 350 J
- 55 mm Ø aperture
- Color touchscreen display
- Rugged device: all-metal body and protective window

IDEAL FOR IPL SOURCES: UP TO 350 J



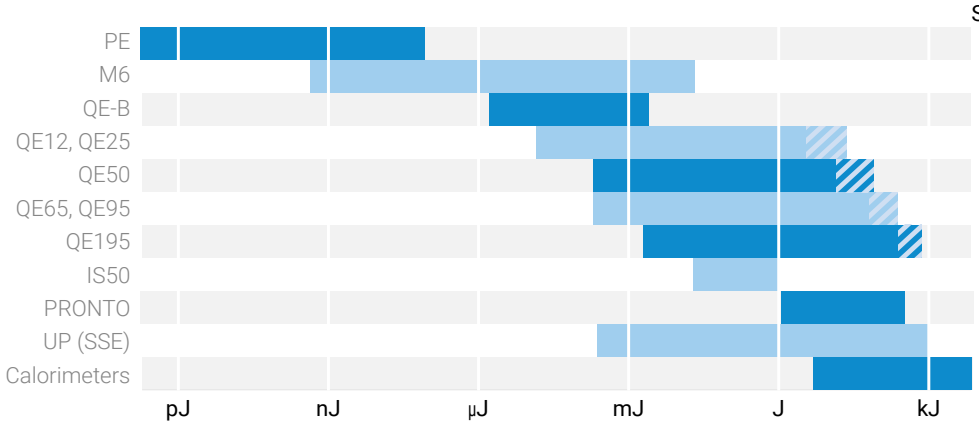
## CUSTOM CALORIMETERS

We work with a wide range of materials from surface coatings to the most robust volume absorbers to provide the best solution for your specific application.

- Outstanding signal-to-noise ratios
- High sensitivity
- Vacuum compatibility
- Attention to detail and workmanship

With over 50 years of experience in thermal-based energy measurement, Gentec-EO is the ideal choice for all your high energy measurement needs.

## COMPARISON TABLE - ENERGY MEASUREMENT




* QED models are represented by dashed area and have a limited spectral range: 0.3 - 2.1 µm

# BEAM PROFILING

Overview of the different models


## BEAM PROFILING CAMERAS

Profiling a laser beam is a convenient complement to the measurement of its power or energy because it provides very useful additional information, like spatial energy or intensity distribution, beam widths, centroid, ellipticity and orientation, that may help you determine if your laser-based systems are operating optimally.

The Beamage is the most cost-effective USB3.0 Beam Profiling Camera on the market. It is available for UV to IR wavelengths and in 2 sizes. It comes with an intuitive and complete software that features an array of useful tools and functions. Its calculations are ISO compliant.

## MAIN SPECIFICATIONS

| | BEAMAGE-4M | BEAMAGE-4M-IR | BEAMAGE-4M-FOCUS |
|---|---|---|---|
| Wavelength range | | | |
| Camera only | 350 - 1150 nm | 1495 - 1595 nm | 350 - 1150 nm |
| With UG11-UV filter | 250 - 370 nm | --- | --- |
| With B3-IR-Filter | 1250 - 1350 nm | --- | --- |
| Pixel count | 4.2 MPixels | 4.2 MPixels | 4.2 MPixels |
| H x V | 2048 x 2048 | 2048 x 2048 | 2048 x 2048 |
| Sensor size | 11.3 x 11.3 mm | 11.3 x 11.3 mm | 20.5 x 20.5 mm |


## BEAMAGE-M2: BEAM QUALITY MEASUREMENT

The performance of a laser in practical applications is critical in the design of optical systems and focusing applications, and it can be quantified by measuring $M^2$, the laser beam quality factor, which indicates how close a laser is to being an ideal Gaussian beam.

The Beamage-M2 acquires a sequence of beam profile measurements to automatically perform beam quality measurements within a few seconds. It is equipped with the largest optics on the market for easy alignment and fast measurements that you can trust. Its software is both intuitive and ISO compliant.


## BA SAMPLERS: MANAGE THE LASER POWER

CMOS sensors have low saturation levels as well as low damage thresholds. It is thus very important that you control your laser power to get the best measurement possible and avoid damaging the sensor.

- For laser power under 1 W, you can attenuate the beam with ND filters
- For laser power up to 1000 W, you can sample a small fraction of the beam with a BA optical sampler

# TERAHERTZ DETECTORS

Overview of the different models

We have designed a unique line of thermal sensors and meters for measurements in the THz region. These products are used to measure power (radiant flux or irradiance) and energy of CW, pulsed and quasi-CW THz sources from 30 THz to 0.1 THz.


## THZ-B DETECTORS, WITH T-RAD RADIOMETERS

- Large area: 5 mm and 9 mm Ø
- Wide dynamic range: 10 nW to 20 mW
- Broad spectral response with BL coating: 0.1 µm to 3000 µm
- Two output options:
  DZ: used with our digital T-RAD lock-in radiometer, for USB output to PC
  DA: used with our T-RAD-ANALOG power supply, for analog BNC output

CHOICE OF ANALOG OR DIGITAL OUTPUT


## THZ5I-BNC: ANALOG RADIOMETER & JOULEMETER

- Very sensitive pyroelectric radiometer and joulemeter
- 5 mm Ø detector with BL broadband absorber
- Wide dynamic range: 10 nW to 63 µW and 10 nJ to 2 µJ
- Analog BNC output to your oscilloscope or lock-in amplifier

CAN BE USED BOTH FOR POWER AND ENERGY MEASUREMENTS

Available with integra

## THZ-D: POWER DETECTORS FOR USE WITH GENTEC-EO METERS

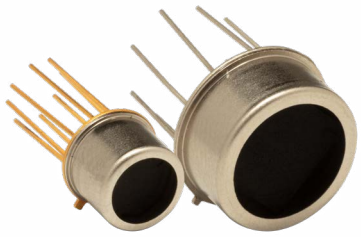
THZ12D-3S-VP:

- Large area: 12 mm Ø
- Wide dynamic range: 0.1 mW to 3 W
- Spectrally flat (± 5%) from 30 THz to 0.7 THz

THZ9D-20mS-BL:

- Large area: 9 mm Ø
- High sensitivity: 500 nW to 20 mW
- Spectrally corrected from 0.25 µm to 3000 µm

COMPATIBLE WITH OUR STANDARD DISPLAYS & PC INTERFACES



## QS-THZ: MINIATURE HYBRID PYROELECTRIC DETECTORS

- Standard sizes: 5 and 9 mm Ø active area
- Wide dynamic range: nW to mW and nJ to mJ
- Broad spectral response with BL coating: 0.1 µm to 3000 µm
- Small packages: TO5 & TO8
- Includes integrated operational amplifier

TRY THEM WITH OUR EVALUATION TEST BOX QS-I-TEST

# DISPLAYS & PC INTERFACES

Overview of the display modules

We offer four models of meters with display: MIRO ALTITUDE and MAESTRO for both power and energy measurements, as well as TUNER and UNO for power readings. Connect one of these display devices to your detector and you have a complete laser power or energy measurement system.


## MIRO ALTITUDE

MIRO ALTITUDE is Gentec-EO's flagship product for reading laser power and energy. It was designed to help engineers and service technicians increase their productivity thanks to numerous innovative features in both hardware and software. Enter modern times of laser beam measurement with MIRO ALTITUDE.

Supercharge your productivity with an intuitive user interface, an extra large screen, tons of connectivity possibilities, 3 convenient display modes, a built-in dataviewer and a built-in file manager.

- **NEW:** MIRO ALTITUDE IS NOW COMPATIBLE WITH INTEGRA
- PROFESSIONAL LASER POWER & ENERGY METER


## MAESTRO

The MAESTRO power & energy meter is our top of the line display device with an extra-large 5.6 in color LCD display and fully touchscreen controls. With its unique user interface and faster electronics, it will do more, in less time, and with less effort than any other meter on the market!

- LASER POWER & ENERGY METER

Gentec-EO PC interfaces come in various sizes and types to cover all applications. We offer models for power or energy measurement, or both. Most of our PC interfaces are single-channel, and we also offer models with either 2 channels or even up to 4 channels.

## LINK SERIES

The U-LINK, P-LINK, S-LINK and M-LINK are PC interfaces for our power or energy detectors and are provided with free software applications.

- U-LINK is a universal power & energy meter that measures ALL detectors in our product range up to 10 kHz repetition rate. It has a very small footprint.
- P-LINK is a small power meter, available with either a USB or RS-232 connector. A 4-channel version is also available.
- S-LINK comes with 1 or 2 channels and measures energy detectors at a very fast rate. It comes with a USB connector, Ethernet also available in option.
- M-LINK is a universal power & energy meter that measures ALL detectors in our product range and features a unique noise suppression method.

- PC-BASED POWER OR ENERGY METERS

# DISPLAYS & PC INTERFACES

Overview of the PC interfaces

## DISPLAY DEVICES




| | MIRO ALTITUDE | MAESTRO | TUNER | UNO |
|---|---|---|---|---|
| Detector compatibility | | | | |
| Power measurement | UP, XLP, PH, INTEGRA | UP, XLP, PH, HP, UM-B, THZ-D | UP, XLP, PH & HP | UP, XLP, PH & HP |
| Energy measurement | QE, also UP & XLP in SSE mode | QE, PE, also UP & XLP in SSE mode | N/A | N/A |
| Display | 10in touchscreen | 5.6in touchscreen | 3.8in LCD, backlit | 3.8in LCD |
| Output | 2xUSB, USB-C, RS-232, Ethernet | USB, RS-232, Ethernet, analog output | Analog output | N/A |
| Data logging | Internal memory and USB key | USB key | N/A | N/A |
| External trigger | Yes | Yes | N/A | N/A |
| Number of channels | 1 | 1 | 1 | 1 |

## PC INTERFACES




| | U-LINK | P-LINK | S-LINK | M-LINK |
|---|---|---|---|---|
| Detector compatibility | | | | |
| Power measurement | UP, XLP, PH, UM-B, THZ-D | UP, XLP & PH | UP & XLP | UP, XLP, PH, THZ-D |
| Energy measurement | QE, PE, also UP & XLP in SSE mode | UP & XLP in SSE mode | QE, PE, also UP & XLP in SSE mode | QE, PE, also UP & XLP in SSE mode |
| Output | USB, analog output & sync. out. RS-232 available on certain models | USB & analog output. RS-232 available on certain models | USB & Ethernet | USB & analog output |
| External trigger | Yes | N/A | Yes | Yes |
| Maximum repetition rate | 10 kHz/channel | N/A | 10 kHz/channel | 1 kHz |
| Number of channels | 1 | 1 or 4, depending on model | 1 or 2, depending on model | 1 |

## DEDICATED PC INTERFACES





| | T-RAD | T-RAD-ANALOG | QUAD-4TRACK | MACH 6 | APM (D) |
|---|---|---|---|---|---|
| Detector compatibility | | | | | |
| Power measurement | THZ-B series (-DZ models) | THZ-B series (-DA models) | QUAD-P series | N/A | UM-B series & THZ9D |
| Energy measurement | N/A | N/A | QUAD-E series | M6 series | M6 (with adaptor), QE-B & PE-B series |
| Output | USB & analog output | Analog output | USB & analog output | USB & analog output | Analog output |
| External trigger | Yes | Yes | Yes | Yes | N/A |
| Maximum repetition rate | N/A | N/A | 1 kHz | 200 kHz | Depends on the detector |
| Number of channels | 1 | 1 | 4 (1 detector) | 1 | 1 |

# ALL-IN-ONE DETECTORS

Overview of the different models

We also offer displays and PC interfaces which are integrated with the detector head. We offer four families of these all-in-one detectors. INTEGRA features either a USB or RS-232 output for a direct connection to your PC. BLU is available for all our thermal power detectors and allows you to view and log power measurements on your mobile device or PC. PRONTO includes a display, so you have everything you need in a single, portable device.


## INTEGRA

The INTEGRA version of our standard laser power or energy detectors allows you to read your measurements directly on your PC thanks to our free software.

Simply carry your all-in-one detector and plug it in your PC any time you need to measure your laser power or energy. No need to buy a separate meter!

- USB LASER POWER OR ENERGY METER
- **NEW:** VIEW AND LOG INTEGRA DATA ON ANDROID PHONES


## BLU

Our thermal power detectors (UP and XLP series) are available in their BLU version, which allows you to read your power measurement directly on your mobile phone or PC thanks to Bluetooth connectivity.

You get the same high accuracy measurements without the need to connect any wires or to carry a separate acquisition & readout device. This solution is not only more practical, but also more economical compared to our other laser power measurement systems.

- WIRELESS LASER POWER METER

## PRONTO

Our PRONTO series is of high interest for those who need a laser measurement system that is portable and compact. These products can be handheld (for low power only) or placed on a stand like our standard detectors.

These user-friendly products are so simple to use that anyone can start using them within seconds. They all offer data logging on their internal memory. Data can then be transferred to your PC via USB.

- PORTABLE, ALL-IN-ONE LASER POWER METERS

## HP

Our HP series of high power detectors include internal signal processing and two data output options: USB to read and log measurements with your computer, or DB15 to use a Gentec-EO display such as MAESTRO.

- ALL-IN-ONE SOLUTIONS FOR HIGH POWER MEASUREMENT

# CUSTOM DESIGN EXAMPLES

Overview of the different models

Gentec-EO offers OEM customers the highest flexibility so that you make no compromise. Whether you want a different housing, a specific sensitivity or another output connector, we have a solution for you. We will customize existing models or design a whole new detector to meet your needs.

## EXTREMELY HIGH POWER, LOW BACK-REFLECTIONS

When working at extremely high average power, even a low % of back-reflections can be dangerous. To manage the back-reflections and provide a safer working environment, we can equip your high-power detector with a water-cooled "TUBE".

This custom project example can measure up to 100 kW of average power continuously, and less than 4 % of the incident radiation is backscattered.

- CUSTOM-DESIGNED HIGH-POWER DETECTOR

## "10 PW PORTABLE BLACK HOLE"

Gentec-EO is the only supplier able to manufacture beam dumps able to withstand the tremendous peak power of a 10-petawatt laser, in a high vacuum environment.

By working closely with our client, we have designed the only existing beam dump that can capture and dissipate the energy contained in the single pulses of the ELI-NP end-of-line laser beams. Furthermore, this product was designed to be operated without external cooling, which simplifies its installation and use.

- UNRIVALED DAMAGE THRESHOLDS: UP TO 200 J/cm² FOR fs PULSES
- EXTREMELY LOW BACK-REFLECTIONS: < 0.02 %

## TEMPERATURE-CONTROLLED POWER METERS

Our temperature-controlled pyroelectric power detectors were designed for NIST. They are used as a spectral transfer standard, from 0.6 to 24 µm for their IR detector calibration systems.

The detector features BL black absorbing carbon coating for flat spectral response. The detector is mated to a thermoelectric cooler which maintains the probe's temperature at 25 °C ± 0.05 °C. This results in the ultimate measurement stability: the voltage responsivity (V/W) is stable to ±0.1%.

- THE ULTIMATE MEASUREMENT STABILITY


## IS50: ENERGY METER FOR HIGH AVERAGE POWER

Custom-built to your specifications, contact us with your laser measurement needs

- Designed for high energy measurements at high repetition rates
- Can handle up to 1000 W average power
- Our proprietary coating offers damage thresholds that are orders of magnitude higher than any other "white" coating on the market.

- PULSE-TO-PULSE ENERGY AT UP TO 1000 W AVERAGE POWER

PDF

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# LEADER IN LASER BEAM MEASUREMENT SINCE 1972


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