



# HP100A-4KW-HE-IMP-DO

High power detector for laser power measurement up to 4000 W.



## PRODUCT FAMILY KEY FEATURES

### HIGH POWER HANDLING

Handles up to 30 kW of continuous power with our standard models. Custom models are available for higher powers ([See SUPER HP](#)).

### STABLE READING

Less sensitive to variations in water cooling temperature than any other high-power water-cooled meter on the market

### LARGE APERTURE

Our standard HP models (4KW, 12KW, 15KW and 30KW) have a very large effective aperture of up to 280 mm to accommodate even the largest laser beams. Larger apertures with various shapes are available upon request ([See SUPER HP](#)).

### AVAILABLE WITH YAG AND CO<sub>2</sub> CALIBRATION

All HP Models can be calibrated at YAG and CO<sub>2</sub> wavelengths with a calibration uncertainty of +/- 5%

### DIRECT USB CONNECTION TO A PC

Each head comes with both a DB-15 connector (for use with a Gentec-EO monitor) and a USB2.0 output for direct connection to a PC.

### COMPATIBLE STAND

[STAND-S-443-C](#)

## SPECIFICATIONS

### MEASUREMENT CAPABILITIES

|                                         |               |
|-----------------------------------------|---------------|
| Maximum average power (continuous)      | 4000 W        |
| Minimum average power <sup>1</sup>      | 100 W         |
| Noise equivalent power <sup>2</sup>     | 3 W           |
| Spectral range                          | 0.193 - 20 μm |
| Typical rise time                       | 7 s           |
| Power calibration uncertainty           | ±5 %          |
| Repeatability                           | ±2 %          |
| Back reflections                        | ~ 15 %        |
| Linearity with power                    | ±1.5 %        |
| Linearity vs beam diameter              | ±1 %          |
| Linearity vs beam position <sup>3</sup> | ±1.7 %        |

1. For lower powers, call your Gentec-EO representative.

2. Nominal value. Actual value depends on electrical noise in the measurement system.

3. For a beam size of 20% of the aperture area, moved across 80% of the aperture area.

### WATER REQUIREMENTS

|                                    |                          |
|------------------------------------|--------------------------|
| Required cooling flow <sup>1</sup> | (4 - 6) LPM < ±1 LPM/min |
| Temperature range                  | 15 – 25 °C               |
| Rate of temperature change         | < ±3°C/min               |
| Maximum water pressure             | 413 kPa (60 psi)         |

1. Contact Gentec-EO for clean deionized water cooling module option.

### DAMAGE THRESHOLDS

|                                            |                       |
|--------------------------------------------|-----------------------|
| Maximum average power density <sup>1</sup> | 10 kW/cm <sup>2</sup> |
|--------------------------------------------|-----------------------|

1. At 1064 nm, 1.07-1.08 μm and 10.6 μm, 500 W CW. Refer to user manual for damage threshold at other powers. May vary with wavelength and average power.



CONTROLLER AND GUI SPECIFICATIONS

|                                    |                                                               |
|------------------------------------|---------------------------------------------------------------|
| Data display                       | Real time, scope, needle, averaging, histogram and statistics |
| Analog output <sup>1</sup>         | 0-2 Volts                                                     |
| Serial commands via                | USB                                                           |
| External power supply <sup>2</sup> | Through USB or Gentec-EO displays & PC interfaces             |
| Display type                       | None                                                          |

1. 12 V maximum output signal available upon request.  
2. A USB power adaptor will be necessary if the HP is used with a DB-15 extension cable.

PHYSICAL CHARACTERISTICS

|                   |                      |
|-------------------|----------------------|
| Cooling           | Water                |
| Aperture diameter | 100 mm               |
| Absorber          | HE                   |
| Dimensions        | 127H x 127W x 74D mm |
| Weight            | 1.8 kg               |

ORDERING INFORMATION

|                          |         |
|--------------------------|---------|
| HP100A-4KW-HE-IMP-D0     | 202207I |
| HP100A-4KW-HE-IMP-BLU-D0 | TBD     |

Specifications are subject to change without notice. Refer to the user manual for complete specifications.

INTERESTED IN THIS PRODUCT?

GET A QUOTE

Find your local sales representative at [gentec-eo.com/contact-us](http://gentec-eo.com/contact-us)