

HIGH-POWER PRONTO

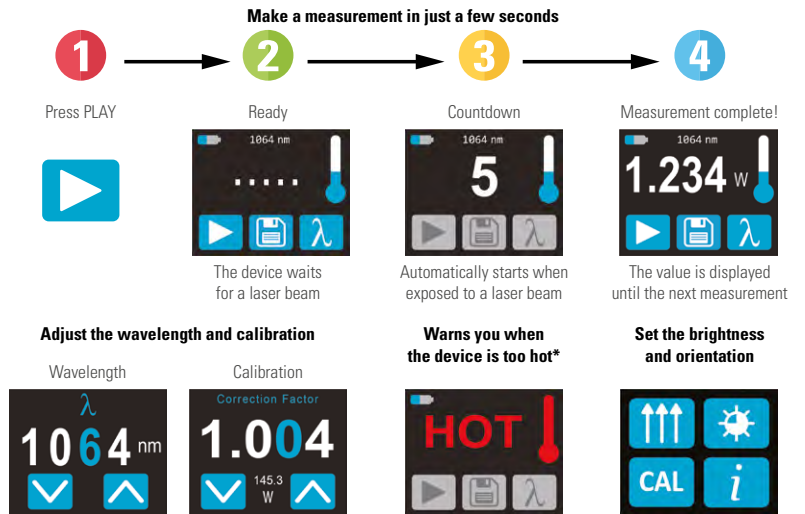
1 W - 10 kW high power probes with touchscreen controls



KEY FEATURES

- **WIDE POWER RANGE**
Very low noise level = wide power range with just one device
- **CONTINUOUS READINGS AT LOW POWERS**
The PRONTO-500 includes a continuous power mode (CWP) for measurements up to 40 W.
- **NO-WAIT MEASUREMENTS**
5 seconds measurements allow for very short cooling time (all models except PRONTO-3K)
- **EASY TO USE**
The color LCD touchscreen allows for a friendly user interface. You can make a measurement with just the touch of a button!
- **DATA LOGGING**
Save your data to the internal memory and then transfer them to your PC over the USB connection.
- **LARGE APERTURE**
55 mm Ø aperture to accommodate large beams
- **RUGGED**
 - All-metal body
 - High damage thresholds
- **SERIAL COMMANDS**
Serial commands are available to let you take full control of your PRONTO from your PC.

USER INTERFACES (SSP MODE)



ACCESSORIES



Stand with steel post



Pelican carrying case

HIGH-POWER PRONTO

Specifications



	PRONTO-500	PRONTO-3K	PRONTO-6K	PRONTO-10K
MAX AVERAGE POWER				
SSP Mode (Measures Power in 5 s)	500 W	3000 W	6000 W	10 000 W
CWP Mode (Measures Power continuously)	40 W	N/A	N/A	N/A
EFFECTIVE APERTURE				
	55 mm ϕ	55 mm ϕ	55 mm ϕ	55 mm ϕ
COOLING METHOD				
	Convection	Convection	Convection	Convection
MEASUREMENT CAPABILITY				
Spectral range	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm
Calibrated spectral range ^a	0.248 - 2.5 μm	0.248 - 2.5 μm	0.248 - 2.5 μm	0.248 - 2.5 μm
Noise equivalent power	0.1 W	5 W	20 W	30 W
Exposure time	5 s ^b	10 s	5 s	5 s
Calibration uncertainty	$\pm 3\%$ ($\pm 2.5\%$ in CWP mode)	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$
Number of readings before cooling ^c (Maximum exposure time before cooling)	100 W	25 (200 s)	0.5 kW	6 (72 s)
	200 W	12 (100 s)	1 kW	3 (36 s)
	300 W	8 (60 s)	1.5 kW	2 (24 s)
	500 W	5 (40 s)	3 kW	1 (12 s)
	6 kW	1 (6 s)	10 kW	1 (6 s)
DAMAGE THRESHOLDS				
Maximum average power density				
1064 nm, 100 W, CW	25 kW/cm ²	---	---	---
1064 nm, 500 W, CW	5 kW/cm ²	7 kW/cm ²	---	---
1064 nm, 3000 W, CW	---	5 kW/cm ²	8 kW/cm ²	---
1064 nm, 6000 W, CW	---	---	7 kW/cm ²	7 kW/cm ²
1064 nm, 10 000 W, CW	---	---	-	5.5 kW/cm ²
Maximum allowable casing temperature				
	65 °C	65 °C	75 °C	75 °C
GENERAL SPECIFICATIONS				
Display type	Touchscreen color LCD	Touchscreen color LCD	Touchscreen color LCD	Touchscreen color LCD
Display size	28.0 x 35.0 mm (128 x 160 pixels)	28.0 x 35.0 mm (128 x 160 pixels)	28.0 x 35.0 mm (128 x 160 pixels)	28.0 x 35.0 mm (128 x 160 pixels)
Data storage	50 000 pts	50 000 pts	50 000 pts	50 000 pts
Battery type	Rechargeable Li-ion	Rechargeable Li-ion	Rechargeable Li-ion	Rechargeable Li-ion
Battery life	17 hours or 4 200 measurements (with brightness set at 25%)	17 hours or 4 200 measurements (with brightness set at 25%)	17 hours or 4 200 measurements (with brightness set at 25%)	17 hours or 4 200 measurements (with brightness set at 25%)
Battery recharge via	USB port	USB port	USB port	USB port
PHYSICAL CHARACTERISTICS				
Effective aperture	55 mm ϕ	55 mm ϕ	55 mm ϕ	55 mm ϕ
Dimensions (sensor head)	88W x 88L x 32D mm	88W x 88L x 43D mm	88W x 88L x 36D mm	88W x 88L x 46D mm
Dimensions (monitor)	41W x 140L x 16D mm	41W x 140L x 16D mm	41W x 140L x 16D mm	41W x 140L x 16D mm
Weight	930 g	1240 g	1520 g	2150 g
ORDERING INFORMATION				
Compatible stand	STAND-S-443	STAND-S-443	STAND-S-443	STAND-S-443
Product page				

a. For calibration at 10.6 μm , add C02-CAL-UP-2 to the order
 b. Response time in CWP mode is 2 s.
 c. Assuming an exposure time of 8 seconds and for 25°C starting temperature.

HP60

60 mm Ø with cone reflector, 300 W - 15 000 W



KEY FEATURES

- > **HIGH POWER HANDLING**
Handles up to 15 kW of continuous power. Custom models available for higher powers. The new HP60A-15KW-GD-QBH is designed for use with QB/QBH high power fibers.
- > **LOW BACK REFLECTIONS**
The cone reflector traps most of the incident laser power inside the detector head. With its TUBE extension, the HP60A-15KW-GD-TUBE has the lowest back reflection rating: under 2%.
- > **AVAILABLE WITH YAG AND CO₂ CALIBRATIONS**
All HP models can be calibrated at YAG and CO₂ wavelengths with a calibration uncertainty of $\pm 5\%$
- > **DIRECT USB CONNECTION TO A PC**
Each head comes with both a DB15 connector (for use with a Gentec-EO display device) and a USB output for direct connection to a PC
- > **TRACK WATER PARAMETERS**
Water flow and temperature are monitored in real time and displayed continuously

OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**
Contains all the calibration data
- > **USB PORT**
 - Connects directly to a PC
 - Included in all HP models
- > **CUSTOM OPTION: RS-232**
Contact your Gentec-EO representative to configure your available connectors

COMPATIBLE DISPLAYS & PC INTERFACES



MAESTRO



TUNER



UNO

ACCESSORIES



Stand with steel post



Extension cables
(4, 15, 20 or 25 m)*



5 m USB cable
(Included)

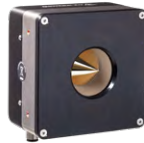


Water filter
(Metric: 202984, Imperial: 202990)



Pelican carrying case

*A USB power adaptor will be necessary if the HP is used with a DB15 extension cable.



	HP60A-10KW-GD	HP60A-15KW-GD	HP60A-15KW-GD-TUBE	HP60A-15KW-GD-QBH
MAX AVERAGE POWER	10 kW	15 kW	15 kW	15 kW
EFFECTIVE APERTURE	60 mm Ø	60 mm Ø	70 mm Ø	QB/QBH fiber adaptor
COOLING METHOD	Water-cooled	Water-cooled	Water-cooled	Water-cooled

MEASUREMENT CAPABILITY

Spectral range	0.8 - 12 µm	0.8 - 12 µm	0.8 - 12 µm	0.8 - 12 µm
Calibrated spectral range ^a	0.8 - 2.1 µm	0.8 - 2.1 µm	0.8 - 2.1 µm	0.8 - 2.1 µm
Noise equivalent power ^b	10 W	15 W	15 W	15 W
Minimum average power ^c	300 W	500 W	500 W	500 W
Rise time (nominal)	12 s	15 s	15 s	15 s
Back reflections	10%	5 - 10%	1 - 2%	1 - 2%
Calibration uncertainty	± 5% at 1064 nm & 1070 nm	± 5% at 1064 nm & 1070 nm	± 5% at 1064 nm & 1070 nm	± 5% at 1064 nm & 1070 nm
Repeatability	± 2%	± 2%	± 2%	± 2%
Linearity with power	± 2%	± 2%	± 2%	± 2%
Linearity with beam diameter	± 2.0%	± 2.5%	± 2.5%	± 2.5%
Linearity with beam position ^d	± 3.0%	± 4.0%	± 4.0%	± 4.0%

DAMAGE THRESHOLDS

Maximum average power density ^e				
1 kW	70 kW/cm ²	70 kW/cm ²	70 kW/cm ²	70 kW/cm ²
5 kW	35 kW/cm ²	35 kW/cm ²	35 kW/cm ²	35 kW/cm ²
10 kW	20 kW/cm ²	20 kW/cm ²	20 kW/cm ²	20 kW/cm ²
15 kW		10 kW/cm ²	10 kW/cm ²	10 kW/cm ²

PHYSICAL CHARACTERISTICS

Effective aperture	60 mm Ø	60 mm Ø	70 mm Ø tube aperture	QB/QBH fiber adaptor
Absorber	GD (cone reflector)	GD (cone reflector)	GD (cone reflector)	GD (cone reflector)
Cooling water				
Required cooling flow ^f	(6 - 8) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min
Temperature range	15 - 25 °C	15 - 25 °C	15 - 25 °C	15 - 25 °C
Rate of temperature change	< ± 3°C/min	< ± 3°C/min	< ± 3°C/min	< ± 3°C/min
Maximum water pressure (input)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)
Dimensions	127H x 127W x 95D mm	153H x 153W x 97D mm	153H x 153W x 302D mm	153H x 153W x 302D mm
Weight	6 kg	10 kg	15 kg	15 kg

ORDERING INFORMATION

Available output options	DB15 & USB	DB15 & USB	DB15 & USB	DB15 & USB
Compatible stand	STAND-S-443-C	2x STAND-S-443-C	3x STAND-S-443-C	3x STAND-S-443-C
Product page				

- a. Calibrations at 2.1 to 2.5 µm and 10.6 µm are available on special request.
 b. Nominal value, actual value depends on electrical noise in the measurement system.
 c. For lower powers, call your Gentec-EO representative.
 d. For a beam size of 20 % of the aperture area, moved across 80 % of the aperture area.
 e. At 1064 nm, 1.07-1.08 µm and 10.6 µm, for beams < 50 mm Ø.
 f. > 1 min. contact Gentec-EO for deionized water cooling module option.

HP100

Up to 125 x 125 mm, 100 W - 15 kW



KEY FEATURES

- > **HIGH POWER HANDLING**
Handles up to 15 kW of continuous power with our standard models. Custom models available for higher powers (See SUPER HP)
- > **LARGE APERTURE**
Our standard HP models have very large effective apertures to accommodate large laser beams. Larger apertures with various shapes are available upon request (See SUPER HP)
- > **AVAILABLE WITH YAG AND CO₂ CALIBRATIONS**
All HP Models can be calibrated at YAG and CO₂ wavelengths with a calibration uncertainty of $\pm 5\%$
- > **DIRECT USB CONNECTION TO A PC**
Each head comes with both a DB15 connector (for use with a Gentec-EO display device) and a USB output for direct connection to a PC
- > **TRACK WATER PARAMETERS**
Water flow and temperature are monitored in real time and displayed continuously

OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**
Contains all the calibration data
- > **USB PORT**
 - Connects directly to a PC
 - Included in all HP models
- > **CUSTOM OPTION: RS-232**
Contact your Gentec-EO representative to configure your available connectors

COMPATIBLE DISPLAYS & PC INTERFACES



MAESTRO



TUNER



UNO

ACCESSORIES



Stand with steel post



Extension cables
(4, 15, 20 or 25 m)*



5 m USB cable
(Included)



Water filter
(Metric: 202984, Imperial: 202990)



Pelican carrying case

*A USB power adaptor will be necessary if the HP is used with a DB15 extension cable.



	HP100A-4KW-HE	HP100A-4KW-HE-TUBE	HP100A-12KW-HD	HP100A-12KW-HD-TUBE	HP125A-15KW-HD	HP125A-15KW-HD-TUBE
MAX AVERAGE POWER	4000 W	4000 W	12 000 W	12 000 W	15 000 W	15 000 W
EFFECTIVE APERTURE	100 mm ϕ	70 mm ϕ	100 mm ϕ	70 mm ϕ	125 x 125 mm	70 mm ϕ
COOLING METHOD	Water-cooled	Water-cooled	Water-cooled	Water-cooled	Water-cooled	Water-cooled

MEASUREMENT CAPABILITY

Spectral range	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm
Calibrated spectral range ^a	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm
Noise equivalent power ^b	± 3 W	± 3 W	± 10 W	± 10 W	± 15 W	± 15 W
Minimum average power ^c	100 W	100 W	300 W	300 W	500 W	500 W
Rise time (nominal)	7 s	7 s	9 s	9 s	15 s	15 s
Back reflections	10-15%	< 4%	10 - 15%	< 4%	10 - 15%	2 - 4%
Calibration uncertainty ^d	± 5	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$
Repeatability	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$
Linearity with power	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 2\%$	$\pm 2\%$
Linearity vs beam diameter	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
Linearity vs beam position ^e	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.0\%$	$\pm 1.0\%$

DAMAGE THRESHOLDS







Maximum average power density ^f

500 W	10 kW/cm ²	10 kW/cm ²	16 kW/cm ²	16 kW/cm ²	16 kW/cm ²	16 kW/cm ²
4 kW	4 kW/cm ²	4 kW/cm ²	---	---	---	---
5 kW	---	---	6.5 kW/cm ²	6.5 kW/cm ²	6.5 kW/cm ²	6.5 kW/cm ²
10 kW	---	---	3.5 kW/cm ²	3.5 kW/cm ²	3.5 kW/cm ²	3.5 kW/cm ²
15 kW	---	---	---	---	1.5 kW/cm ²	1.5 kW/cm ²

PHYSICAL CHARACTERISTICS

Effective aperture	100 mm ϕ	70 mm ϕ	100 mm ϕ	70 mm ϕ	125 x 125 mm	70 mm
Absorber (high damage threshold)	HE	HE	HD	HD	HD	HD
Cooling water						
Required cooling flow ^g	(4 - 6) LPM < ± 1 LPM/min	(4 - 6) LPM < ± 1 LPM/min	(6 - 10) LPM < ± 1 LPM/min	(6 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min
Temperature range	15 - 25 °C	15 - 25 °C	15 - 25 °C	15 - 25 °C	15 - 25 °C	15 - 25 °C
Rate of temperature change	< $\pm 3^\circ\text{C}/\text{min}$	< $\pm 3^\circ\text{C}/\text{min}$	< $\pm 3^\circ\text{C}/\text{min}$	< $\pm 3^\circ\text{C}/\text{min}$	< $\pm 3^\circ\text{C}/\text{min}$	< $\pm 3^\circ\text{C}/\text{min}$
Maximum water pressure (input)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)
Dimensions	127H x 127W x 74D mm	127H x 127W x 234D mm	127H x 127W x 70D mm	127H x 127W x 230D mm	153H x 153W x 70D mm	153H x 153W x 272D mm
Weight (head only)	1.8 kg	6.0 kg	3.3 kg	7.5 kg	5 kg	10 kg

ORDERING INFORMATION

Available output options	DB15 & USB	DB15 & USB	DB15 & USB	DB15 & USB	DB15 & USB	DB15 & USB
Compatible stand	STAND-S-443-C	2x STAND-S-443-C	STAND-S-443-C	2x STAND-S-443-C	2x STAND-S-443-C	3x STAND-S-443-C
Product page						

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- d. At 1064 nm and 1070 nm
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- g. > 1 min. Contact Gentec-EO for deionized water cooling module option.