PRESENTATION

OVERVIEW OF THE DIFFERENT MODELS

Get accurate measurements with fast response times with our thermopile or pyroelectric power meters. Available with various absorbers, with the highest damage thresholds you can find in their category, our power meters cover a wide range going from the nanowatts to multi-kilowatts.



See page 58

XLP12

- Low Power Thermopile
  - Sensitivity of 200 mV/W
  - Noise Level of ±0.5 µW
- Minimal Thermal Drift of 6 µW/°C
- IR Filter Available

LOW POWER THERMOPILE
1 µW NOISE LEVEL



See pages 60 to 68

UP-H

- Standard (Broadband) Coating
- Available in 4 sizes:
  - 12 mm Ø
  - 19 mm Ø
  - 25 mm Ø
  - 55 mm Ø
- Available with 5 Cooling Modules:
  - Convection (S, H or L)
  - Fan (F)
  - Water (W)

STANDARD COATING
4 SIZES
5 COOLING MODULES
UP TO 500 W



See pages 72 and 74

UP-W

- High Damage Threshold Coating (100 kW/cm²)
- 17 or 50 mm Ø Aperture

PERFECT FOR:
UV LASERS, VERY FAST LASERS
AND SMALL BEAMS

HIGH AVG OR PEAK POWER DENSITIES



See pages 76 and 78

UP-VR

- High Peak Power Volume Absorbers
- 18 or 55 mm Ø Aperture

SPECIFICALLY DESIGNED FOR
HIGH ENERGY SOLID STATE LASERS

HIGH AVG OR PEAK POWER DENSITIES

PRESENTATION

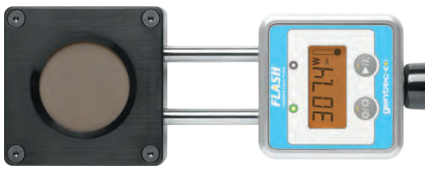


See page 80

HP

- High Average Powers:
  - HP100A-3KW-HE 3 kW, 100 mm Ø Aperture
  - HP100A-12KW-HD 12 kW, 100 mm Ø Aperture
  - HP60A-10KW-GD 10 kW, 35 mm Ø reflective cone for high power densities
- Thermally Stable
- 2 Outputs per head: USB and DB-15

HIGH POWERS UP TO 12 KW

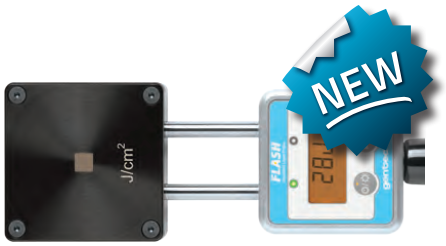


See page 82

FLASH

- Handheld Laser Probes: 500 W, 3 kW, 6 kW and 10 kW
- Fast Responses: 5 sec measurement times with most of the models
- Optional Window: For measurements with gel-coupled IPL heads

HANDHELD LASER PROBES
MODELS FROM 500 W TO 10 KW
FIXED HANDLE OR SOFT CABLE



See page 84

FLASH-IPL

- For sources up to 350 J
- Fast Responses: 5 sec measurement times with most of the models
- Rugged Devices: All-metal body, High Damage Thresholds

HANDHELD LASER PROBES
IPL: FOR SOURCES UP TO 350 J
FIXED HANDLE OR SOFT CABLE



See page 86

UM-B

- Small Compact Detector
- 9 mm Ø Aperture
- Very Low Noise Level, down to 5 nW using a pyroelectric sensor *

ULTRA-LOW POWER PYROELECTRIC
5 nW NOISE LEVEL

* Chopper needed for CW lasers.

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COMPARISON TABLE

MODEL	Pmax ^	Pmax (1 min)	Noise Level	Emax	λmin	λmax	ABSORBER TYPE	APERTURE	SEE PAGE
UM9B-BL	20 mW	20 mW	5 nW	N/A	100 nm	20 µm	Radiometer	9 mm Ø	86
XLP12-3S-H2	3 W	3 W	1 µW	5 J	190 nm	20 µm	Broadband	12 mm Ø	58
XLPF12-3S-H2	3 W	3 W	1 µW	5 J	280 nm	2.1 µm	Broadband	12 mm Ø	58
UP17P-6S-H5	6 W	7 W	1 mW	15 J	190 nm	20 µm	Broadband	17 mm Ø	70
UP17P-6S-W5	6 W	7 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	70
UP12E-10S-H5	10 W	20 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	60
UP19K-15S-H5	15 W	30 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP25T-15S-H12	15 W	15 W	10 Mw	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP19K-15S-W5	15 W	30 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	72
UP19K-15S-VR	15 W	20 W	2 mW	40 J	190 nm	2.5 µm	Volume Abs.	18 mm Ø	76
UP12E-20H-H5	20 W	40 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	60
UP19K-30H-H5	30 W	60 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP19K-30H-W5	30 W	60 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	72
UP19K-30H-VR	30 W	35 W	2 mW	40 J	190 nm	2.5 µm	Volume Abs.	18 mm Ø	76
UP25N-40S-H9	40 W	80 W	3 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP55N-40S-H9	40 W	80 W	5 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	66
UP50N-40S-W9	40 W	80 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	74
UP19K-50L-H5	50 W	90 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP19K-50L-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	72
UP19K-50F-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	72
UP19K-50W-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	72
UP50N-50H-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	74
UP50N-50F-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	74
UP50M-50W-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	74
UP55N-50S-VR	50 W	50 W	15 mW	500 J	190 nm	2.5 µm	Volume Abs.	55 mm Ø	78
UP12E-70W-H5	70 W	110 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	60
UP25N-100H-H9	100 W	200 W	3 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP55N-100H-H9	100 W	200 W	5 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	66
UP55N-100H-VR	100 W	100 W	15 mW	500 J	190 nm	2.5 µm	Volume Abs.	55 mm Ø	78
UP19K-110F-H9	110 W	150 W	3 mW	25 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP19K-150W-H5	150 W	190 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP55N-150F-VR	150 W	150 W	15 mW	500 J	190 nm	2.5 µm	Volume Abs.	55 mm Ø	66
UP19K-200W-H9	200 W	200 W	3 mW	25 J	190 nm	20 µm	Broadband	19 mm Ø	62
UP55M-200W-VR	200 W	200 W	15 mW	500 J	190 nm	2.5 µm	Volume Abs.	55 mm Ø	78
UP25T-250W-H12	250 W	250 W	10 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP25N-250F-H12	250 W	300 W	10 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP55N-300F-H12	300 W	300 W	15 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	66
UP25M-350W-H12	350 W	350 W	3 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	64
UP55M-500W-H12	500 W	500 W	5 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	66
UP55G-500F-H12	500 W	500 W	15 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	68

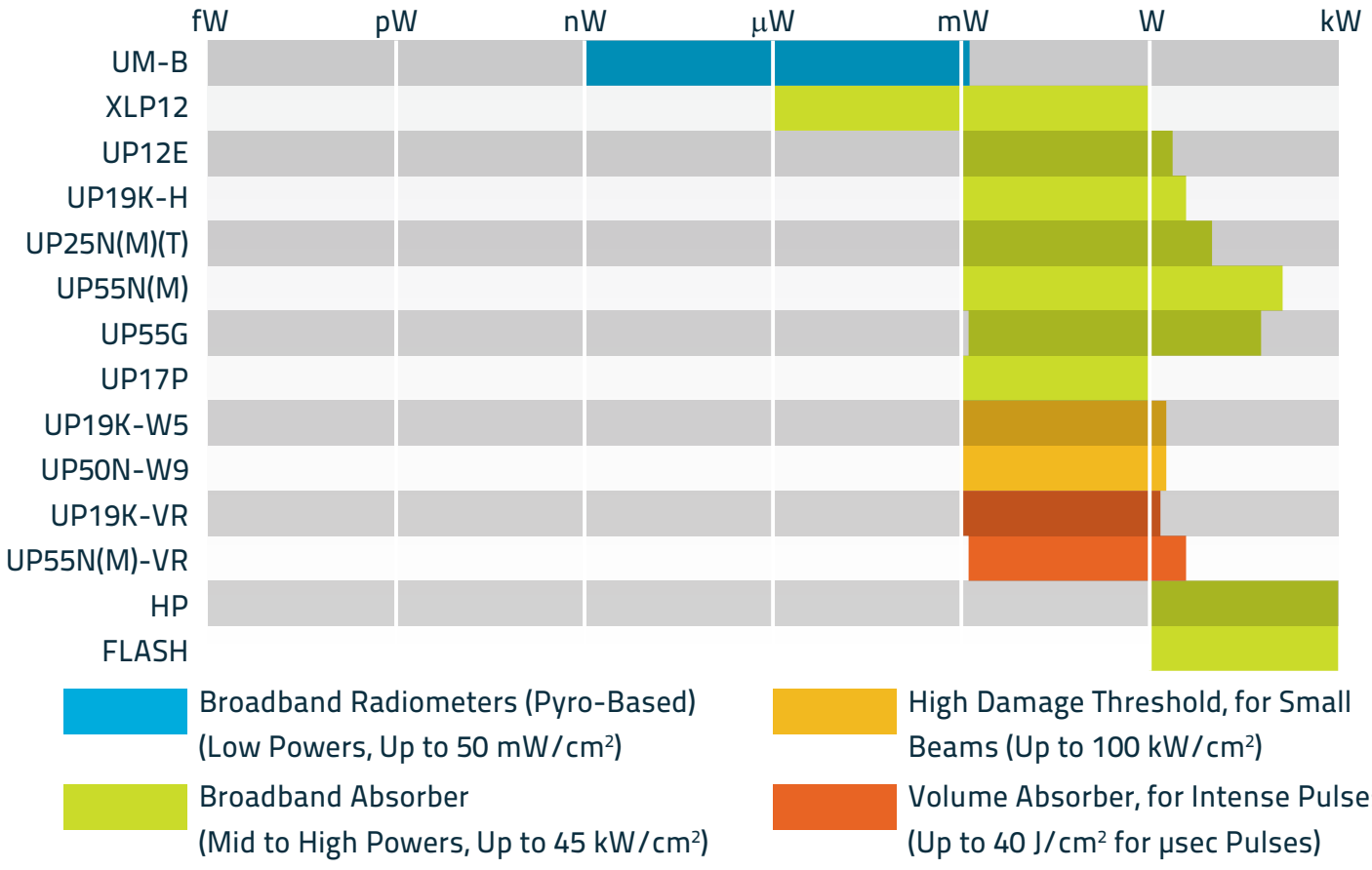
COMPARISON TABLE

MODEL	Pmax ^	Pmax (1 min)	Noise Level	Emax	λmin	λmax	ABSORBER TYPE	APERTURE	SEE PAGE
FLASH-500-55	500 W	N/A	100 mW	N/A	190 nm	20 µm	Broadband	55 mm Ø	82
FLASH-500-10S-IPL	500 W	N/A	100 mW	350 J	190 nm	20 µm	Broadband	10 x 10 mm	84
FLASH-500-20R5-IPL	500 W	N/A	100 mW	350 J	190 nm	20 µm	Broadband	20 x 5 mm	84
FLASH-500-55-W-IPL	500 W	N/A	100 mW	350 J	200 nm	2 µm	Broadband	55 mm Ø	84
UP55G-600F-HD	600 W	600 W	45 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	68
UP55M-700W-HD	700 W	700 W	45 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	66
FLASH-3K-55	3000 W	N/A	5 W	N/A	190 nm	20 µm	Broadband	55 mm Ø	82
HP100A-3KW-HE	3000 W	4000 W	3 W	N/A	190 nm	20 µm	Broadband	100 mm Ø	80
FLASH-6K-55	6000 W	N/A	20 W	N/A	190 nm	20 µm	Broadband	55 mm Ø	82
FLASH-10K-55	10000 W	N/A	30 W	N/A	190 nm	20 µm	Broadband	55 mm Ø	82
HP60A-10KW-GD	10000 W	10000 W	10 W	N/A	800 nm	12 µm	Broadband	60 mm Ø	80
HP100A-12KW-HD	12000 W	12000 W	10 W	N/A	190 nm	20 µm	Broadband	100 mm Ø	80

POWER RANGES

You can use the graph below to compare the power ranges of our pyroelectric and thermopile power detectors. Ranges go from the noise level to the maximum power reading.

Table 1. Comparison of the power ranges of the pyroelectric and thermopile power detectors



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XLP12

12 mm Ø, 1 µW - 3 W – Low Power Thermopile



KEY FEATURES

1 **Low Power Thermopile**
Noise level of a photo detector with the large bandwidth and high power capacity of a thermal device

2 **Minimal Thermal Drift**
Only 6 µW/°C (with the IR filter)

3 **High Sensitivity**
200 mV/W (without the IR filter)

4 **IR Filter (XLP12F Model)**
Removes unwanted IR interference

5 **Isolation Tube**
Eliminates power fluctuations created by air turbulence

5 **Smart Interface**
Containing all the calibration data

AVAILABLE MODELS



XLP12-3S-H2
(3W-Standalone)



XLPF12-3S-H2
(3W-Standalone-IR Filter)

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



Extension Cables
(4, 15, 20 or 25 m)



IR Filter (Mounted)
(Model Number: 201076)



Fiber Adaptors & Connectors
(FC, SC, ST and SMA)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
COMPATIBLE MONITORS
MAESTRO 18
TUNER 22
UNO 24
S-LINK-2 26
P-LINK 28
M-LINK 30
LIST OF ALL ACCESSORIES 174

XLP12
SPECIFICATIONS

*Also traceable to NRC-CNRC

MODELS	XLP12-3S-H2	XLPF12-3S-H2
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	3 W / 3 W	3 W / 3 W
EFFECTIVE APERTURE	12 mm Ø	12 mm Ø
COOLING METHOD	Convection	Convection

MEASUREMENT CAPABILITY		
Spectral Range	0.19 – 20 µm	0.28 – 2.1 µm [a]
Noise Equivalent Power [b]	±0.5 µW	±0.5 µW
Thermal Drift [c]	12 µW/°C	6 µW/°C
Rise Time (nominal) [d]	2.5 sec	2.5 sec
Sensitivity (typ into 100 kΩ load) [e]	200 mV/W	180 mV/W
Calibration Uncertainty [f]	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %
Energy Mode		
Sensitivity	25 mV/J	22.5 mV/J
Maximum Measurable Energy [g]	5 J	5 J
Noise Equivalent Energy [b]	12 µJ	12 µJ
Minimum Repetition Period	16 sec	16 sec
Maximum Pulse Width	300 ms	300 ms
Accuracy with energy calibration option	±5 %	±5 %

DAMAGE THRESHOLDS		
Maximum Average Power Density [h]	1 kW/cm²	1 kW/cm²
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density
1064 nm, 360 µs, 5 Hz	5 J/cm²	14 kW/cm²
1064 nm, 7 ns, 10 Hz	1 J/cm²	143 MW/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²	86 MW/cm²
266 nm, 7 ns, 10 Hz	0.3 J/cm²	43 MW/cm²

PHYSICAL CHARACTERISTICS		
Effective Aperture	12 mm Ø	12 mm Ø
Absorber (High Damage Threshold)	H2	H2
Dimensions	73H x 73W x 20D mm (72D mm with tube)	73H x 73W x 28D mm (80D mm with tube)
Weight (head only)	0.31 kg	0.32 kg

ORDERING INFORMATION		
Full Product Name	XLP12-3S-H2	XLPF12-3S-H2
Product Number (Including stand)	201035	201078

a. This spectral range refers to the calibration traceability. For details, please contact us at: info@gentec-eo.com.
b. Nominal value, actual value depends on electrical noise in the measurement system.
c. With Gentec-EO MAESTRO.
d. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
e. Maximum output voltage = sensitivity x maximum power.
f. Including linearity with power.
g. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
h. At 1064 nm, 1 W CW.

Specifications are subject to change without notice

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UP12E

12 mm Ø, 1 mW - 110 W



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector:
3 different cooling modules

2 High Performance
Fast Rise Time (0.3 sec)
High Damage Threshold (36 kW/cm²)

3 Compact Design
Only 14 mm thick (10S model)

4 Energy Mode
Measure single shot energy up to 5 J

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS



UP12E-10S-H5
(10W-Standalone)



UP12E-20H-H5
(20W-Heatsink)



UP12E-70W-H5
(70W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



Extension Cables
(4, 15, 20 or 25 m)



Fiber Adaptors and Connectors
(FC, SC or SMA)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP12E
SPECIFICATIONS

*Also traceable to NRC-CNRC

MODELS	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	10 W / 20 W	20 W / 40 W	70 W [f] / 110 W [f]
EFFECTIVE APERTURE	12 mm Ø	12 mm Ø	12 mm Ø
COOLING METHOD	Convection	Heatsink	Water-Cooled
MEASUREMENT CAPABILITY			
Spectral Range	0.19 – 20 µm	0.19 – 20 µm	0.19 – 20 µm
Noise Equivalent Power [a]	1 mW	1 mW	1 mW
Rise Time (nominal) [b]	0.3 sec	0.3 sec	0.3 sec
Sensitivity (typ into 100 kΩ load) [c]	0.53 mV/W	0.53 mV/W	0.53 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %
Energy Mode			
Sensitivity	0.84 mV/J	0.84 mV/J	0.84 mV/J
Maximum Measurable Energy [e]	5 J	5 J	5 J
Noise Equivalent Energy [a]	0.02 J	0.02 J	0.02 J
Minimum Repetition Period	1.5 sec	1.5 sec	1.5 sec
Maximum Pulse Width	50 ms	50 ms	50 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS			
Maximum Average Power Density [g]	36 kW/cm²	36 kW/cm²	36 kW/cm²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density
1064 nm, 360 µs, 5 Hz	5 J/cm²		14 kW/cm²
1064 nm, 7 ns, 10 Hz	1 J/cm²		143 MW/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²		86 MW/cm²
266 nm, 7 ns, 10 Hz	0.3 J/cm²		43 MW/cm²
PHYSICAL CHARACTERISTICS			
Effective Aperture	12 mm Ø	12 mm Ø	12 mm Ø
Absorber (High Damage Threshold)	H5	H5	H5
Dimensions	38H x 38W x 14D mm	38H x 38W x 45D mm	38H x 38W x 32D mm
Weight (head only)	0.13 kg	0.15 kg	0.19 kg
ORDERING INFORMATION			
Full Product Name	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
Product Number (Including stand)	200384	200386	200390

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 0.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.
g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP19K-H

19 mm Ø, 1 mW - 200 W



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector:
5 different cooling modules

2 High Performance
Fast Rise Time (0.6 sec)
High Damage Threshold (45 kW/cm²)

3 Compact Design
Only 20.6 mm thick (15S model)

4 Energy Mode
Measure single shot energy up to 15 J

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS


UP19K-15S-H5
(15W-Standalone)


UP19K-30H-H5
(30W-Heatsink)


UP19K-50L-H5
(50W-Large Heatsink)


UP19K-110F-H9
(110W-Fan-Cooled)

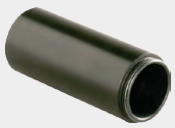

UP19K-150W-H5
(150W-Water-Cooled)


UP19K-200W-H9
(200W-Water-Cooled)

ACCESSORIES


Stand with Steel Post
(Model Number: 200160)


Extension Cables
(4, 15, 20 or 25 m)


Isolation Tube
(Model Number: 100966)


Fiber Adaptors and Connectors
(FC, SC or SMA)


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP19K-H

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5	UP19K-200W-H9
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	15 W / 30 W	30 W/ 60 W	50 W / 90 W	110 W / 150 W	150 W [f] / 190 W [f]	200 W [f] / 200 W [f]
EFFECTIVE APERTURE	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
COOLING METHOD	Convection	Heatsink	Large Heatsink	Fan-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
Noise Equivalent Power [a]	1 mW	1 mW	1 mW	3 mW	1 mW	3 mW
Rise Time (nominal) [b]	0.6 sec	0.6 sec	0.6 sec	1.5 sec	0.6 sec	1.5 sec
Sensitivity (typ into 100 kΩ load) [c]	0.65 mV/W	0.65 mV/W	0.65 mV/W	0.23 mV/W	0.65 mV/W	0.23 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode						
Sensitivity	0.65 mV/J	0.65 mV/J	0.65 mV/J	0.23 mV/J	0.65 mV/J	0.23 mV/J
Maximum Measurable Energy [e]	15 J	15 J	15 J	25 J	15 J	25 J
Noise Equivalent Energy [a]	0.02 J	0.02 J	0.02 J	0.06 J	0.02 J	0.06 J
Minimum Repetition Period	4 sec	4 sec	4 sec	4 sec	4 sec	4 sec
Maximum Pulse Width	88 ms	88 ms	88 ms	88 ms	88 ms	88 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS						
Maximum Average Power Density [g]	36 kW/cm²	36 kW/cm²	36 kW/cm²	45 kW/cm²	36 kW/cm²	45 kW/cm²
Pulsed Laser Damage Thresholds		Max Energy Density			Peak Power Density	
1064 nm, 360 µs, 5 Hz		5 J/cm² (H5), 9 J/cm² (H9)			14 kW/cm² (H5), 25 kW/cm² (H9)	
1064 nm, 7 ns, 10 Hz		1 J/cm²			143 MW/cm²	
532 nm, 7 ns, 10 Hz		0.6 J/cm²			86 MW/cm²	
266 nm, 7 ns, 10 Hz		0.3 J/cm²			43 MW/cm²	
PHYSICAL CHARACTERISTICS						
Effective Aperture	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
Absorber (High Damage Threshold)	H5	H5	H5	H9	H5	H9
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm	76.2H x 76.2W x 74.7D mm	54.2H x 54.2W x 55.6D mm	50H x 50W x 33D mm	50H x 50W x 33D mm
Weight (head only)	0.16 kg	0.21 kg	0.48 kg	0.25 kg	0.24 kg	0.28 kg
ORDERING INFORMATION						
Full Product Name	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5	UP19K-200W-H9
Product Number (Including stand)	200173	200174	200175	200996	200177	200583

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 0.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.
g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP25N-H

25 mm Ø, 3 mW - 350 W



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector: 4 different cooling modules

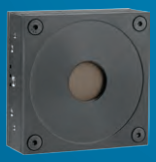
2 High Performance
- Fast Rise Time (1.3 sec)
- High Damage Threshold (45 kW/cm²)

3 Compact Design (T Version)
Only 62.4 x 62.4 mm front and 38.1 mm thick for up to 250 W continuous power

4 Energy Mode
Measure single shot energy up to 40 J

5 Smart Interface
Containing all the calibration data

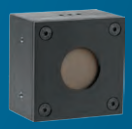
AVAILABLE MODELS


UP25N-40S-H9
(40W-Standalone)


UP25N-100H-H9
(100W-Heatsink)


UP25N-250F-H12
(250W-Fan-Cooled)


UP25M-350W-H12
(350W-Water-Cooled)


UP25T-15S-H12
(15W-Standalone)


UP25T-250W-H12
(250W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200234)


Extension Cables
(4, 15, 20 or 25 m)


Fiber Adaptors and Connectors
(FC, SC or SMA)


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP25N-H

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	UP25N-40S-H9	UP25N-100H-H9	UP25N-250F-H12	UP25M-350W-H12	UP25T-15S-H12	UP25T-250W-H12
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	100 W / 200 W	250 W / 300 W	350 W [f] / 350 W [f]	15 W / 15 W	250 W [f] / 250 W [f]
EFFECTIVE APERTURE	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled	Convection	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
Noise Equivalent Power [a]	3 mW	3 mW	10 mW	10 mW	10 mW	10 mW
Rise Time (nominal) [b]	1.3 sec	1.3 sec	1.3 sec	1.3 sec	1.3 sec	1.3 sec
Sensitivity (typ into 100 kΩ load) [c]	0.23 mV/W	0.23 mV/W	0.1 mV/W	0.1 mV/W	0.1 mV/W	0.1 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode						
Sensitivity	0.14 mV/J	0.14 mV/J	0.05 mV/J	0.05 mV/J	0.05 mV/J	0.05 mV/J
Maximum Measurable Energy [e]	40 J	40 J	40 J	40 J	40 J	40 J
Noise Equivalent Energy [a]	0.2 J	0.2 J	0.2 J	0.2 J	0.2 J	0.2 J
Minimum Repetition Period	4.6 sec	4.6 sec	11.5 sec	11.5 sec	11.5 sec	11.5 sec
Maximum Pulse Width	123 ms	123 ms	1300 ms	1300 ms	1300 ms	1300 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS						
Maximum Average Power Density						
1064 nm, 10 W, CW	45 kW/cm²	45 kW/cm²	45 kW/cm²	45 kW/cm²	45 kW/cm²	45 kW/cm²
10.6 µm, 10 W, CW	14 kW/cm²	14 kW/cm²	14 kW/cm²	14 kW/cm²	14 kW/cm²	14 kW/cm²
Pulsed Laser Damage Thresholds		Max Energy Density			Peak Power Density	
1064 nm, 360 µs, 5 Hz		9 J/cm²			25 kW/cm²	
1064 nm, 7 ns, 10 Hz		1 J/cm²			143 MW/cm²	
532 nm, 7 ns, 10 Hz		0.6 J/cm²			86 MW/cm²	
266 nm, 7 ns, 10 Hz		0.3 J/cm²			43 MW/cm²	
PHYSICAL CHARACTERISTICS						
Effective Aperture	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø
Absorber (High Damage Threshold)	H9	H9	H12	H12	H12	H12
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 40D mm	62.4H x 62.4W x 38.1D mm	62.4H x 62.4W x 38.1D mm
Weight (head only)	0.68 kg	0.99 kg	1.44 kg	0.87 kg	0.31 kg	0.33 kg
ORDERING INFORMATION						
Full Product Name	UP25N-40S-H9	UP25N-100H-H9	UP25N-250F-H12	UP25M-350W-H12	UP25T-15S-H12	UP25T-250W-H12
Product Number (Including stand)	200198	200202	201154	201894	201961	201875

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 1.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.

Specifications are subject to change without notice

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UP55N-H

55 mm Ø, 5 mW - 700 W



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector:
5 different cooling modules

2 High Performance
Fast Rise Time (2 sec)
High Damage Threshold (45 kW/cm²)

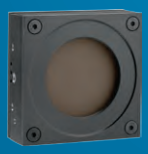
3 Compact Design
Only 32 mm thick (40S model)

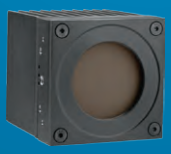
4 Special High Power Absorber
HD absorber available for continuous readings up to 700 W

5 Energy Mode
Measure single shot energy up to 200 J

6 Smart Interface
Containing all the calibration data

AVAILABLE MODELS


UP55N-40S-H9
(40W-Standalone)


UP55N-100H-H9
(100W-Heatsink)


UP55N-300F-H12
(300W-Fan-Cooled)



UP55M-500W-H12
(500W-Water-Cooled)



UP55M-700W-HD
(700W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200234)


Extension Cables
(4, 15, 20 or 25 m)


Fiber Adaptors and Connectors
(FC, SC or SMA)


3-Port Fiber Cylinder with
Adaptors and Plug


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP55N-H

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

NEW NEW

MODELS	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12	UP55M-700W-HD
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	100 W / 200 W	300 W / 300 W	500 W [f] / 500 W [f]	700 W [f] / 700 W [f]
EFFECTIVE APERTURE	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-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
Noise Equivalent Power [a]	5 mW	5 mW	15 mW	15 mW	45 mW
Rise Time (nominal) [b]	2 sec	2 sec	2 sec	2 sec	2 sec
Sensitivity (typ into 100 kΩ load) [c]	0.12 mV/W	0.12 mV/W	0.06 mV/W	0.06 mV/W	0.03 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode					
Sensitivity	0.028 mV/J	0.028 mV/J	0.015 mV/J	0.015 mV/J	0.008 mV/J
Maximum Measurable Energy [e]	200 J	200 J	200 J	200 J	200 J
Noise Equivalent Energy [a]	0.25 J	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	12 sec	12 sec	12 sec
Maximum Pulse Width	433 ms	433 ms	430 ms	430 ms	430 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS					
Maximum Average Power Density					
1064 nm, 10 W, CW	45 kW/cm²	45 kW/cm²	45 kW/cm²	45 kW/cm²	45 kW/cm²
10.6 µm, 10 W, CW	14 kW/cm²	14 kW/cm²	14 kW/cm²	14 kW/cm²	14 kW/cm²
Pulsed Laser Damage Thresholds	Max Energy Density			Peak Power Density	
1064 nm, 360 µs, 5 Hz	9 J/cm²			25 kW/cm²	
1064 nm, 7 ns, 10 Hz	1 J/cm²			143 MW/cm²	
532 nm, 7 ns, 10 Hz	0.6 J/cm²			86 MW/cm²	
266 nm, 7 ns, 10 Hz	0.3 J/cm²			43 MW/cm²	
PHYSICAL CHARACTERISTICS					
Effective Aperture	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
Absorber (High Damage Threshold)	H9	H9	H12	H12	HD
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 40D mm	89H x 89W x 40D mm
Weight (head only)	0.62 kg	0.93 kg	1.41 kg	0.81 kg	0.90 kg
ORDERING INFORMATION					
Full Product Name	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12	UP55M-700W-HD
Product Number (Including stand)	200218	200222	201160	201883	201916

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 1.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.

Specifications are subject to change without notice

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UP55G

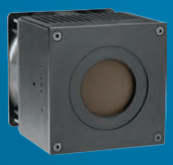
55 mm Ø, 15 mW - 600 W, Fan-Cooled



KEY FEATURES

1. **Fan-Cooled**
   High Power without the need for water cooling
2. **Portable**
   Perfect for production environments and service technicians
3. **Special High Power Absorber**
   HD absorber available for continuous readings up to 600 W
4. **Energy Mode**
   Measure single shot energy up to 200 J
5. **Smart Interface**
   Containing all the calibration data

AVAILABLE MODELS



UP55G-500F-H12
(500W-Fan-Cooled)



UP55G-600F-HD
(600W-Fan-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 201102)



Extension Cables
(4, 15, 20 or 25 m)



Fiber Adaptors and Connectors
(FC, SC or SMA)



3-Port Fiber Cylinder with
Adaptors and Plug



12V Power Supply
(Model Number: 200130)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	12
CALIBRATION	6
TECHNICAL DRAWINGS	88
ABSORPTION CURVES	93
COMPATIBLE MONITORS	
MAESTRO	18
TUNER	22
UNO	24
S-LINK-2	26
P-LINK	28
M-LINK	30
LIST OF ALL ACCESSORIES	174

UP55G
SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

NEW

MODELS	UP55G-500F-H12	UP55G-600F-HD
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	500 W / 500 W	600 W / 600 W
EFFECTIVE APERTURE	55 mm Ø	55 mm Ø
COOLING METHOD	Fan-Cooled	Fan-Cooled

MEASUREMENT CAPABILITY		
Spectral Range	0.19 – 20 µm	0.19 – 20 µm
Noise Equivalent Power [a]	15 mW	45 mW
Rise Time (nominal) [b]	2.8 sec	2.8 sec
Sensitivity (typ into 100 kΩ load) [c]	0.06 mV/W	0.03 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %
Energy Mode		
Sensitivity	0.013 mV/J	0.008 mV/J
Maximum Measurable Energy [e]	200 J	200 J
Noise Equivalent Energy [a]	0.25 J	0.25 J
Minimum Repetition Period	14.3 sec	12 sec
Maximum Pulse Width	433 ms	430 ms
Accuracy with energy calibration option	±5 %	±5 %

DAMAGE THRESHOLDS		
Maximum Average Power Density		
1064 nm, 10 W, CW	45 kW/cm²	
1064 nm, 500 W, CW	8 kW/cm²	
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density
1064 nm, 360 µs, 5 Hz	9 J/cm²	25 kW/cm²
1064 nm, 7 ns, 10 Hz	1 J/cm²	143 MW/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²	86 MW/cm²
266 nm, 7 ns, 10 Hz	0.3 J/cm²	43 MW/cm²

PHYSICAL CHARACTERISTICS		
Effective Aperture	55 mm Ø	55 mm Ø
Absorber (High Damage Threshold)	H12	HD
Dimensions	120H x 120W x 135D mm	120H x 120W x 135D mm
Weight (head only)	2.75 kg	2.75 kg

ORDERING INFORMATION		
Full Product Name	UP55G-500F-H12	UP55G-600F-HD
Product Number (Including stand)	201100	201879

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

Specifications are subject to change without notice

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UP17P

17 mm Ø, 1 mW - 7 W, Ultra Thin Casing



KEY FEATURES

1 Ultra Thin Casing
Only 10.7 mm thick!

2 Choice Between 2 Absorbers
- H5: 36 kW/cm²
- W5: Unequalled 100 kW/cm²

3 High "Power to Size" Ratio
6 W continuous reading

4 Energy Mode
Measure single shot energy up to 200 J (with the W5 version)

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS



UP17P-6S-H5
(6W-36 kW/cm²)



UP17P-6S-W5
(6W-100 kW/cm²)

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



Extension Cables
(4, 15, 20 or 25 m)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP17P
SPECIFICATIONS

CE NIST* Traceable WEEE RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	UP17P-6S-H5	UP17P-6S-W5
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	6 W / 7 W	6 W / 7 W
EFFECTIVE APERTURE	17 mm Ø	17 mm Ø
COOLING METHOD	Convection	Convection

MEASUREMENT CAPABILITY		
Spectral Range	0.19 – 20 µm	0.19 – 10 µm
Noise Equivalent Power [a]	1 mW	1 mW
Rise Time (nominal) [b]	0.8 sec	1.4 sec
Sensitivity (typ into 100 kΩ load) [c]	0.6 mV/W	0.6 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %
Energy Mode		
Sensitivity	0.7 mV/J	0.2 mV/J
Maximum Measurable Energy [e]	15 J	200 J
Noise Equivalent Energy [a]	0.02 J	0.02 J
Minimum Repetition Period	4 sec	5 sec
Maximum Pulse Width	88 ms	133 ms
Accuracy with energy calibration option	±5 %	±5 %

DAMAGE THRESHOLDS				
Maximum Average Power Density [f]	36 kW/cm²		100 kW/cm²	
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density	Max Energy Density	Peak Power Density
1064 nm, 360 µs, 5 Hz	5 J/cm²	14 kW/cm²	100 J/cm²	667 kW/cm²
1064 nm, 7 ns, 10 Hz	1 J/cm²	143 MW/cm²	1.1 J/cm²	157 MW/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²	86 MW/cm²	1.1 J/cm²	157 MW/cm²
266 nm, 7 ns, 10 Hz	0.3 J/cm²	43 MW/cm²	0.7 J/cm²	27 MW/cm²

PHYSICAL CHARACTERISTICS		
Effective Aperture	17 mm Ø	17 mm Ø
Absorber (High Damage Threshold)	H5	W5
Dimensions	46H x 46W x 10.7D mm	46H x 46W x 10.7D mm
Weight (head only)	0.1 kg	0.1 kg

ORDERING INFORMATION		
Full Product Name	UP17P-6S-H5	UP17P-6S-W5
Product Number (Including stand)	201036	201037

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP19K-W5

17 mm Ø, 1 mW - 85 W, 100 kW/cm²



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector: 5 different cooling modules

2 Very High Damage Threshold
100 kW/cm² in average power density

3 Compact Design
Only 21 mm thick (15S model)

4 Energy Mode
Measure single shot energy up to 200 J

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS


UP19K-15S-W5
(15W-Standalone)


UP19K-30H-W5
(30W-Heatsink)


UP19K-50L-W5
(50W-Large Heatsink)


UP19K-50F-W5
(50W-Fan-Cooled)


UP19K-50W-W5
(50W-Water-Cooled)

ACCESSORIES


Stand with Steel Post
(Model Number: 200160)


Extension Cables
(4, 15, 20 or 25 m)


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP19K-W5

SPECIFICATIONS

NIST* Traceable

*Also traceable to NRC-CNRC

MODELS	UP19K-15S-W5	UP19K-30H-W5	UP19K-50L-W5	UP19K-50F-W5	UP19K-50W-W5
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	15 W / 30 W	30 W / 60 W	50 W / 85 W	50 W / 85 W	50 W [f] / 85 W [f]
EFFECTIVE APERTURE	17 mm Ø	17 mm Ø	17 mm Ø	17 mm Ø	17 mm Ø
COOLING METHOD	Convection	Heatsink	Large Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY					
Spectral Range	0.19 – 10 µm	0.19 – 10 µm	0.19 – 10 µm	0.19 – 10 µm	0.19 – 10 µm
Noise Equivalent Power [a]	1 mW	1 mW	1 mW	1 mW	1 mW
Rise Time (nominal) [b]	1.4 sec	1.4 sec	1.4 sec	1.4 sec	1.4 sec
Sensitivity (typ into 100 kΩ load) [c]	0.65 mV/W	0.65 mV/W	0.65 mV/W	0.65 mV/W	0.65 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode					
Sensitivity	0.33 mV/J	0.33 mV/J	0.33 mV/J	0.33 mV/J	0.33 mV/J
Maximum Measurable Energy [e]	200 J	200 J	200 J	200 J	200 J
Noise Equivalent Energy [a]	0.02 J	0.02 J	0.02 J	0.02 J	0.02 J
Minimum Repetition Period	5 sec	5 sec	5 sec	5 sec	5 sec
Maximum Pulse Width	133 ms	133 ms	133 ms	133 ms	133 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS					
Maximum Average Power Density [g]	100 kW/cm²	100 kW/cm²	100 kW/cm²	100 kW/cm²	100 kW/cm²
Pulsed Laser Damage Thresholds	Max Energy Density			Peak Power Density	
1064 nm, 150 µs, 10 Hz	100 J/cm²			667 kW/cm²	
1064 nm, 7 ns, 10 Hz	1.1 J/cm²			157 MW/cm²	
532 nm, 7 ns, 10 Hz	1.1 J/cm²			157 MW/cm²	
248 nm, 26 ns, 10 Hz	0.7 J/cm²			27 MW/cm²	
PHYSICAL CHARACTERISTICS					
Effective Aperture	17 mm Ø	17 mm Ø	17 mm Ø	17 mm Ø	17 mm Ø
Absorber (High Damage Threshold)	W5	W5	W5	W5	W5
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm	76.2H x 76.2W x 74.7D mm	54.2H x 54.2W x 55.6D mm	50H x 50W x 33D mm
Weight (head only)	0.16 kg	0.21 kg	0.48 kg	0.25 kg	0.24 kg
ORDERING INFORMATION					
Full Product Name	UP19K-15S-W5	UP19K-30H-W5	UP19K-50L-W5	UP19K-50F-W5	UP19K-50W-W5
Product Number (Including stand)	200295	200296	200297	200299	200300

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 150 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 1 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.
g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP50N-W9

50 mm Ø, 5 mW – 85 W, 100 kW/cm²



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector: 4 different cooling modules

2 Very High Damage Threshold
100 kW/cm² in average power density

3 Very Large Aperture
50 mm Ø effective aperture, perfect for the largest beams

4 Highest Energy Readings in the Series
Measure single shot energy up to 500 J

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS


UP50N-40S-W9
(40W-Standalone)


UP50N-50H-W9
(50W-Heatsink)


UP50N-50F-W9
(50W-Fan-Cooled)


UP50M-50W-W9
(50W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200234)


Extension Cables
(4, 15, 20 or 25 m)


Fiber Adaptors and Connectors
(FC, SC or SMA)


3-Port Fiber Cylinder with
Adaptors and Plug


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
ABSORPTION CURVES 93
OEM DETECTORS 116
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP50N-W9

SPECIFICATIONS

CE NIST* Traceable WEEE RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	UP50N-40S-W9	UP50N-50H-W9	UP50N-50F-W9	UP50M-50W-W9
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	50 W / 85 W	50 W / 85 W	50 W [f] / 85 W [f]
EFFECTIVE APERTURE	50 mm Ø	50 mm Ø	50 mm Ø	50 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY				
Spectral Range	0.19 – 10 µm	0.19 – 10 µm	0.19 – 10 µm	0.19 – 10 µm
Noise Equivalent Power [a]	5 mW	5 mW	5 mW	5 mW
Rise Time (nominal) [b]	3.5 sec	3.5 sec	3.5 sec	3.5 sec
Sensitivity (typ into 100 kΩ load) [c]	0.12 mV/W	0.12 mV/W	0.12 mV/W	0.12 mV/W
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode				
Sensitivity	0.02 mV/J	0.02 mV/J	0.02 mV/J	0.02 mV/J
Maximum Measurable Energy [e]	500 J	500 J	500 J	500 J
Noise Equivalent Energy [a]	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	11.1 sec	11.1 sec
Maximum Pulse Width	467 ms	467 ms	467 ms	467 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS				
Maximum Average Power Density [g]	100 kW/cm²	100 kW/cm²	100 kW/cm²	100 kW/cm²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 150 µs, 5 Hz	100 J/cm²		667 kW/cm²	
1064 nm, 7 ns, 10 Hz	1.1 J/cm²		157 MW/cm²	
532 nm, 7 ns, 10 Hz	1.1 J/cm²		157 MW/cm²	
248 nm, 26 ns, 10 Hz	0.7 J/cm²		27 MW/cm²	
PHYSICAL CHARACTERISTICS				
Effective Aperture	50 mm Ø	50 mm Ø	50 mm Ø	50 mm Ø
Absorber (High Damage Threshold)	W9	W9	W9	W9
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 40D mm
Weight (head only)	0.62 g	0.93 g	1.38 g	0.81 g
ORDERING INFORMATION				
Full Product Name	UP50N-40S-w9	UP50N-50H-W9	UP50N-50F-W9	UP50M-50W-W9
Product Number (Including stand)	200896	200897	200898	201887

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
c. Maximum output voltage = sensitivity x maximum power.
d. Including linearity with power.
e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
f. Minimum cooling flow 0.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.
g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP19K-VR

18 mm Ø, 2 mW - 35 W, Volume Absorber



KEY FEATURES

1 Modular Concept
Increase the power capability of your detector: 2 different cooling modules

2 High Peak Power Volume Absorber
- Perfect for high density beams
- Average power density of 700 W/cm² prevents degradation caused by repetitive pulses

3 Compact Design
Only 21 mm thick (15S model)

4 Energy Mode
Measure single shot energy up to 40 J

5 Smart Interface
Containing all the calibration data

AVAILABLE MODELS



UP19K-15S-VR
(15W-Standalone)



UP19K-30H-VR
(30W-Heatsink)

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



Extension Cables
(4, 15, 20 or 25 m)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
COMPATIBLE MONITORS
- MAESTRO 18
- TUNER 22
- UNO 24
- S-LINK-2 26
- P-LINK 28
- M-LINK 30

LIST OF ALL ACCESSORIES 174

UP19K-VR

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	UP19K-15S-VR	UP19K-30H-VR
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	15 W / 20 W	30 W / 35 W
EFFECTIVE APERTURE	18 mm Ø	18 mm Ø
COOLING METHOD	Convection	Heatsink

MEASUREMENT CAPABILITY		
Spectral Range [a]	0.3 – 2.5 µm	0.3 – 2.5 µm
Noise Equivalent Power [b]	2 mW	2 mW
Rise Time (nominal) [c]	2.5 sec	2.5 sec
Sensitivity (typ into 100 kΩ load) [d]	0.34 mV/W	0.34 mV/W
Calibration Uncertainty [e]	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %
Energy Mode		
Sensitivity	0.1 mV/J	0.1 mV/J
Maximum Measurable Energy [f]	40 J	40 J
Noise Equivalent Energy [b]	0.02 J	0.02 J
Minimum Repetition Period	4.5 sec	4.5 sec
Maximum Pulse Width	90 ms	90 ms
Accuracy with energy calibration option	±5 %	±5 %

DAMAGE THRESHOLDS		
Maximum Average Power Density [g]	700 W/cm²	700 W/cm²
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density
1064 nm, 360 µs, 10 Hz	40 J/cm²	111 kW/cm²
1064 nm, 7 ns, 10 Hz	6 J/cm²	860 MW/cm²
532 nm, 7 ns, 10 Hz	4 J/cm²	570 MW/cm²
266 nm, 7 ns, 10 Hz	1 J/cm²	143 MW/cm²

PHYSICAL CHARACTERISTICS		
Effective Aperture	18 mm Ø	18 mm Ø
Absorber (Volume Absorber)	VR	VR
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm
Weight (head only)	0.16 kg	0.21 kg

ORDERING INFORMATION		
Full Product Name	UP19K-15S-VR	UP19K-30H-VR
Product Number (Including stand)	201149	201150

a. Adjustment multipliers for wavelengths under 300 nm are not traceable.
b. Nominal value, actual value depends on electrical noise in the measurement system.
c. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
d. Maximum output voltage = sensitivity x maximum power.
e. Including linearity with power.
f. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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UP55N-VR

55 mm Ø, 15 mW - 200 W, Volume Absorber



NEW

KEY FEATURES

1 Modular Concept
Increase the power capability of your detector: 4 different cooling modules

2 High Peak Power Volume Absorber
- Perfect for high density beams
- Average power density of 700 W/cm² prevents degradation caused by repetitive pulses

3 Large Aperture
55 mm Ø aperture accomodates the largest beams

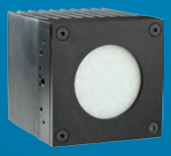
4 High Average Power
Up to 200 W of continuous power with the water-cooled unit

5 Energy Mode
Measure single shot energy up to 200 J

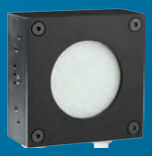
6 Smart Interface
Containing all the calibration data

AVAILABLE MODELS


UP55N-50S-VR
(50W-Standalone)


UP55N-100H-VR
(100W-Heatsink)


UP55N-150F-VR
(150W-Fan-Cooled)


UP55M-200W-VR
(200W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200234)


Extension Cables
(4, 15, 20 or 25 m)


Fiber Adaptors and Connectors
(FC, SC or SMA)


3-Port Fiber Cylinder with
Adaptors and Plug


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
COMPATIBLE MONITORS
MAESTRO 18
TUNER 22
UNO 24
S-LINK-2 26
P-LINK 28
M-LINK 30
LIST OF ALL ACCESSORIES 174

UP55N-VR

SPECIFICATIONS

*Also traceable to NRC-CNRC

MODELS	UP55N-50S-VR	UP55N-100H-VR	UP55N-150F-VR	UP55M-200W-VR
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	50 W / 50 W	100 W / 100 W	150 W / 150 W	200 W [g] / 200 W [g]
EFFECTIVE APERTURE	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY				
Spectral Range [a]	0.3 – 2.5 µm	0.3 – 2.5 µm	0.3 – 2.5 µm	0.3 – 2.5 µm
Noise Equivalent Power [b]	15 mW	15 mW	15 mW	15 mW
Rise Time (nominal) [c]	4 sec	4 sec	4 sec	4 sec
Sensitivity (typ into 100 kΩ load) [d]	0.04 mV/W	0.04 mV/W	0.04 mV/W	0.04 mV/W
Calibration Uncertainty [e]	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode				
Sensitivity	0.028 mV/J	0.028 mV/J	0.015 mV/J	0.015 mV/J
Maximum Measurable Energy [f]	200 J	200 J	200 J	200 J
Noise Equivalent Energy [b]	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	12 sec	12 sec
Maximum Pulse Width	433 ms	433 ms	430 ms	430 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS				
Maximum Average Power Density [h]	700 W/cm²	700 W/cm²	700 W/cm²	700 W/cm²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 360 µs, 5 Hz	40 J/cm²		111 kW/cm²	
1064 nm, 7 ns, 10 Hz	6 J/cm²		860 MW/cm²	
532 nm, 7 ns, 10 Hz	4 J/cm²		570 MW/cm²	
266 nm, 7 ns, 10 Hz	1 J/cm²		143 MW/cm²	
PHYSICAL CHARACTERISTICS				
Effective Aperture	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
Absorber (Volume Absorber)	VR	VR	VR	VR
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 44D mm
Weight (head only)	0.62 kg	0.93 kg	1.41 kg	0.84 kg
ORDERING INFORMATION				
Full Product Name	UP55N-50S-VR	UP55N-100H-VR	UP55N-150F-VR	UP55M-200W-VR
Product Number (Including stand)	201296	201934	201856	201292

a. Adjustment multipliers for wavelengths under 300 nm are not traceable.
b. Nominal value, actual value depends on electrical noise in the measurement system.
c. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK-2 monitors.
d. Maximum output voltage = sensitivity x maximum power.
e. Including linearity with power.
f. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
g. Minimum cooling flow 1 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.
h. At 1064 nm, 10 W CW.

Specifications are subject to change without notice

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HP

100 mm Ø, 3 W – 12 000 W



KEY FEATURES

1 High Power Handling
Handles up to 12 kW of continuous power with our standard models. Custom models available for higher powers

2 Thermally Stable
Less sensitive to variations in water cooling temperature

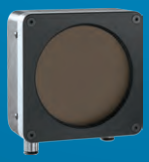
3 Large Aperture
Our standard HP models (3KW and 12KW) have a very large effective aperture of 100 mm Ø to accomodate even the largest laser beams. Larger apertures with various shapes are available upon request.

4 Special Model for Small Beams
10 kW model with reflective cone available. Perfect for small beams (with Avg Power Densities up to 10 kW/cm² @ 10 kW)

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

AVAILABLE MODELS (STANDARD)


HP100A-3KW-HE
(3000W-Water-Cooled)


HP100A-12KW-HD
(12000W-Water-Cooled)



HP60A-10KW-GD
(10000W-High Avg Power)

LARGE APERTURES / HIGH POWERS



- Very High Average Powers (Up to 30 kW, more on request)
- NO Limitations on Aperture Size and Shape
- High Damage Thresholds
- Direct USB Output to PC
- CO2, YAG, Fiber Laser, Diode Arrays...

ACCESSORIES


Stand with Steel Post
(Model Number: 201102)


Extension Cables
(4, 15, 20 or 25 m)


5 m USB Cable
(Included)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS 12
CALIBRATION 6
TECHNICAL DRAWINGS 88
COMPATIBLE MONITORS
MAESTRO 18
TUNER 22
UNO 24
S-LINK-2 26
P-LINK 28
M-LINK 30
CUSTOM PRODUCTS 156
LIST OF ALL ACCESSORIES 174

HP

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

NEW

MODELS	HP100A-3KW-HE	HP100A-12KW-HD	HP60A-10KW-GD
MAX AVERAGE POWER (CONTINUOUS / 5 MINUTE)	3 000 W / 4 000 W	12 000 W / 12 000 W	10 000 W / 10 000 W High Average Power up to 10 kW/cm²
EFFECTIVE APERTURE	100 mm Ø	100 mm Ø	60 mm Ø with cone reflector
COOLING METHOD	Water-Cooled	Water-Cooled	Water-Cooled
MEASUREMENT CAPABILITY			
Spectral Range	0.19 – 20 µm	0.19 – 20 µm	0.8 – 12 µm
Noise Equivalent Power [a]	±3 W	±10 W	±10 W
Minimum Average Power [b]	100 W	300 W	300 W
Rise Time (nominal)	7 sec	9 sec	11 sec
Sensitivity (typ into 100 kΩ load)	0.5 mV/W	0.15 mV/W	0.2 mV/W
Calibration Uncertainty	±5 % @ 1064 nm	±5 % @ 1064 nm	±5 % @ 1064 nm
Repeatability	±2 %	±2 %	±2 %
Linearity with Power	±2 %	±2 %	±2 %
Linearity vs Beam Diameter	±1 %	±1 %	< 35 mm Ø: ±0.5 % > 35 mm Ø: ±1.5 %
Linearity vs Beam Position	±1.5 %	±1.5 % [c] / ±3 % [d]	±3 %
DAMAGE THRESHOLDS			
Maximum Average Power Density [e]			
500 W	10 kW/cm²	16 kW/cm²	
3 kW	3 kW/cm²		
5 kW		6.5 kW/cm²	
10 kW		3.5 kW/cm²	< 35 mm Ø: 10 kW/cm² > 35 mm Ø: 3.5 kW/cm²
PHYSICAL CHARACTERISTICS			
Effective Aperture	100 mm Ø	100 mm Ø	60 mm Ø (Optimized for 35 mm Ø)
Absorber (High Damage Threshold)	HE	HD	GD (cone reflector)
Required Cooling Flow	(4 - 6) LPM < ±1 LPM/min [f]	(6 - 10) LPM < ±1 LPM/min [f]	(6 - 10) LPM < ±1 LPM/min [f]
Temperature of Cooling Water	(15 - 25) °C < ±3°C/min [f]	(15 - 25) °C < ±3°C/min [f]	(15 - 25) °C < ±3°C/min [f]
Output Connectors	DB-15 cable & USB port	DB-15 cable & USB port	DB-15 cable & USB port
PCB Electrical Supply	Through USB or Gentec-EO monitors	Through USB or Gentec-EO monitors	Through USB or Gentec-EO monitors
Maximum Output Signal	2 V	2 V	2 V
Dimensions	127H x 127W x 74D mm	127H x 127W x 70D mm	127H x 127W x 90D mm
Weight (head only)	1.8 kg	3.3 kg	5 kg
ORDERING INFORMATION			
Full Product Name	HP100A-3KW-HE	HP100A-12KW-HD	HP60A-10KW-GD
Product Number (Including stand)	201963	201329	201306

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. For lower powers, call your Gentec-EO representative.
c. For a beam size of 10% of the aperture area, moved across 40% of the aperture area.
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.
f. > 1 min.

Specifications are subject to change without notice

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FLASH

Handheld Laser Probe, 500 W, 3 kW, 6 kW and 10 kW



KEY FEATURES

1 Wide Power Range
Very low noise level = wide power range with just one device

2 No-Wait Measurements
5 seconds measurements allow for very short cooling time (all models except FLASH-3K-55)

3 Easy Operation
- Backlight with ON/OFF controls
- Thermometer for head temperature
- Red and Green LEDs for device status
- Functions separated on 2 buttons

4 Available with Handle or Cable
- Standard Model: Fixed Handle
- In Option: -C Model with 5 feet soft cable and removable handle

5 Large Aperture
55 mm aperture to accommodate large beams

6 Rugged
- All-metal body
- High Damage Thresholds

AVAILABLE MODELS



FLASH-500-55 (500 W-Handheld)	FLASH-3K-55 (3 kW-Handheld)	FLASH-(6K/10K)-55 (6 & 10 kW-Handheld)	FLASH-500-55-C (500 W-With Cable)	FLASH-3K-55-C (3 kW-With Cable)	FLASH-(6K/10K)-55-C (6 & 10 kW-With Cable)

ACCESSORIES



Stand with Steel Post
(Model Number: 201102)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	12
CALIBRATION	6
TECHNICAL DRAWINGS	88
LIST OF ALL ACCESSORIES	174

FLASH

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	FLASH-500-55	FLASH-3K-55	FLASH-6K-55	FLASH-10K-55
MAX AVERAGE POWER (CONTINUOUS)	500 W	3 000 W	6 000 W	10 000 W
EFFECTIVE APERTURE	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
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	
Maximum Measurable Power	500 W		3000 W		6000 W		10000 W	
Available Wavelengths	CO_2, YAG, Custom (250 - 2500 nm) - Up to 3 Calibrations/Unit							
Noise Equivalent Power	0.1 W		5 W		20 W		30 W	
Response Time	5 sec		10 sec		5 sec		5 sec	
Calibration Uncertainty	±3 %		±5 %		±5 %		±5 %	
Number of Readings Before Cooling (Maximum Exposure Time Before Cooling)	100 W	25 (200 sec)	0.5 kW	6 (72 sec)	1 kW	6 (36 sec)	1 kW	10 (60 sec)
	200 W	12 (100 sec)	1 kW	3 (36 sec)	2 kW	3 (18 sec)	2 kW	5 (30 sec)
	300 W	8 (60 sec)	1.5 kW	2 (24 sec)	3 kW	2 (12 sec)	5 kW	2 (12 sec)
	500 W	5 (40 sec)	3 kW	1 (12 sec)	6 kW	1 (6 sec)	10 kW	1 (6 sec)

DAMAGE THRESHOLDS

Maximum Average Power Density				
1064 nm, 100 W, CW	25 kW/cm²	–	–	–
1064 nm, 500 W, CW	5 kW/cm²	7 kW/cm²	–	–
1064 nm, 3000 W, CW	–	5 kW/cm²	8 kW/cm²	–
1064 nm, 6000 W, CW	–	–	7 kW/cm²	7 kW/cm²
1064 nm, 10000 W, CW	–	–	–	5.5 kW/cm²
Maximum Allowable Absorber Temperature	65 °C	65 °C	75 °C	75 °C

GENERAL SPECIFICATIONS

Digital Display	40 x 20 mm
Battery Type	2 x AA batteries, 3.0 V
Battery Life	>5000 measurements
Operating Temperature Range	10 to 40 °C
Storage Temperature Range	10 to 60 °C

PHYSICAL CHARACTERISTICS

Effective Aperture	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
Dimensions (Sensor Head, Monitor and Handle)	335H x 88W x 35D mm	335H x 88W x 45D mm	335H x 88W x 36D mm	335H x 88W x 46D mm
Weight	930 g	1240 g	1520 g	2150 g

ORDERING INFORMATION

	Standard	Cable	Standard	Cable	Standard	Cable	Standard	Cable
Common Product Name	FLASH-500-55		FLASH-3K-55		FLASH-6K-55		FLASH-10K-55	
Add Extension for Cable		-C		-C		-C		-C
Product Number	201244	201959	201245	201973	201851	201975	201868	201977

Specifications are subject to change without notice

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FLASH-IPL

Handheld Laser Probe for IPL Sources, 2 - 350 J per pulse



KEY FEATURES

1 Direct Measurement of the FLUENCE
Measurement in J/cm² with our calibrated 1 cm² apertures

2 Choice Between 3 Apertures Formats
- FLASH-IPL-S: Square Aperture of 10 x 10 mm
- FLASH-IPL-R: Rectangular Aperture of 5 x 20 mm
- FLASH-IPL-55: Round Aperture of 55 mm Ø

3 High Energy Per Pulse
Accurate readings up to 350 J/pulse!

4 Easy Operation
- Backlight with ON/OFF controls
- Thermometer for head temperature
- Red and Green LEDs for device status
- Functions separated on 2 buttons

5 Available with Handle or Cable
- Standard Model: Fixed Handle
- In Option: -C Model with 5 feet soft cable and removable handle

6 Optional Window
For measurements with gel-coupled IPL heads. Protects the absorber, easy to clean

AVAILABLE MODELS

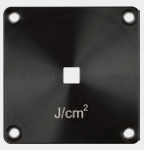


FLASH-500-10S-IPL (10 x 10 mm Aperture)	FLASH-500-20R5-IPL (5 x 20 mm Aperture)	FLASH-500-55-W-IPL (55 mm Ø with Window)	FLASH-500-10S-IPL-C (10 x 10 mm - With Cable)	FLASH-500-20R5-IPL-C (5 x 20 mm - With Cable)	FLASH-500-55-IPL-W-C (55 mm Ø Win. & Cable)

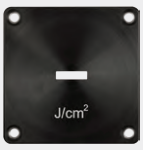
ACCESSORIES



Stand with Steel Post
(Model Number: 201102)



IPL-S Cover
(10 x 10 mm Aperture)



IPL-R Cover
(5 x 20 mm Aperture)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	12
CALIBRATION	6
TECHNICAL DRAWINGS	88
LIST OF ALL ACCESSORIES	174

FLASH-IPL

SPECIFICATIONS

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

MODELS	FLASH-IPL		
MAX PULSE ENERGY (SINGLE SHOT)	350 J		
EFFECTIVE APERTURE	Square: 10 x 10 mm	Rectangular: 5 x 20 mm	Round: 55 mm Ø
APERTURE TYPE	Calibrated (1 cm^2)	Calibrated (1 cm^2)	Full Aperture with Quartz Window

MEASUREMENT CAPABILITY	FLASH-500-10S-IPL	FLASH-500-20R5-IPL	FLASH-500-55-W-IPL
Spectral Range	0.19 - 20 µm	0.19 - 20 µm	0.2 - 2 µm
Available Wavelengths	CO_2, YAG, Custom (250 - 2500 nm)		YAG, Custom (250 - 2000 nm)
Wavelengths per unit	Up to 3 Calibrations/Unit		
IPL Mode (Energy Mode)			
Energy Range	2 - 350 J		
Noise Equivalent Energy	500 mJ		
Sensitivity	0.013 mV/J		
Response Time	2 sec		
Minimum Repetition Period	15 sec (= time between measurements)		
Maximum Pulse Width	433 ms		
Accuracy in IPL Mode	±5 %		
Power Mode			
Maximum Measurable Power	500 W		
Noise Equivalent Power	0.1 W		
Response Time	5 sec		
Calibration Uncertainty	Typical Value (±3 % uncertainty available with optional power mode calibration)		

DAMAGE THRESHOLDS	
Maximum Average Power Density	45 kW/cm^2 (1064 nm, 10 W, CW)
Pulsed Laser Damage Threshold	175 J/cm^2 (10 ms pulses)
Maximum Allowable Absorber Temperature	65 °C

GENERAL SPECIFICATIONS	
Digital Display	40 x 20 mm
Battery Type	2 x AA batteries, 3.0 V
Battery Life	>5000 measurements
Operating/Storage Temperature Range	10 to 40 °C / 10 to 60 °C

PHYSICAL CHARACTERISTICS			
Effective Aperture	Square: 10 x 10 mm	Rectangular: 5 x 20 mm	Round: 55 mm Ø
Dimensions (Sensor Head, Monitor and Handle)		335H x 88W x 35D mm	
Weight		930 g	

ORDERING INFORMATION	**Standard**	**Cable**	**Standard**	**Cable**	**Standard**	**Cable**
Common Product Name	FLASH-500-10S-IPL		FLASH-500-20R5-IPL		FLASH-500-55-W-IPL	
Add Extension for Cable		-C		-C		-C
Product Number	201998	202002	201999	202003	202064	202065

Specifications are subject to change without notice

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UM-B

5 nW - 20 mW, Radiometer for Ultra-Low Power Measurements



KEY FEATURES

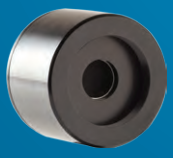
1 Very Low Noise Level
Noise levels of a photo detector, but with the large bandwidth of a pyroelectric:
- Down to 5 nW when using the Analog Power Module (APM)

2 Very High Responsivity
Up to 20 000 V/W when using the Analog Power Module (APM)

3 Very Large Bandwidth
From DUV to FIR thanks to pyroelectric technology

4 Smart Interface
Containing all the calibration data

AVAILABLE MODELS

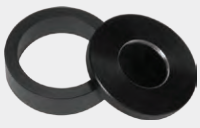


UM9B-BL
(9 mm-Organic Black)

ACCESSORIES



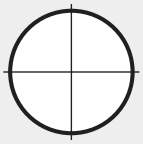
Stand with Delrin Post
(Model Number: 200428)



Removable IR Windows
(Various types available)



Fiber Adaptors & Connectors
(FC, SC, ST and SMA)



IR Alignement Aide
and Crosshairs



APM Analog Power Supply
(Model Number: 201495)



SDC-5000 Digital
Optical Chopper

SEE ALSO

TECHNICAL DRAWINGS 88
COMPATIBLE MONITORS
MAESTRO 18
M-LINK 30
LIST OF ALL ACCESSORIES 174

UM-B

SPECIFICATIONS

Approved or in the process of being approved*

MODELS	UM9B-BL
MAX AVERAGE POWER	20 mW
EFFECTIVE APERTURE	9 mm Ø
COMPATIBLE MODULE(S)	APM and Power Monitors

MEASUREMENT CAPABILITY	With APM	With Monitor
Spectral Range	0.1 - 20 µm	0.1 - 20 µm
Max Measurable Power	20 mW	20 mW
Noise Equivalent Power	5 nW	200 nW
Rise Time (0-100%)	≤ 0.2s	≤ 0.2s
Sensitivity	20 000 V/W	150 V/W
Calibration Uncertainty	±4 %	±4 %
DAMAGE THRESHOLDS		
Maximum Average Power Density (1064 nm)	50 mW/cm^2	50 mW/cm^2
PHYSICAL CHARACTERISTICS		
Effective Aperture	9 mm Ø	
Sensor	Pyroelectric	
Absorber	BL	
Connector	DB-15	
Dimensions	38.1Ø X 26.2D mm	
Weight	91 g	
ORDERING INFORMATION		
Full Product Name	UM9B-BL-BNC	UM9B-BL-USB
Product Number	201522	201527

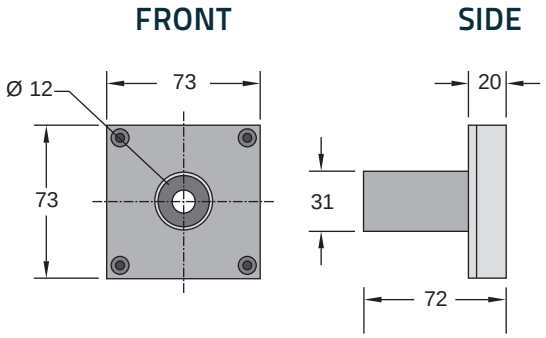
Specifications are subject to change without notice

* For details, contact your Gentec-EO representative

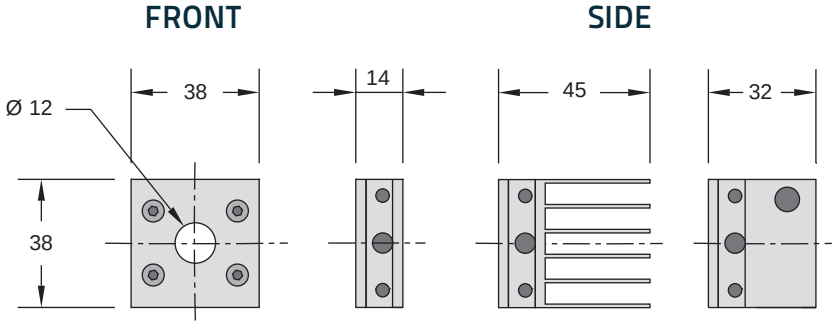
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TECHNICAL DRAWINGS

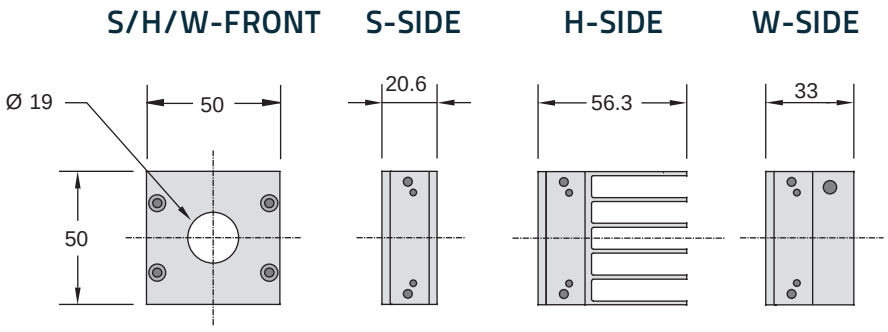
XLP12

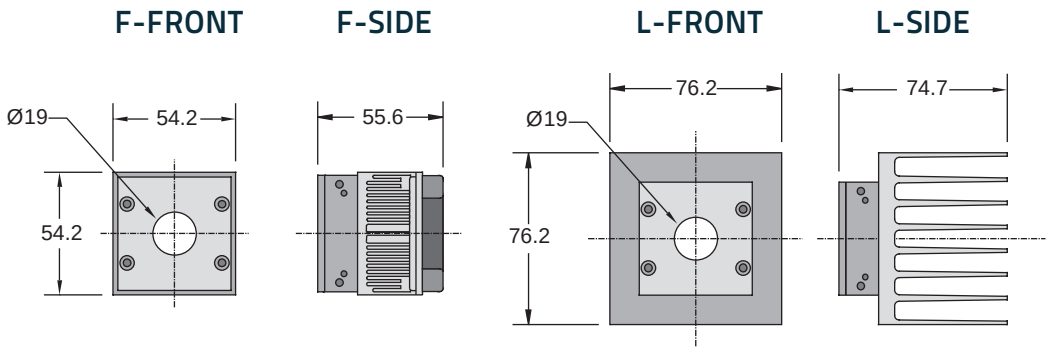


UP12E



UP19K-H

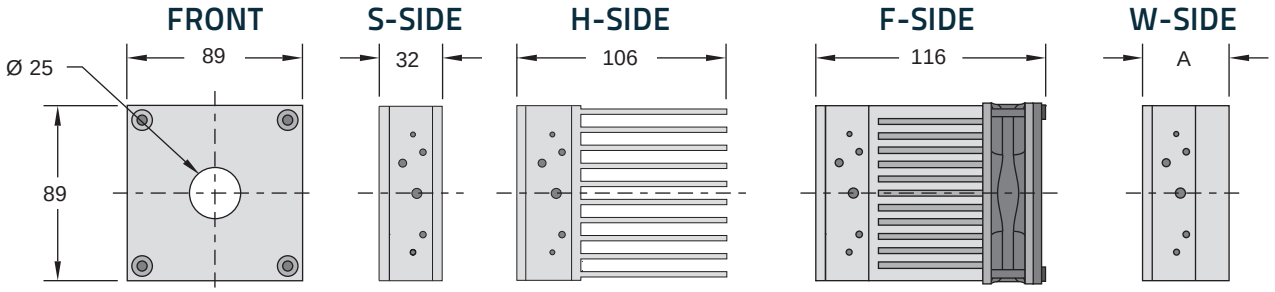




All dimensions in mm

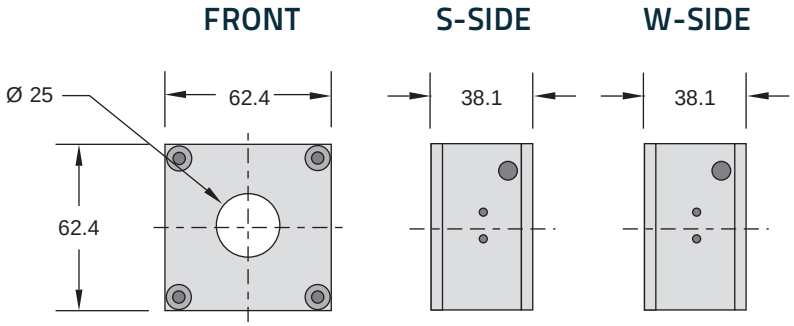
TECHNICAL DRAWINGS

UP25N-H

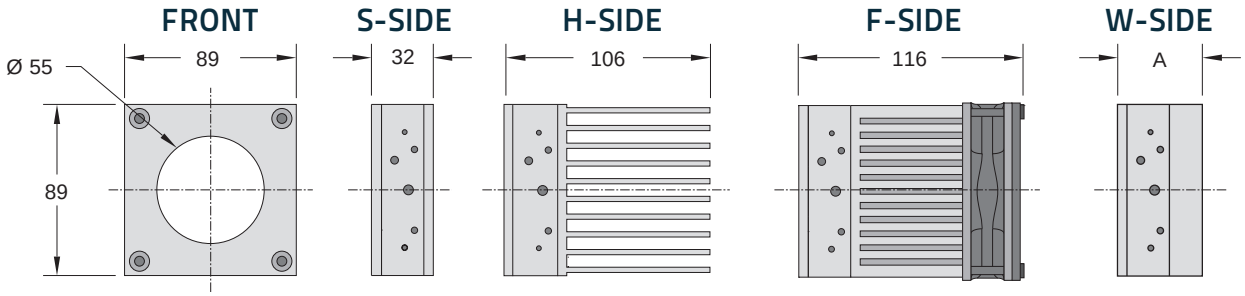


CASING	DIM. A
N	44
M	40

UP25T-H

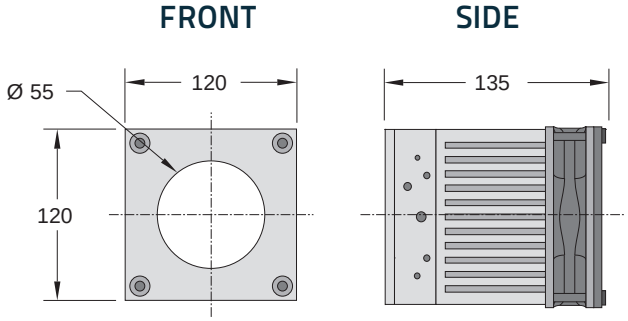


UP55N-H/VR



CASING	DIM. A
N	44
M	40

UP55G

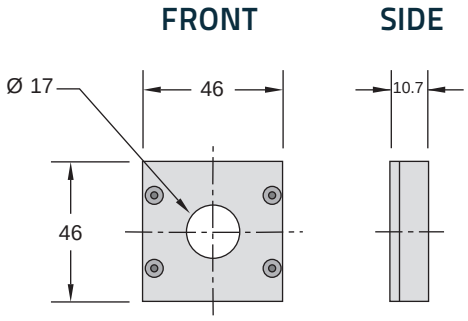


All dimensions in mm

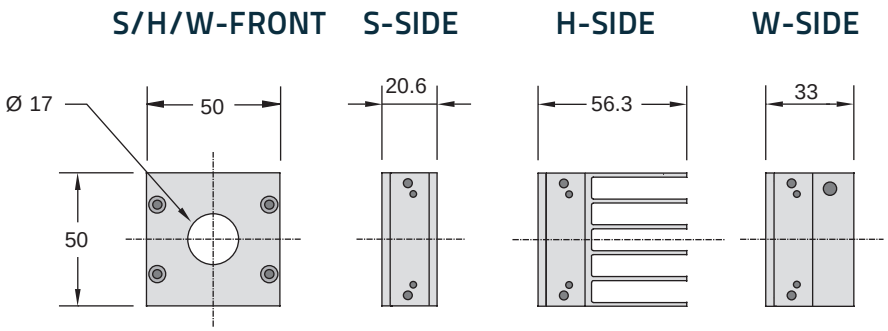
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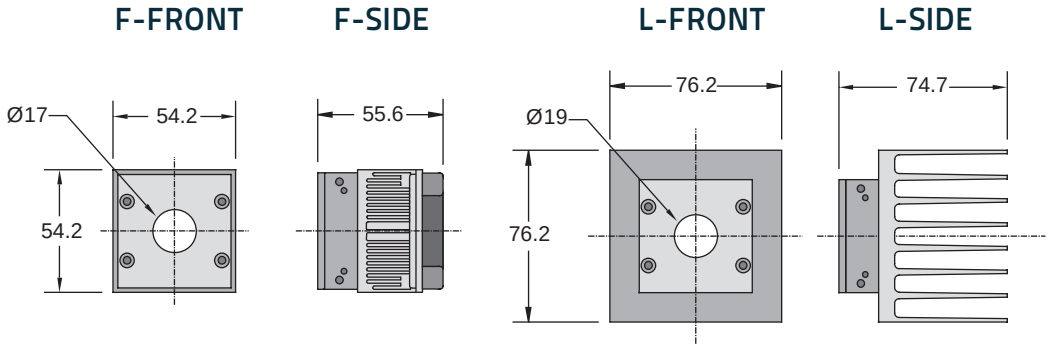
TECHNICAL DRAWINGS

UP17P

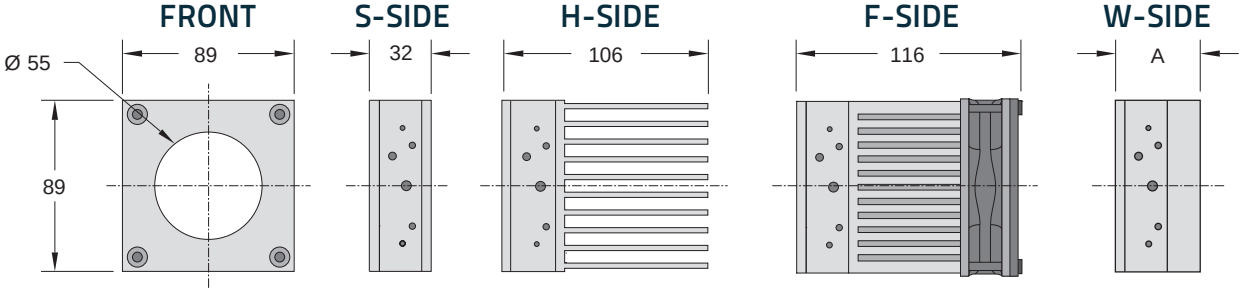


UP19K-W5





UP50N-W9



CASING	DIM. A
N	44
M	40

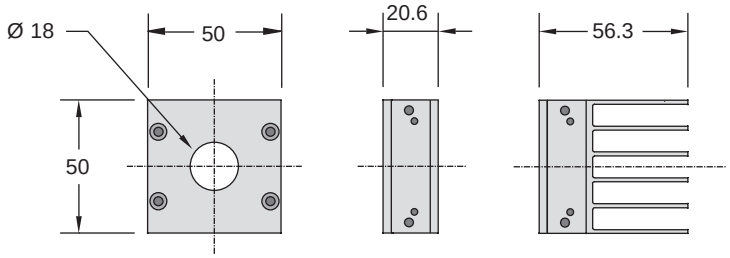
All dimensions in mm

TECHNICAL DRAWINGS

UP19K-VR

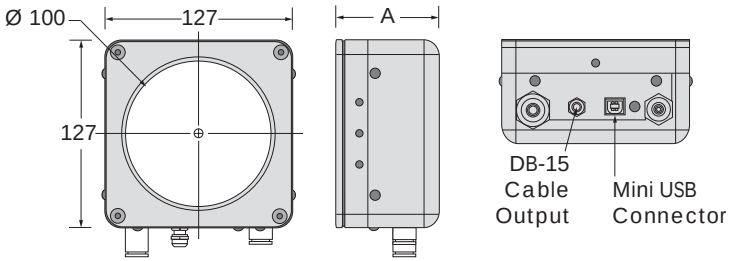
(For UP55N-VR see UP55N-H)

FRONT S-SIDE H-SIDE



HP100A

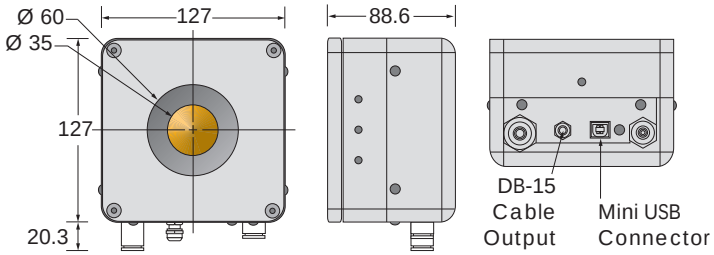
FRONT SIDE BOTTOM



MODEL	DIM. A
3KW	74
12KW	70

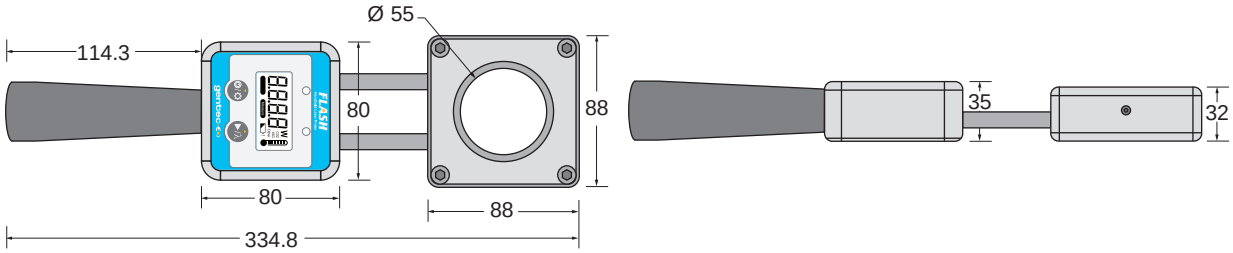
HP60A-10KW-GD

FRONT SIDE SIDE



FLASH-500-55

FRONT SIDE



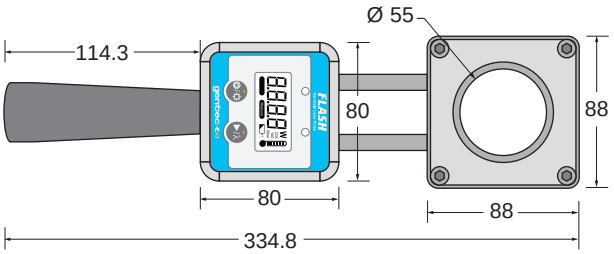
All dimensions in mm

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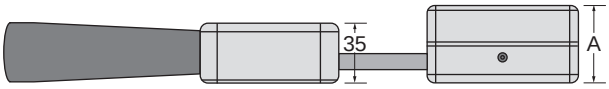
TECHNICAL DRAWINGS

FLASH-3K/6K/10K-55

FRONT



SIDE



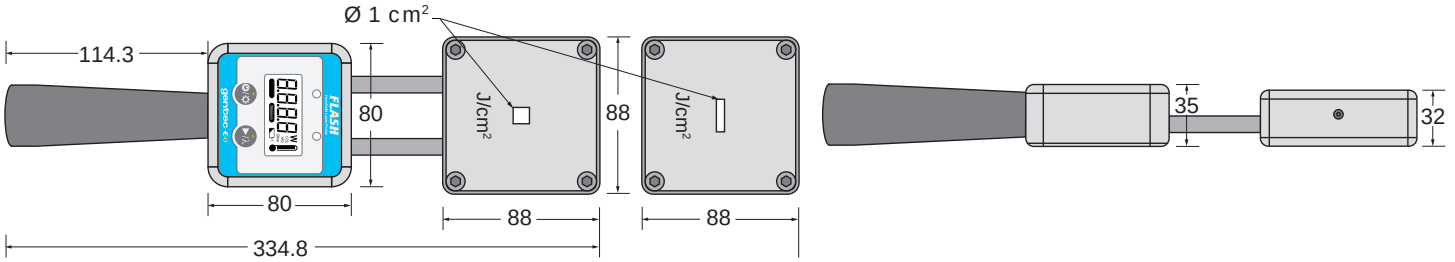
MODEL	DIM. A
3K	45
6K	36
10K	46

FLASH-IPL (10S/20R5)

S-FRONT

R-FRONT

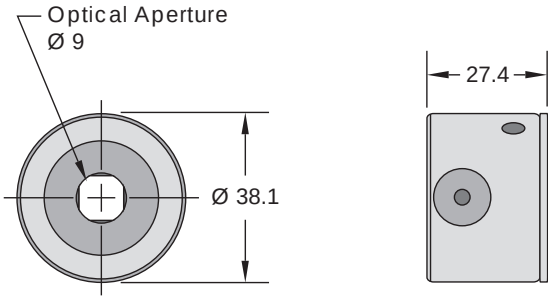
SIDE



UM-B

FRONT

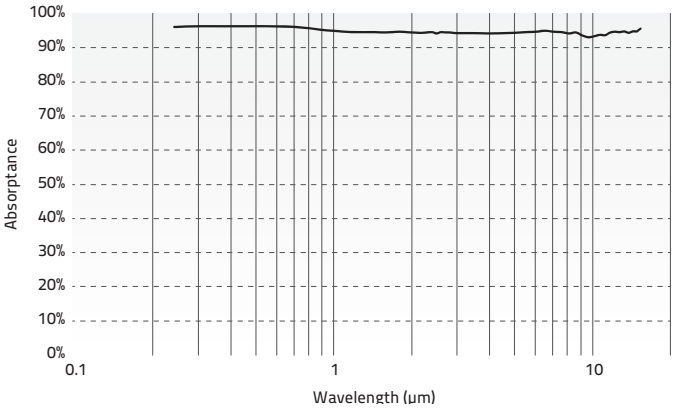
SIDE



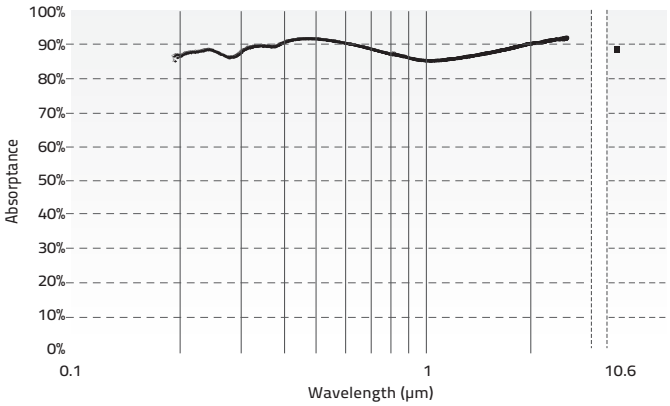
All dimensions in mm

ABSORPTION CURVES

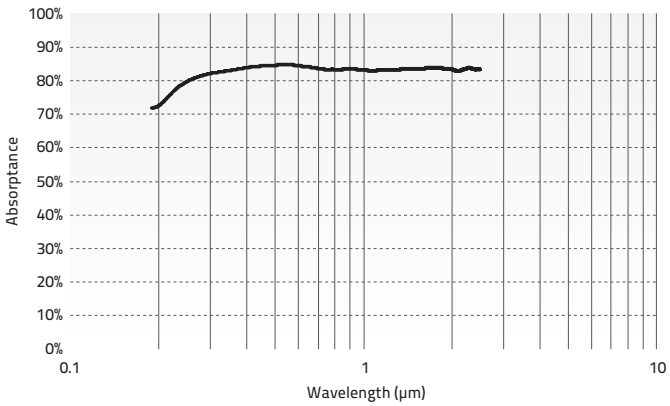
UM-B



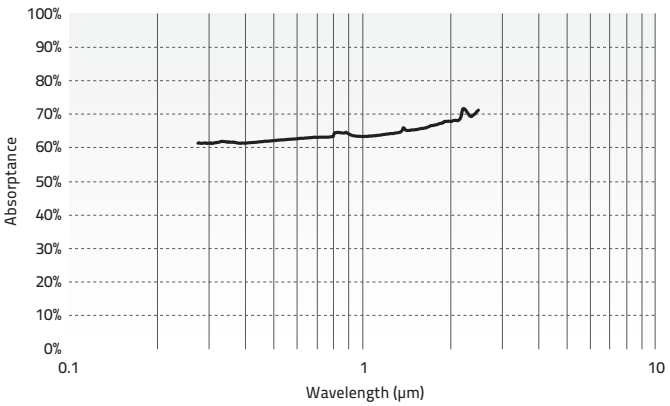
UP-H



UP-W



UP-VR



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