PRESENTATION

OVERVIEW OF THE DIFFERENT MODELS

The power detectors in this section measure from a few nW to 500 W. For powers higher than 500 W, see the High Power Solutions section on page 94.

Available with integra



XLP12

- Low Power Thermopile
  - Sensitivity of 200 mV/W
  - Noise Level of ±0.5 µW
- Minimal Thermal Drift of 6 µW/ºC
- IR Filter Available
- Available with volume absorber for short pulses

LOW POWER THERMOPILE 1 µW NOISE LEVEL

See page **66**

Available with integra



UP-H

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

STANDARD COATING
5 SIZES
5 COOLING MODULES
UP TO 500 W

See pages **70** to **76**

Available with integra



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 page **78** to **82**

PRESENTATION

Available with integra



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

See pages **84** to **86**

NEW

PRONTO-250-PLUS



PRONTO-250

- Compact Power Probe up to 250 W
- 19 mm Ø Aperture
- Also available with 3 measurement modes (Pronto-250-PLUS)
- YAG and CO_2 Calibrations

- POCKET-SIZED
- EASY-TO-USE
- COLOR TOUCH SCREEN DISPLAY
- FROM LOW TO HIGH POWERS (1 TO 250 W)
- ADVANCED FEATURES LIKE DATA LOGGING AND DATA TRANSFER TO PC

See page **88**



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.*

See page **90**

T 418.651.8003 | 1888 5GENTEC | F 418.651.1174 | info@gentec-eo.com

COMPARISON TABLE

Available with INTEGRA all-in-one detector + meter

Available with BLU

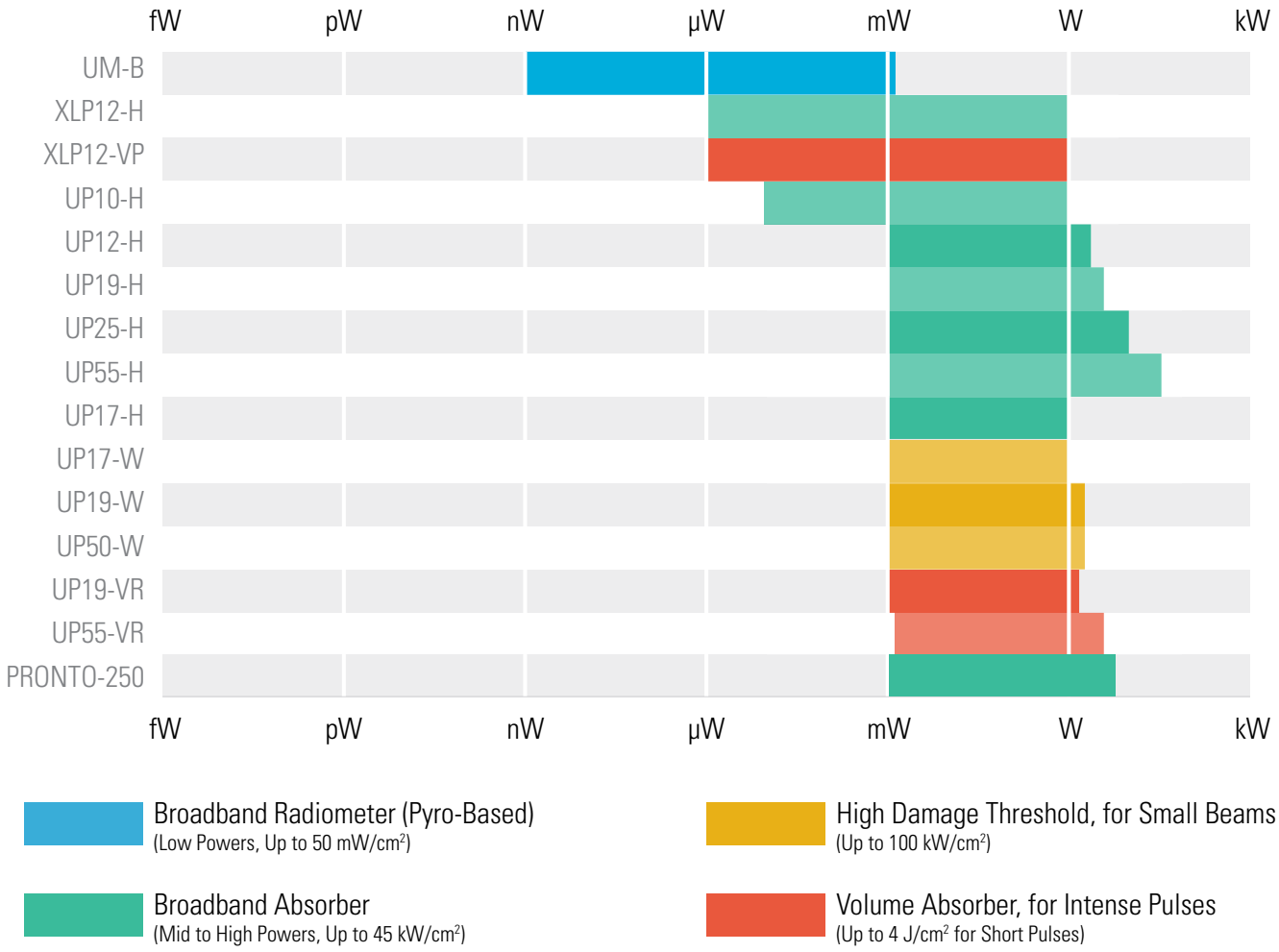
MODEL	PMAX	PMAX (1 MIN)	NOISE LEVEL	EMAX	λMIN	λMAX	ABSORBER TYPE	APERTURE	SEE PAGE
UM9B-BL-L-D0	200 µW	200 µW	5 nW	N/A	100 nm	20 µm	Radiometer	9 mm Ø	90
UM9B-BL-D0	25 mW	25 mW	300 nW	N/A	100 nm	20 µm	Radiometer	9 mm Ø	90
UP10P/K-2S-H5-L	2 W	2 W	100 µW	3 J	190 nm	20 µm	Broadband	10 mm Ø	68
UPF10P/K-2S-H5-L	2 W	2 W	100 µW	3 J	280 nm	2.1 µm	Broadband	10 mm Ø	68
XLP12-3S-H2	3 W	3 W	0.5 µW	5 J	190 nm	20 µm	Broadband	12 mm Ø	66
XLPF12-3S-H2	3 W	3 W	0.5 µW	5 J	280 nm	2.1 µm	Broadband	12 mm Ø	66
XLP12-3S-VP	3 W	3 W	0.5 µW	---	250 nm	20 µm	Volume Abs.	12 mm Ø	66
UP17P-6S-H5	6 W	7 W	1 mW	15 J	190 nm	20 µm	Broadband	17 mm Ø	78
UP17P-6S-W5	6 W	7 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	78
UP12E-10S-H5	10 W	20 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	70
UP19K-15S-H5	15 W	30 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	72
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	266 nm	2.5 µm	Volume Abs.	18 mm Ø	84
UP12E-20H-H5	20 W	40 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	70
UP19K-30H-H5	30 W	60 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	72
UP19K-30H-W5	30 W	60 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	80
UP19K-30H-VR	30 W	35 W	2 mW	40 J	266 nm	2.5 µm	Volume Abs.	18 mm Ø	84
UP25N-40S-H9	40 W	80 W	3 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	74
UP55N-40S-H9	40 W	80 W	5 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	76
UP50N-40S-W9	40 W	80 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	82
UP19K-50L-H5	50 W	90 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	72
UP19K-50L-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	80
UP19K-50F-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	80
UP19K-50W-W5	50 W	85 W	1 mW	200 J	190 nm	10 µm	High Threshold	17 mm Ø	80
UP50N-50H-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	82
UP50N-50F-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	82
UP50M-50W-W9	50 W	85 W	5 mW	500 J	190 nm	10 µm	High Threshold	50 mm Ø	82
UP55N-50S-VR	50 W	50 W	15 mW	500 J	266 nm	2.5 µm	Volume Abs.	55 mm Ø	86
UP12E-70W-H5	70 W	110 W	1 mW	5 J	190 nm	20 µm	Broadband	12 mm Ø	70
UP25N-100H-H9	100 W	200 W	3 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	74
UP55N-100H-H9	100 W	200 W	5 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	76
UP55N-100H-VR	100 W	100 W	15 mW	500 J	266 nm	2.5 µm	Volume Abs.	55 mm Ø	86
UP19K-110F-H9	110 W	150 W	3 mW	25 J	190 nm	20 µm	Broadband	19 mm Ø	72
UP19K-150W-H5	150 W	190 W	1 mW	15 J	190 nm	20 µm	Broadband	19 mm Ø	72
UP55N-150F-VR	150 W	150 W	15 mW	500 J	266 nm	2.5 µm	Volume Abs.	55 mm Ø	86
UP19K-200W-H9	200 W	200 W	3 mW	25 J	190 nm	20 µm	Broadband	19 mm Ø	72
UP55M-200W-VR	200 W	200 W	15 mW	500 J	266 nm	2.5 µm	Volume Abs.	55 mm Ø	86
PRONTO-250	250 W	N/A	10 mW	---	190 nm	20 µm	Broadband	19 mm Ø	88
UP25N-250F-H12	250 W	300 W	10 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	74
UP55N-300F-H12	300 W	300 W	15 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	76
UP25M-350W-H12	350 W	350 W	10 mW	40 J	190 nm	20 µm	Broadband	25 mm Ø	74
UP55M-500W-H12	500 W	500 W	15 mW	200 J	190 nm	20 µm	Broadband	55 mm Ø	76

COMPARISON TABLE

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



AVAILABLE WITH integra



See page **36** for details

XLP12

12 mm Ø, 0.5 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. **SPECIAL MODEL FOR ULTRASHORT PULSES**
   VP (Volume Absorber) version is perfect for low power lasers with ultrashort pulses (ps and fs)
5. **IR FILTER (XLPF12 MODEL)**
   Removes unwanted IR interference
6. **ISOLATION TUBE**
   Eliminates power fluctuations created by air turbulence
7. **SMART INTERFACE**
   Containing all the calibration data
8. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

AVAILABLE MODELS



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



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



XLP12-3S-VP
(3W-Volume Absorber)

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



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



IR Filter
(Mounted)



Fiber Adaptors & Connectors
(FC, ST and SMA)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

XLP12

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	XLP12-3S-H2	XLPF12-3S-H2	XLP12-3S-VP
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	3 W / 3 W Broadband Absorber	3 W / 3 W Broadband Absorber, with IR Filter	3 W / 3 W Volume Absorber
EFFECTIVE APERTURE	12 mm Ø	12 mm Ø	12 mm Ø
COOLING METHOD	Convection	Convection	Convection
MEASUREMENT CAPABILITY			
Spectral Range	0.19 – 20 µm *	0.28 – 2.1 µm [a]	0.25 – 20 µm *
Noise Equivalent Power [b]	0.5 µW	0.5 µW	0.5 µW
Thermal Drift [c]	12 µW/°C	6 µW/°C	12 µW/°C
Rise Time (nominal) [d]	2.5 sec	2.5 sec	3 sec
Sensitivity (typ into 100 kΩ load) [e]	200 mV/W	180 mV/W	220 mV/W
Calibration Uncertainty [f]	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±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	30 W/cm² @ 1064 nm 8 W/cm² @ 532 nm 4 W/cm² @ 355 nm

Pulsed Laser Damage Thresholds	Max Energy Dens.	Peak Power Dens.	Max Energy Dens.	Peak Power Dens.	Max Energy Dens.	Peak Power Dens.
1064 nm, 360 µs, 5 Hz	5 J/cm²	14 kW/cm²	5 J/cm²	14 kW/cm²	---	---
1064 nm, 7 ns, 10 Hz	1 J/cm²	143 MW/cm²	1 J/cm²	143 MW/cm²	4 J/cm²	571 MW/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²	86 MW/cm²	0.6 J/cm²	86 MW/cm²	3 J/cm²	429 MW/cm²
355 nm, 7 ns, 10 Hz	---	---	---	---	1 J/cm²	143 MW/cm²
266 nm, 7 ns, 10 Hz	0,3 J/cm²	43 MW/cm²	0,3 J/cm²	43 MW/cm²	---	---

PHYSICAL CHARACTERISTICS			
Effective Aperture	12 mm Ø	12 mm Ø	12 mm Ø
Absorber (High Damage Threshold)	H2	H2	VP (Volume Absorber)
Dimensions	73H x 73W x 20D mm (72D mm with tube)	73H x 73W x 28D mm (80D mm with tube)	73H x 73W x 20D mm (72D mm with tube)
Weight (head only)	0.31 kg	0.32 kg	0.32 kg
ORDERING INFORMATION			
Product Name	XLP12-3S-H2	XLPF12-3S-H2	XLP12-3S-VP
Product Number (Including stand)	201035	201078	202228
Add Extension for INTEGRA (USB)	-INT	-INT	-INT
Product Number (Including stand)	202608	202610	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR

Les spécifications peuvent être modifiées sans préavis

* *For the calibrated spectral range, see the user manual.*

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 anticipation.
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.

UP10-H

10 mm Ø, 0.1 mW - 2 W - Fast & 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. **HIGH PERFORMANCE**
   Fast Rise Time (1.4 sec)
   High Damage Threshold (36 kW/cm²)

3. **COMPACT DESIGN**
   Only 13 mm thick (UP10P model)

4. **IR FILTER (UPF10 MODELS)**
   Removes unwanted IR interference

5. **ENERGY MODE**
   Measure single shot energy up to 3 J

6. **SMART INTERFACE**
   Containing all the calibration data

7. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

AVAILABLE MODELS



UP10P-2S-H5-L



UPF10P-2S-H5-L



UP10K-2S-H5-L



UPF10K-2S-H5-L

ACCESSORIES



Stand with Steel Post
(Model Number: 200160)



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



IR Filter
(Mounted)



Isolation Tube
(Model Number: 202376)



Fiber Adaptors & Connectors
(FC, ST and SMA)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP10-H

*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP10P-2S-H5-L	UPF10P-2S-H5-L	UP10K-2S-H5-L	UPF10K-2S-H5-L
MAX AVERAGE POWER	2 W			
EFFECTIVE APERTURE	10 mm Ø			
COOLING METHOD	Convection			
MEASUREMENT CAPABILITY				
Spectral Range *	0.19 – 20 µm	0.28 - 2.1 µm	0.19 – 20 µm	0.28 - 2.1 µm
Noise Equivalent Power [a]	100 µW without anticipation / 30 µW with anticipation and 2 sec moving average			
Rise Time (nominal) [b]	1.4 sec	1.4 sec	1.1 sec	1.1 sec
Sensitivity (typ into 100 kΩ load) [c]	2 mV/W			
Calibration Uncertainty [d]	±2.5 %			
Repeatability	±0.5 %			
Energy Mode				
Sensitivity	2.4 mV/J			
Maximum Measurable Energy [e]	3 J			
Noise Equivalent Energy [a]	5 mJ			
Minimum Repetition Period	2 sec			
Maximum Pulse Width	63 ms			
Accuracy with energy calibration option	±5 %			
DAMAGE THRESHOLDS				
Maximum Average Power Density [f]	36 kW/cm^2			
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 360 µs, 5 Hz	5 J/cm^2		14 kW/cm^2	
1064 nm, 7 ns, 10 Hz	1 J/cm^2		143 MW/cm^2	
532 nm, 7 ns, 10 Hz	0.6 J/cm^2		86 MW/cm^2	
266 nm, 7 ns, 10 Hz	0.3 J/cm^2		43 MW/cm^2	
PHYSICAL CHARACTERISTICS				
Effective Aperture	10 mm Ø			
Absorber (High Damage Threshold)	H5			
Dimensions	46H x 46W x 13D mm	46H x 46W x 21.4D mm	50H x 50W x 21.5D mm	50H x 50W x 30D mm
Weight (head only)	0.13 kg	0.14 kg	0.19 kg	0.13 kg
ORDERING INFORMATION				
Product Name	UP10P-2S-H5-L	UPF10-2S-H5-L	UP10K-2S-H5-L	UPF10K-2S-H5-L
Product Number (Including stand)	202922		202921	
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (Including stand)	203032		203034	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

AVAILABLE WITH integra



See page **36** for details

UP12-H

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

6. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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	**14**
CALIBRATION	**6**
TECHNICAL DRAWINGS	**92**
ABSORPTION CURVES	**96**
OEM DETECTORS	146
COMPATIBLE MONITORS	
MAESTRO	**20**
TUNER	**24**
UNO	**26**
S-LINK	**28**
P-LINK	**30**
M-LINK	**32**
LIST OF ALL ACCESSORIES	**196**
APPLICATION NOTE	
MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS!	202175

UP12-H

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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			
Product Name	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
Product Number (Including stand)	200384	200386	200390
Add Extension for INTEGRA (USB)	-INT	-INT	-INT
Product Number (Including stand)	202612	202614	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

UP19-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 25 J

5. **SMART INTERFACE**
   Containing all the calibration data

6. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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: 202376)


Fiber Adaptors and Connectors
(FC, SC or SMA)


12V Power Supply
(Model Number: 200130)


Pelican Carrying Case

SEE ALSO

HOW IT WORKS **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
OEM DETECTORS 146
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**
APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP19-H

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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	0.24 kg
ORDERING INFORMATION						
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
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT	-INT
Product Number (Including stand)	202616	202618	202620	202622	202624	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

UP25-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. **ENERGY MODE**
   Measure single shot energy up to 40 J

4. **SMART INTERFACE**
   Containing all the calibration data

5. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

AVAILABLE MODELS


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


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


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


UP25M-350W-H12
(350W-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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
OEM DETECTORS 146
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP25-H

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP25N-40S-H9	UP25N-100H-H9	UP25N-250F-H12	UP25M-350W-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]
EFFECTIVE APERTURE	25 mm Ø	25 mm Ø	25 mm Ø	25 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY				
Spectral Range *	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
Rise Time (nominal) [b]	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
Calibration Uncertainty [d]	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±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
Maximum Measurable Energy [e]	40 J	40 J	40 J	40 J
Noise Equivalent Energy [a]	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
Maximum Pulse Width	123 ms	123 ms	390 ms	390 ms
Accuracy with energy calibration option	±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
10.6 µm, 10 W, CW	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
Absorber (High Damage Threshold)	H9	H9	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
Weight (head only)	0.68 kg	0.99 kg	1.44 kg	0.87 kg
ORDERING INFORMATION				
Product Name	UP25N-40S-H9	UP25N-100H-H9	UP25N-250F-H12	UP25M-350W-H12
Product Number (Including stand)	200198	200202	201154	201894
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

** For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation
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.

UP55-H

55 mm Ø, 5 mW - 500 W



KEY FEATURES

1. **MODULAR CONCEPT**
   Increase the power capability of your detector:
   4 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. **ENERGY MODE**
   Measure single shot energy up to 200 J

5. **SMART INTERFACE**
   Containing all the calibration data

6. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

AVAILABLE MODELS



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



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



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



UP55M-500W-H12
(500W-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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
OEM DETECTORS 146
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP55-H

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	100 W / 200 W	300 W / 300 W	500 W [f] / 500 W [f]
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 *	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
Rise Time (nominal) [b]	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
Calibration Uncertainty [d]	±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 [e]	200 J	200 J	200 J	200 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	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				
1064 nm, 10 W, CW	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
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
Absorber (High Damage Threshold)	H9	H9	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
Weight (head only)	0.62 kg	0.93 kg	1.41 kg	0.81 kg
ORDERING INFORMATION				
Product Name	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12
Product Number (Including stand)	200218	200222	201160	201883
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (Including stand)	202626	202628	202630	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

** For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

AVAILABLE WITH integra



See page **36** for details

UP17-H/W

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

6. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP17-H/W

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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 – 10.0 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				
Product Name	UP17P-6S-H5		UP17P-6S-W5	
Product Number (Including stand)	201036		201037	
Add Extension for INTEGRA (USB)	-INT		-INT	
Add Extension for INTEGRA (RS-232)	-IDR		-IDR	

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

UP19-W

19 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
6. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
OEM DETECTORS 146
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**
APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP19-W

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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	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
MEASUREMENT CAPABILITY					
Spectral Range *	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 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	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 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					
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
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT
Product Number (Including stand)	202632	202634	202636		
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

UP50-W

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
6. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
OEM DETECTORS 146
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**
APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175
- MEASURING HIGH POWER WITH A LOW POWER DETECTOR 202188

UP50-W

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 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				
Product Name	UP50N-40S-W9	UP50N-50H-W9	UP50N-50F-W9	UP50M-50W-W9
Product Number (Including stand)	200896	200897	200898	201887
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. With anticipation.
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.

UP19-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

6. integra **OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP19-VR

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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		
Product Name	UP19K-15S-VR	UP19K-30H-VR
Product Number (Including stand)	201149	201150
Add Extension for INTEGRA (USB)	-INT	-INT
Product Number (Including stand)	202638	202640
Add Extension for INTEGRA (RS-232)	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

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 anticipation.
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.

UP55-VR

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



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 500 J
6. **SMART INTERFACE**
   Containing all the calibration data
7. **integra OPTIONS**
   - Standard: USB Output (-INT)
   - In Option: RS-232 Output (-IDR)

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 **14**
CALIBRATION **6**
TECHNICAL DRAWINGS **92**
ABSORPTION CURVES **96**
COMPATIBLE MONITORS
- MAESTRO **20**
- TUNER **24**
- UNO **26**
- S-LINK **28**
- P-LINK **30**
- M-LINK **32**

LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
- MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS! 202175

UP55-VR

CE NIST* Traceable WEEE/RoHS COMPLIANT

*Also traceable to NRC-CNRC

SPECIFICATIONS

	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	0.010 mV/J	0.010 mV/J	0.010 mV/J	0.010 mV/J
Maximum Measurable Energy [f]	500 J	500 J	500 J	500 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	11.1 sec	11.1 sec
Maximum Pulse Width	433 ms	433 ms	433 ms	433 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				
Product Name	UP55N-50S-VR	UP55N-100H-VR	UP55N-150F-VR	UP55M-200W-VR
Product Number (Including stand)	201296	201934	201856	201292
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (Including stand)	202642	202644		
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* *For the calibrated spectral range, see the user manual.*

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 anticipation.
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.

PRONTO-250

0.5 W - 250 W Power Probes with Touch Screen Controls



KEY FEATURES

1. **POCKET-SIZE**
   This mid to high power laser probe is so compact it fits in your pocket!

2. **EASY-TO-USE**
   The touch screen color LCD allows for a friendly user interface. You can make a measurement with just the touch of a button!

3. **USER SETABLE**
   You can set the wavelength, brightness and screen orientation to adapt to your application.

4. **DATA LOGGING**
   Save your data to the internal memory and then transfer it to your PC over the USB connection.

5. **FROM LOW TO HIGH POWERS**
   Thanks to a low noise level and high damage threshold, the Pronto can measure powers from 0.5 W to 250 W.

6. **YAG AND CO_2 CALIBRATIONS**
   The Pronto-250 comes fully calibrated: every wavelength between 248 nm and 2.5 µm (YAG), and a real calibration at 10.6 µm (CO_2).
   NEW The Pronto-250-PLUS has an additional calibration for Single-Shot Energy measurements.

7. **HANDS-FREE OPERATION**
   Place it on a flat surface or use one of the 2 threaded holes for safe use with optical stands.

USER INTERFACE (SSP MODE)

Make a measurement in just a few seconds

1 → 2 → 3 → 4

1	2	3	4
Press PLAY	Ready	Countdown	Measurement complete!
	1064 nm	1064 nm 5	1064 nm 1.234 W
	The device waits for a laser beam	Automatically starts when exposed to a laser beam	The value is displayed until the next measurement

Adjust the Wavelength and Calibration

Wavelength: λ 1064 nm

Calibration: Correction Factor 1.004 (145.3 W)

Warns you when the device is too hot*

HOT

Set the Brightness and Orientation

CAL i

2 MODELS FOR ALL YOUR MEASUREMENT NEEDS

The regular **Pronto-250** is very easy to use and will give you accurate one shot measurements, thanks to its unique Measurement Mode:

- Single Shot Power (SSP): Up to 250 W

NEW The new **Pronto-250-PLUS** model comes with 3 Measurement Modes and can be used in a variety of applications:

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


HANDS-FREE


DATA TRANSFER TO PC

* Device may get hot, it is not recommended for handheld use when making a measurement

PRONTO-250

*Also traceable to NRC-CNRC

SPECIFICATIONS

NEW

	PRONTO-250	PRONTO-250-PLUS		
		SSP Mode Measures in 5 sec	CWP Mode Measures Power continuously	SSE Mode Measures in less than 0.5 sec
MAX AVERAGE POWER/ENERGY	250 W	250 W	8 W	25 J
EFFECTIVE APERTURE	19 mm Ø	19 mm Ø		
INTERFACE	Touch Screen Color LCD Display	Touch Screen Color LCD Display		
MEASUREMENT CAPABILITY				
Spectral Range	0.19 - 20 µm	0.19 - 20 µm		
Calibrated Spectral Range	0.248 – 2.5 µm and 10.6 µm	0.248 – 2.5 µm and 10.6 µm		
Noise Equivalent Power/Energy	10 mW	10 mW	10 mW	60 mJ
Minimum Measurable Power/Energy	0.5 W	0.5 W	0.2 W	N/A
Response Time	5 sec	5 sec	1.5 sec	0.26 sec
Measurement Accuracy	± 3 %	± 3 %	± 3 %	± 5 %
Min Repetition Period (Max Pulse Width)	N/A	N/A	N/A	4 sec (88 ms)
Display Resolution	1 mW	1 mW	1 mW	10 mJ
DAMAGE THRESHOLDS				
Maximum Average Power Density [a]	45 kW/cm² (at 1064 nm, 10 W, CW) / 14 kW/cm² (at 10.6 µm, 10 W, CW)			
Maximum Exposure Time [b]	6 sec	6 sec	N/A	N/A
Maximum Device Temperature [b]	65°C	65°C	40°C	40°C
USER INTERFACE				
Measurement Controls	Wavelength Selection and User Calibration			
Measurement Modes	Single Shot Power (SSP)	Single Shot Power (SSP), Continuous Power (CWP) and Single Shot Energy (SSE)		
Data Acquisition and Transfer	Simple On/Off Controls, saves to on-board memory and transfers data to the PC using the USB connection			
Screen Personalization	Orientation and Brightness controls			
Battery Indicator	On-screen indicator with 4 levels			
GENERAL SPECIFICATIONS				
Display Type	Touch Screen Color LCD			
Display Size	28.0 x 35.0 mm (128 x 160 pixels)			
Backlight	Adjustable			
Internet Upgrades Via	USB port			
Data Storage	50,000 pts			
Battery Type	Rechargeable Li-ion			
Battery Life	17 hours or 4 200 measurements (with brightness set at 25%)			
Battery Recharge Via	USB port			
Operating Temperature Range	15 - 28 °C (max 80% RH)			
PHYSICAL CHARACTERISTICS				
Effective Aperture	19 mm Ø			
Absorber	H9			
Mounting Holes (for Post)	2 x 8-32			
Dimensions	59.0W x 181.4L x 17.0D			
Weight	210 g			
ORDERING INFORMATION				
Product Name	PRONTO-250	PRONTO-250-PLUS		
Product Number	202917	203208		

Specifications are subject to change without notice

a. To get all the damage thresholds, see User Manual

b. At maximum power

UM-B

5 nW - 25 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

5. NEW **INCLUDES AN ISOLATING TUBE TO BLOCK UNDESIRED NOISE FROM THE ENVIRONMENT.**

AVAILABLE MODELS



UM9B-BL
(9 mm-Organic Black)

ACCESSORIES



Stand with Delrin Post
(Model Number: 200428)



Fiber Adaptors & Connectors
(FC, ST or SMA)



APM Analog Power Supply
(Model Number: 201848)



SDC-500 Digital
Optical Chopper

This product cannot be used with DB-15 extension cables

SEE ALSO

TECHNICAL DRAWINGS **92**
COMPATIBLE MONITORS
MAESTRO **20**
M-LINK **32**
LIST OF ALL ACCESSORIES **196**

APPLICATION NOTE
SDC-500 DIGITAL OPTICAL CHOPPER 202154
IR WINDOWS 202192

UM-B

*Also traceable to NRC-CNRC

SPECIFICATIONS

	UM9B-BL-L-D0	UM9B-BL-D0
MAX AVERAGE POWER	200 µW	20 mW (MAESTRO), 25 mW (M-LINK)
EFFECTIVE APERTURE	9 mm Ø	
COMPATIBLE MONITORS	APM	Power Monitors
MEASUREMENT CAPABILITY	With APM	With Monitor
Spectral Range *	0.1 - 20 µm	0.1 - 20 µm
Maximum Measurable Power	200 µW	20 mW (MAESTRO), 25 mW (M-LINK)
Noise Equivalent Power (RMS)	5 nW	300 nW
Rise Time (0-100%)	≤ 0.2s	≤ 0.2s
Sensitivity	20 000 V/W	120 V/W
Calibration Uncertainty	±4 % @ 1064 nm	±4 % @ 1064 nm
Chopper Frequency [a]	5 ± 1 Hz	10 ± 1 Hz
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	
Dimensions	38.1Ø X 26.2D mm	
Weight	91 g	
ORDERING INFORMATION	With APM	With Monitor
Product Name	UM9B-BL-L-D0	UM9B-BL-D0
Product Number (without stand)	202241	202024

Specifications are subject to change without notice

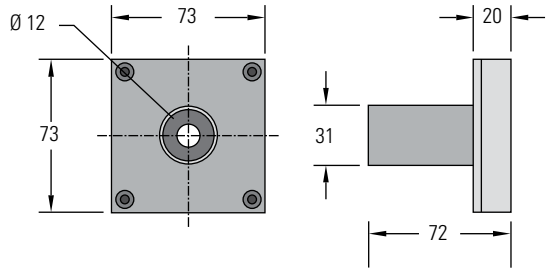
* *For the calibrated spectral range, see the user manual.*

a. SDC-500 Digital Optical Chopper sold separately.

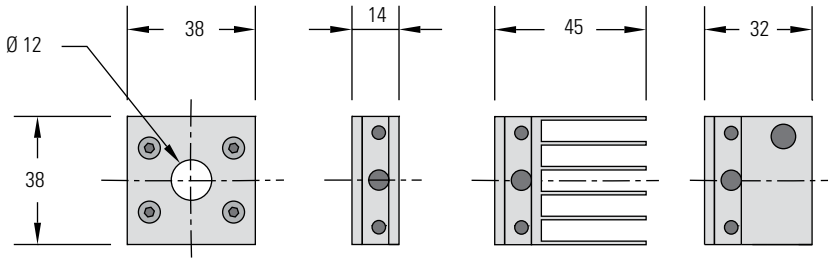
TECHNICAL DRAWINGS

All dimensions in mm

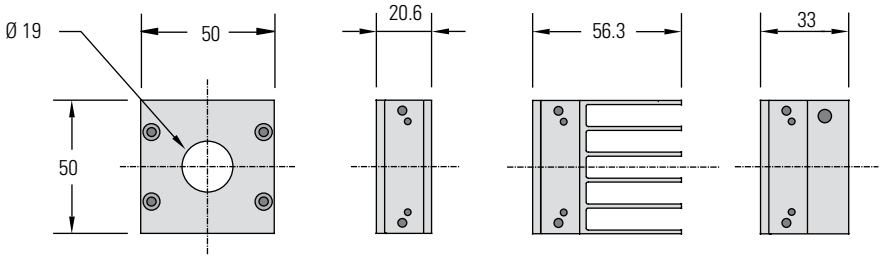
XLP12

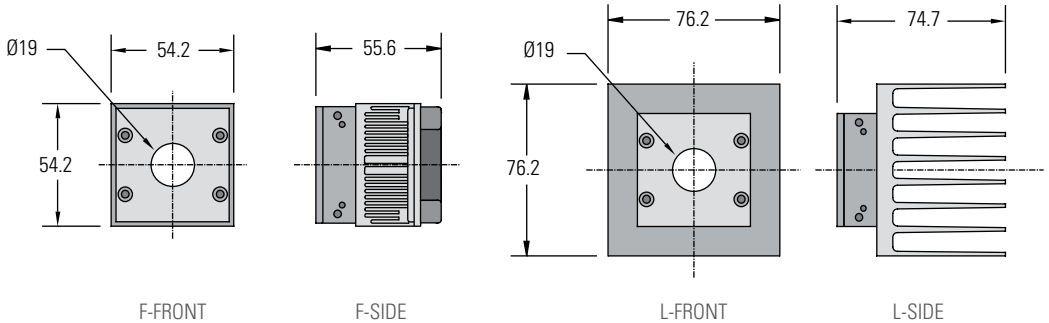


UP12-H



UP19-H/W



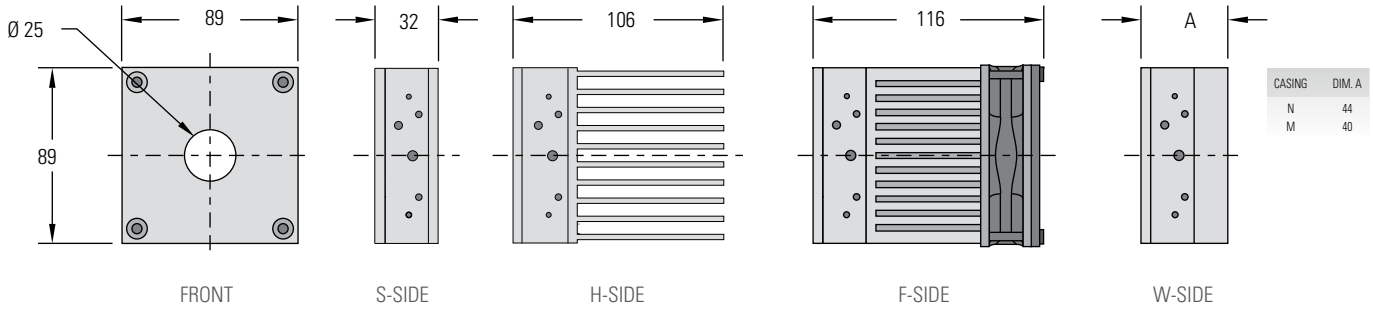


All dimensions in mm

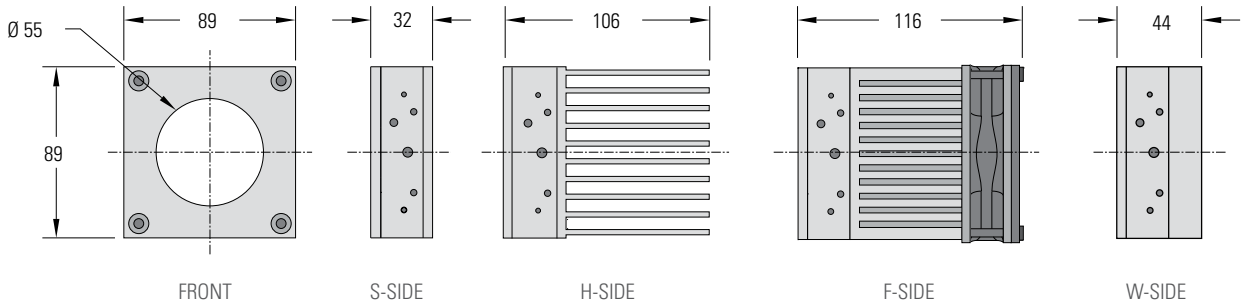
TECHNICAL DRAWINGS

All dimensions in mm

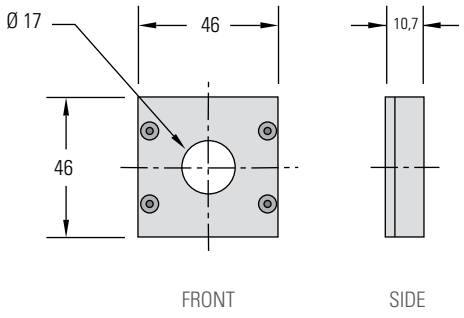
UP25N-H



UP55-H



UP17-H/W

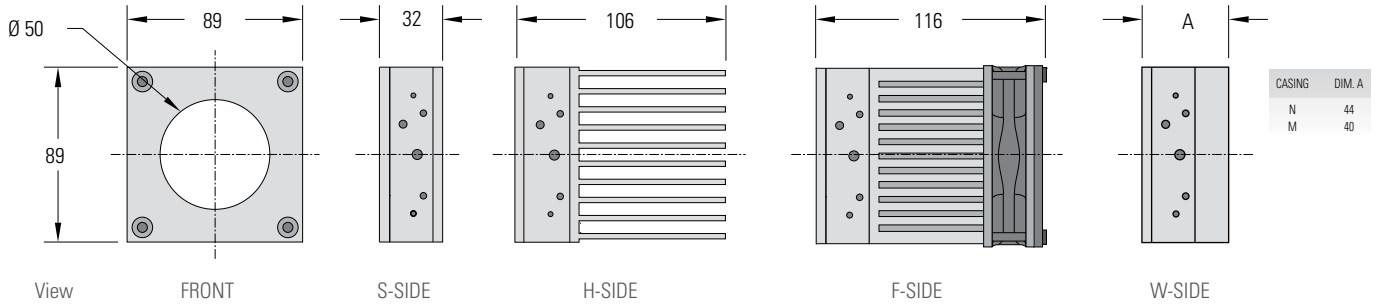


T 418.651.8003 | 1888 5GENTEC | F 418.651.1174 | info@gentec-eo.com

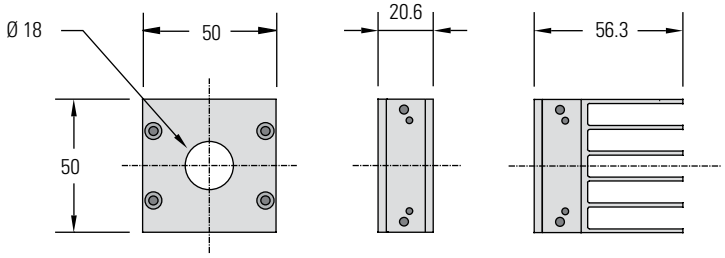
TECHNICAL DRAWINGS

All dimensions in mm

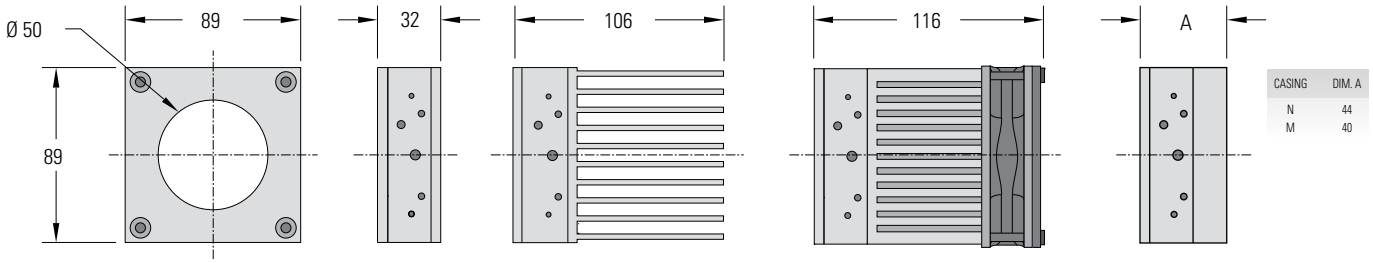
UP50-W



UP19-VR



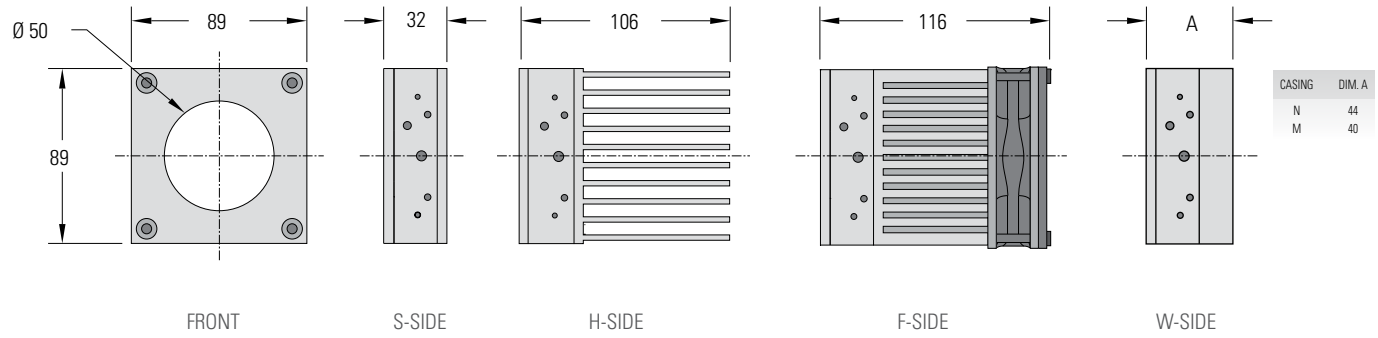
UP55-VR



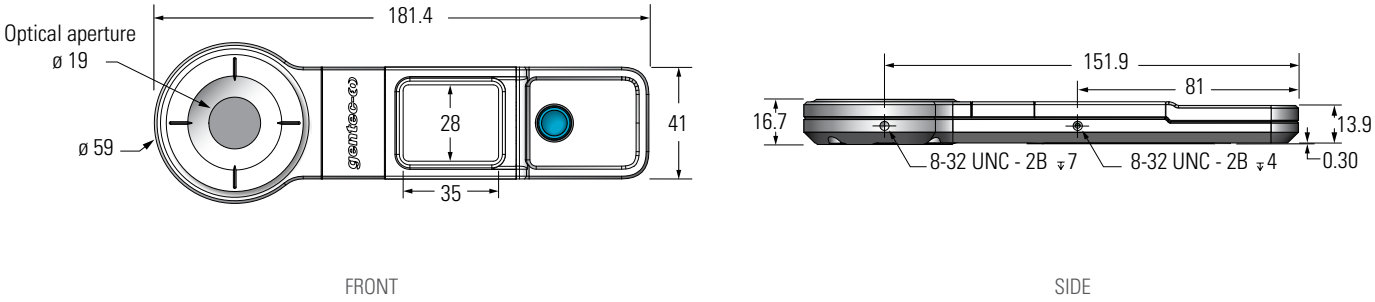
TECHNICAL DRAWINGS

All dimensions in mm

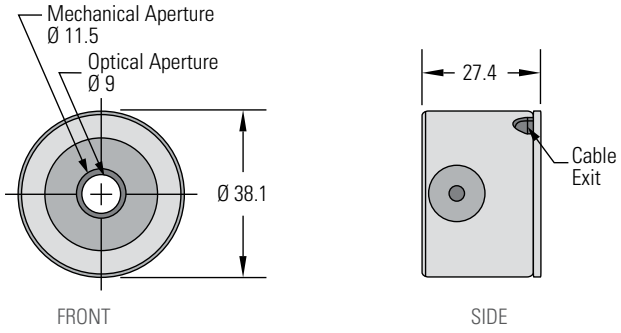
UP55-VR



PRONTO-250

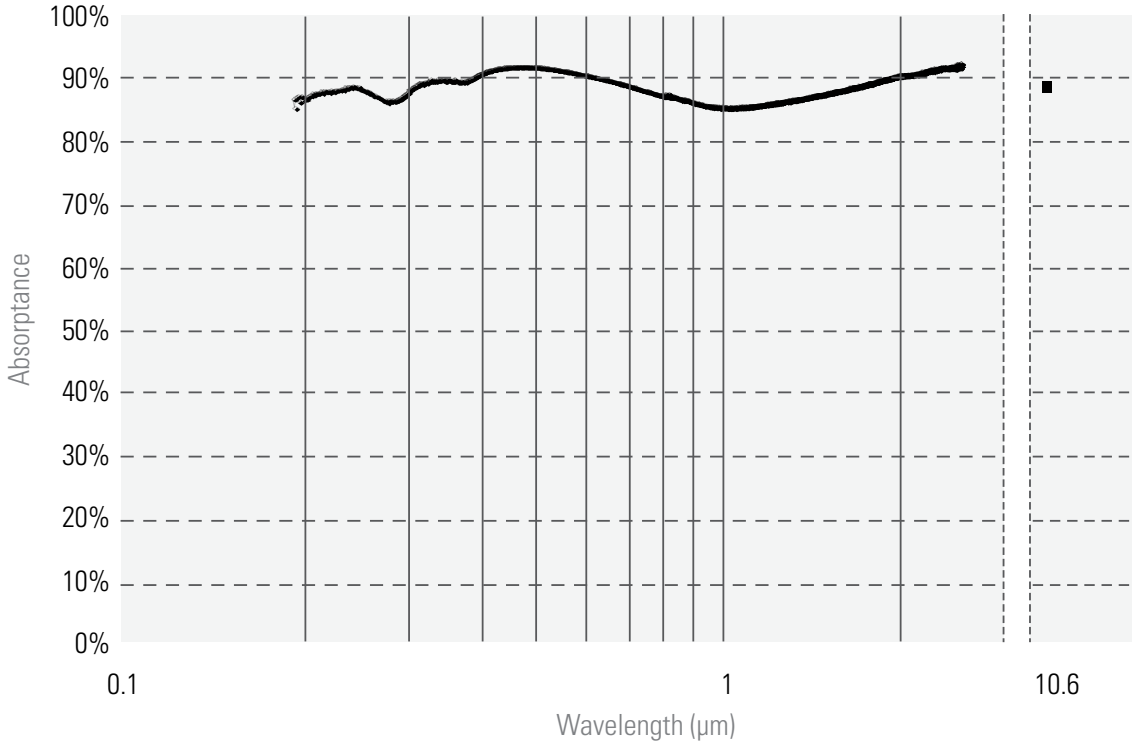


UM-B

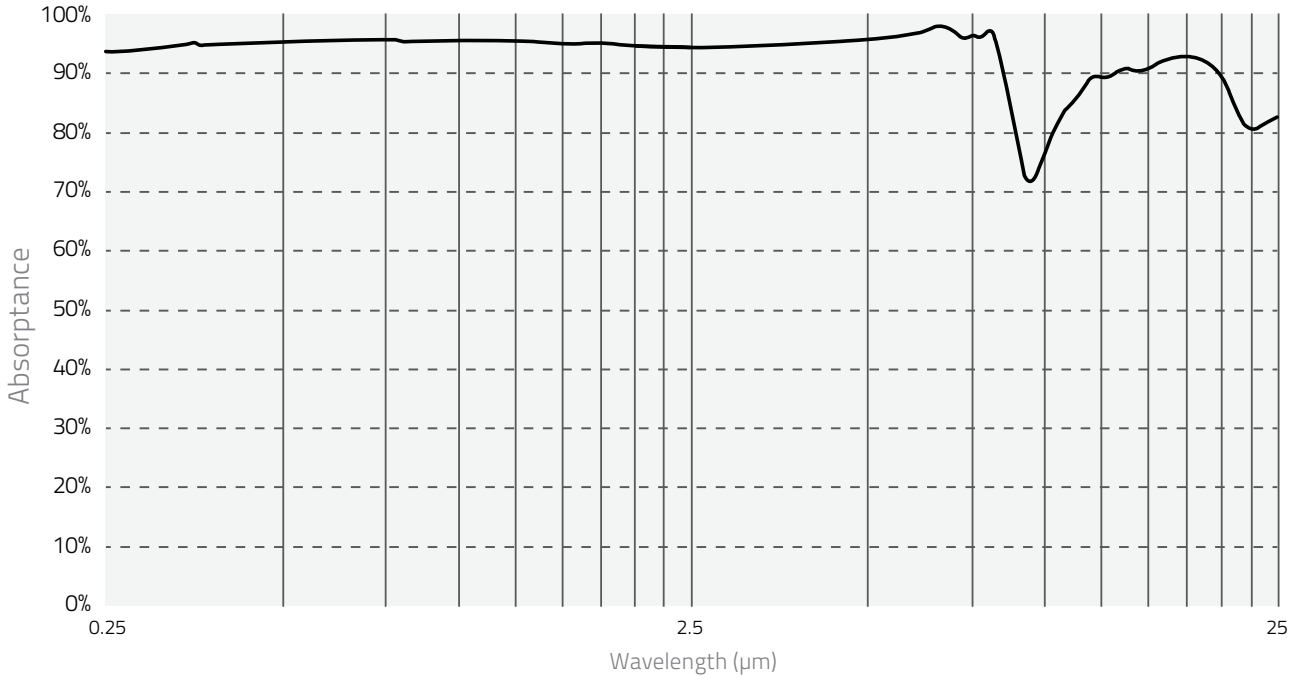


ABSORPTION CURVES

XLP12-H, UP-H, PRONTO (ALL PRONTO EXCEPT PRONTO-SI)

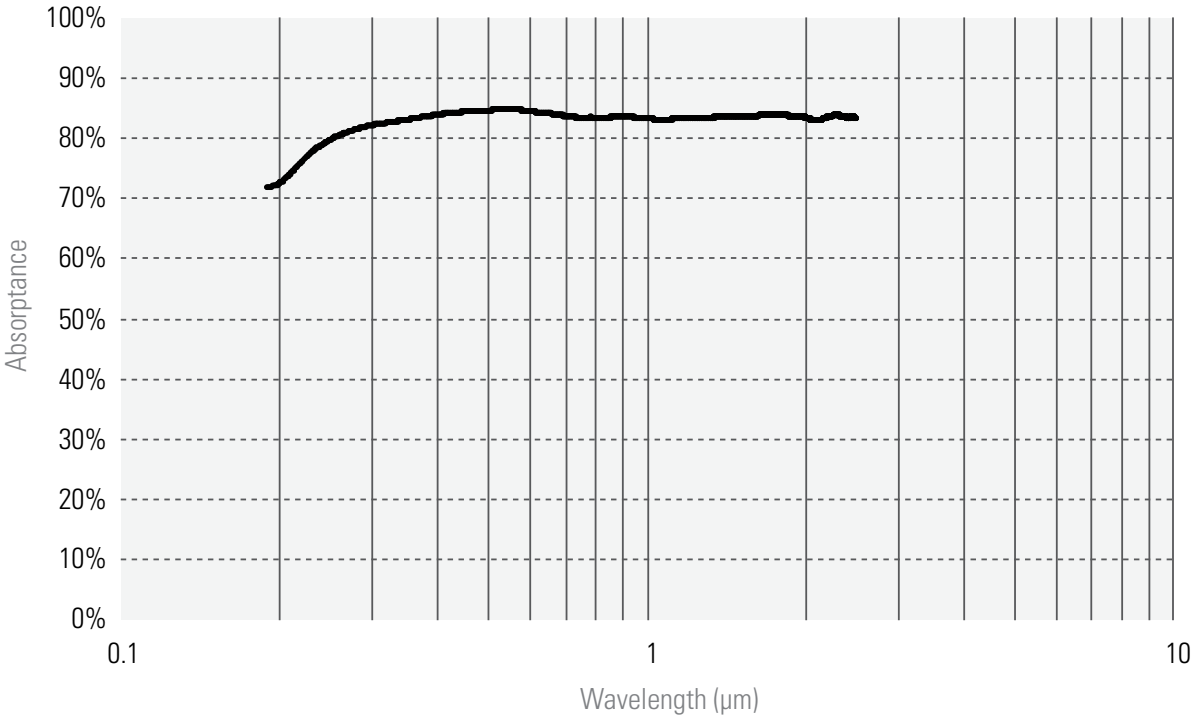


XLP12-VP



ABSORPTION CURVES

UP-W



UP-VR

