

# UP10-H

10 mm Ø, 0.1 mW - 2 W, fast & low power thermopile



## KEY FEATURES

- > **LOW POWER THERMOPILE**  
Noise level of a photodetector with the large bandwidth and high power capacity of a thermal device
- > **HIGH PERFORMANCE**  
Fast rise time (1.4 s)  
High damage threshold (36 kW/cm<sup>2</sup>)
- > **COMPACT DESIGN**  
Only 13 mm thick (UP10P model)
- > **ENERGY MODE**  
Measure single shot energy up to 3 J

## OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**  
Contains all the calibration data
- > **integra ALL-IN-ONE-METER**  
Connects directly to a PC  
Two models available:
  - USB output (-INT)
  - RS-232 output (-IDR)

## COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



MAESTRO



TUNER



UNO



U-LINK and P-LINK



S-LINK and M-LINK

## ACCESSORIES



Stand with steel post



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



IR Filter  
(Mounted)



Isolation tube



Fiber adaptors & connectors  
(FC, ST and SMA)



Pelican carrying case



	UP10P-2S-H5-L-D0	UP10K-2S-H5-L-D0
<b>MAX AVERAGE POWER</b>	2 W	2 W
<b>EFFECTIVE APERTURE</b>	10 mm Ø	10 mm Ø
<b>COOLING METHOD</b>	Convection	Convection
<b>MEASUREMENT CAPABILITY</b>		
<b>Spectral range</b>	0.19 - 20 µm	0.19 - 20 µm
<b>Calibrated spectral range <sup>a</sup></b>	0.248 - 2.1 µm	0.248 - 2.1 µm
<b>Noise equivalent power <sup>b</sup></b>	100 µW without anticipation 30 µW with anticipation and 2 s moving average	100 µW without anticipation 30 µW with anticipation and 2 s moving average
<b>Rise time (nominal) <sup>c</sup></b>	1.4 s	1.1 s
<b>Calibration uncertainty <sup>d</sup></b>	± 2.5%	± 2.5%
<b>Repeatability</b>	±0.5%	±0.5%
<b>Energy mode</b>		
<b>Maximum measurable energy <sup>e</sup></b>	3 J	3 J
<b>Noise equivalent energy <sup>b</sup></b>	5 mJ	5 mJ
<b>Minimum repetition period</b>	2 s	2 s
<b>Maximum pulse width</b>	63 ms	63 ms
<b>Accuracy with energy calibration option</b>	± 5%	± 5%
<b>DAMAGE THRESHOLDS</b>		
<b>Maximum average power density <sup>f</sup></b>	36 kW/cm <sup>2</sup>	36 kW/cm <sup>2</sup>
<b>Maximum energy density</b>		
1064 nm, 360 µs, 5 Hz	5 J/cm <sup>2</sup>	5 J/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	0.6 J/cm <sup>2</sup>	0.6 J/cm <sup>2</sup>
266 nm, 7 ns, 10 Hz	0.3 J/cm <sup>2</sup>	0.3 J/cm <sup>2</sup>
<b>PHYSICAL CHARACTERISTICS</b>		
<b>Effective aperture</b>	10 mm Ø	10 mm Ø
<b>Absorber (high damage threshold)</b>	H5	H5
<b>Dimensions</b>	46H x 46W x 13D mm	50H x 50W x 21.5D mm
<b>Weight (head only)</b>	0.13 kg	0.19 kg
<b>ORDERING INFORMATION</b>		
<b>Available output options</b>	DB15, USB or RS-232	DB15, USB, RS-232
<b>Compatible stand</b>	STAND-S-233	STAND-S-233
<b>Product page</b>		

a. Calibrations at 2.1 to 2.5 µm and 10.6 µm are available on special request.  
 b. Nominal value, actual value depends on electrical noise in the measurement system.  
 c. With anticipation.  
 d. Including linearity with power.  
 e. For 360 µs pulses. Higher pulse energy possible for long pulses (ms), less for short pulses (ns).  
 f. At 1064 nm, 10 W CW.