

激光功率能量计

功能最全，彩色显示手持式激光功率能量计表头



- 可与所有Ophir公司的热电堆，BeamTrack，热释电和光电二极管探头联用；
- 高亮彩色大尺寸TFT 320×240显示屏；
- 便携舒适的手持设计，二阶高度调整支架；
- 数字或模拟指针显示；
- 背光按键，便于在暗室内操作；
- 模拟输出；
- 与热释电探头联用时，记录数据速度达4,000Hz；
- 可存储250,000个数据；
- 内置USB和RS232接口与计算机通讯，便于StaLab，StarCom PC应用；可以使用LabVIEW，COM Objec和ActiveX软件操作。

手持式多功能激光功率能量表



- 可与所有Ophir公司的热电堆，BeamTrack，热释电和光电二极管探头联用；
- 高分辨大尺寸 LCD 320×240显示屏；
- 两个位置调整支架；
- 数字或模拟指针显示；
- 背光显示，可更换电池；
- 模拟输出；
- 与热释电探头联用时，记录数据速度达4,000Hz；
- 可存储54,000个数据；
- 内置USB和RS232接口与计算机通讯，便于StaLab，StarCom PC应用；可以使用LabVIEW，COM Objec和ActiveX软件操作。

多功能激光功率/能量表



- 两种款式可选：单/双通道；单通道可以升级为双通道
- 可与所有Ophir公司的热电堆，BeamTrack，热释电，光电二极管，RP探头联用；
- 大尺寸 LCD显示屏；
- 显示图表和统计（std dev,min,max）；
- 背光显示，可更换电池；
- 模拟输出；
- 内置RS232接口；
- 与热释电探头联用时，记录数据速度达 > 1500Hz；
- 可存储54,000个数据；
- RS232接口与计算机通讯，便StarCom PC应用；可以使用LabVIEW，软件操作；
- GPIB（可选）；
- NIST溯源标准。

Power sensors

Photodiode Power Sensors

Standard photodiode sensors - 10pW - 3W

Sensor	Features	Aperture	Spectral Range	Power Range
PD300	Automatic background subtraction	10x10mm	350-1100nm	500pW-300mW
PD300-1W	Automatic background subtraction	10x10mm	350-1100nm	500pW-1W
PD300-3W	High power	10x10mm	350-1100nm	5nW-3W
PD300-TP	Very thin profile (4mm only)	10x10mm	350-1100nm	50pW-1W
PD300-UV	Wide spectral range and low noise	10x10mm	200-1100nm	20pW-300mW
PD300-UV-193	PD300-UV with additional calibration at 193nm	10x10mm	200-1100nm	20pW-300mW
PD300-IR	Infrared	Ø5mm	700-1800nm	5nW-300mW
PD300-IRG	Very low noise 300 femto watts	Ø5mm (max)	800-1700nm	10pW-150mW

Round photodiode sensors - 20pW - 3W

Sensor	Features	Aperture	Spectral Range	Power Range
PD300R	Same as PD300, circular for easy centering	Ø10mm	350-1100nm	500pW-300mW
PD300R-3W	Same as PD300-3W, circular geometry	Ø10mm	350-1100nm	5nW-3W
PD300R-UV	Same as PD300-UV, circular geometry	Ø10mm	200-1100nm	20pW-300mW
PD300R-IR	Same as PD300-IR, circular geometry	Ø5mm	700-1800nm	5nW-300mW

Special photodiode sensors - 50pW - 50mW and 20mLux - 200kLux

Sensor	Features	Aperture	Spectral Range	Power Range
PD300-BB	Flat spectral response from 430 to 1000nm	10x10mm	430-1000nm	50pW-4mW
PD300-BB-50mW	For broadband light sources to 50mW	10x10mm	430-1000nm	50pW-50mW
PD300-CIE	Measurement in units of Lux or foot candles	2.4x2.8mm	400-700nm	20mLux-200kLux
BC20	Meter for scanned beams at up to 30,000 inch/s	10x10mm	633, 650, 675nm	100µW-20mW

Integrating Spheres

Sensor	Features	Aperture	Spectral Range	Power Range
Small dimensions 1.5"				
3A-IS	Integrating sphere for divergent beams to 3W	Ø12mm	350-1100nm	1µW-3W
3A-IS-IRG	Integrating sphere for divergent beams to 3W for near IR	Ø12mm	800-1700nm	1µW-3W
Large dimensions 5.3"				
IS6-C	6" Integrating sphere for collimated light sources	Ø25.4mm (1")	200-2200nm	Depends on detector
IS6-D	6" Integrating sphere for divergent light sources	Ø63.5mm (2.5")	200-2200nm	Depends on detector
IS6 detectors				
IS-PD300R-VIS-NC	Sensor for IS6, 430-1100nm , 30W, uncalibrated	N/A	430-1100nm	1µW-30W
IS-PD300R-UV-NC	Sensor for IS6, 220 -1100nm , 1W, uncalibrated	N/A	220 -1100nm	10nW-1W
IS-PD300R-IR-NC	Sensor for IS6, 700-1800nm , 30W, uncalibrated	N/A	700-1800nm	30nW-30W
IS-PD300R-CIE-NC	Sensor for IS6, photopic, 500 lumen, uncalibrated	N/A	400-700nm	100µlm-500lm

LED measurement – UV, VIS, NIR

Sensor	Features	Aperture	Spectral Range	Power Range
3A-IS	12mm aperture Integrating sphere for 350-1100nm, 3W	Ø12mm	350-1100nm	1µW-3W
PD300-UV	Photodiode with wide spectral range	10x10mm	200-1100nm	20pW-300mW
PD300R-UV	Same as PD300 with circular geometry for easy centering	Ø10mm	200-1100nm	20pW-300mW
3A	Very low powers	Ø9.5mm	0.19-20µm	10µW-3W

Thermal Power Sensors

High sensitivity sensors - Radiometer

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
RM9 sensor	Radiometer for extremely low powers w/o chopper	Ø8mm	0.15-1.2µm	100nW-100mW	NA
RMC1 Chopper	Extra chopper for RM9	Ø22mm	NA	NA	NA
RM9 sensor and	Complete set, RM9 with chopper	Ø8mm	0.15µm-1.2µm	100nW-100mW	NA

High sensitivity thermal sensors - 8µW - 12W

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
3A	Very low powers	Ø9.5mm	0.19-20µm	10µW-3W	20µJ-2J
3A-P	Low powers and energies	Ø12mm	0.15-8µm	15µW-3W	20µJ-2J
3A-P-THz	3A-P sensor calibrated for Terahertz wavelengths	Ø12mm	0.3-10THz	15µW-3W	20µJ-2J
3A-FS	Lowest powers, Fused Silica window	Ø9.5mm	0.19-20µm	8µW-3W	15µJ-2J
3A-P-FS-12	For divergent beams, window blocks infrared	Ø12mm	0.22 - 2.1µm	15µW - 3W	20µJ-2J
12A	Wide dynamic range to 12W	Ø16mm	0.19-20µm	2mW-12W	1mJ-30J
12A-P	Short pulse lasers to 12W	Ø16mm	0.15-8µm	2mW-12W	1mJ-30J

Low power thermal sensors - 20mW - 50W (Continuous) / 150W (Intermittent)

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
10A	General purpose to 10W	Ø16mm	0.19-20µm	20mW-10W	6mJ-2J
30A-BB-18	General purpose to 30W	Ø17.5mm	0.19-20µm	20mW-30W	6mJ-30J
L30A-10MM	Thin Profile to 30W	Ø26mm	0.15-20µm	80mW-30W	20mJ-60J
50(150)A-BB-26	General purpose to 50W, 150W intermittent	Ø26mm	0.19-20µm	40mW-150W	20mJ-100J
10A-P	Pulsed lasers up to 10W	Ø16mm	0.15-8µm	40mW-10W	10mJ-10J
30A-P-17	Short pulse lasers to 30W	Ø17mm	0.15-8µm	60mW-30W	40mJ-30J
50A-PF-DIF-18	High energy density pulsed beams	Ø17.5mm	0.24 - 2.2µm	140mW-50W	60mJ-200J
15(50)A-PF-DIF-18	As above, compact for intermittent use	Ø17.5mm	0.24 - 2.2µm	140mW-50W	60mJ-200J
30A-N-18	High power density pulsed YAG	Ø17.5mm	0.532, 1.064µm	60mW-30W	30mJ-200J

Low-medium power thermal sensors - apertures 12mm to 35mm, 10mW - 150W

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
30(150)A-BB-18	CW to 30W, intermittent to 150W	Ø17.5mm	0.19-20µm	30mW-150W	20mJ-100J
30(150)A-LP1-18	As above, high damage threshold for long pulses and CW	Ø17.5mm	0.25-2.2µm	30mW-150W	20mJ-300J
L50(150)A-BB-35	CW to 50W, intermittent to 150W	Ø35mm	0.19-20µm	100mW-150W	40mJ-300J
L50(150)A-LP1-35	CW to 50W, intermittent to 150W high damage threshold for long pulses	Ø35mm	0.25-2.2µm	100mW-150W	40mJ-300J
L50(150)A-PF-35	CW to 50W, intermittent to 150W for short pulse lasers	Ø35mm	0.15-20µm	100mW-150W	50mJ-300J
30(150)A-SV-17	Very high damage threshold, 30W continuous 150W intermittent	Ø17mm	0.19-12µm	100mW-150W	50mJ-300J
30(150)A-HE-17	High energy and average power YAGs and harmonics 30W continuous 150W intermittent	Ø17mm	0.19-0.625µm, 1.064µm, 2.1µm, 2.94µm	50mW-150W	60mJ-200J
30(150)A-HE-DIF-17	For highly concentrated Q switched pulses to 30W, intermittent to 150W	Ø17mm	0.19-3µm except for 625-900nm	50mW-150W	60mJ-200J
20C-SH	Compact smart sensor	Ø12mm	0.19-20µm	10mW-20W	6mJ-10J
L30C-SH	Medium aperture, smart sensor	Ø26mm	0.19-20µm	80mW-50W	30mJ-30J
100C-SH	Low profile, smart sensor	Ø18mm	0.19-20µm	60mW-100W	N.A
150C-SH	High power, smart sensor	Ø18mm	0.19-20µm	60mW-60W	20mJ-100J
150W-SH	High power, water cooled smart sensor	Ø18mm	0.19-20µm	60mW-150W	50mJ-100J

Medium power thermal sensors - apertures 50 to 65mm, 100mW - 300W

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
L40(150)A	CW to 35W, intermittent to 150W, large aperture	Ø50mm	0.19-20µm	100mW-150W	100mJ-200J
L40(150)A-LP1	As above, high damage threshold for long pulses	Ø50mm	0.25-2.2µm, 2.94µm	100mW-150W	100mJ-300J
L40(150)A-EX	As above for excimer lasers	Ø50mm	0.15-0.7µm, 10.6µm	100mW-150W	100mJ-200J
L50(150)A	CW to 50W, intermittent to 150W	Ø50mm	0.19-20µm	100mW-150W	100mJ-300J
L50(300)A	CW to 50W, intermittent to 300W, very large aperture	Ø65mm	0.19-20µm	400mW-300W	200mJ-300J
L50(300)A-LP1	As above, high damage threshold for CW and long pulses	Ø65mm	0.25-2.2µm	400mW-300W	200mJ-300J
L50(300)A-PF-65	CW to 50W, intermittent to 300W, large beam short pulses	Ø65mm	0.15-20µm	400mW-300W	200mJ-300J
L50(300)A-IPL	For gel coupled IPL sources	Ø65mm	0.5-1.1µm	400mW-300W	120mJ-300J

Medium-high power fan cooled thermal sensors – 50mW – 1100W

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
F100A-PF-DIF-33	High average power, short pulse lasers	Ø33mm	0.24-2.2µm	50mW-100W	60mJ-200J
F150A-BB-26	Fan cooled to 150W	Ø26mm	0.19-20µm	50mW-150W	20mJ-100J
FL250A-BB-35	Fan cooled to 250W	Ø35mm	0.19-20µm	150mW-250W	50mJ-300J
FL250A-LP1-35	As above, high damage threshold for long pulses and CW	Ø35mm	0.25-2.2µm	150mW-250W	50mJ-300J
FL250A-LP1-DIF-33	Fan cooled to 250W with diffuser for high power and energy density	Ø33mm	0.4-3µm	400mW-250W	400mJ-600J
FL250A-BB-50	Fan cooled to 250W, large aperture	Ø50mm	0.19-20µm	150mW-250W	80mJ-300J
FL400A-BB-50	Fan cooled to 400W	Ø50mm	0.19-20µm	300mW-500W	75mJ-600J
FL400A-LP1-50	Fan cooled to 400W, high power densities and long pulses	Ø50mm	0.35-2.2µm, 10.6µm	300mW-500W	75mJ-600J
FL500A	Fan cooled to 500W, very large aperture	Ø65mm	0.19-20µm	500mW-500W	100mJ-600J
FL500A-LP1	Fan cooled to 500W, high power densities and long pulses	Ø65mm	0.35-2.2µm	500mW-500W	100mJ-600J
FL600A-BB-65	Fan cooled to 600W	Ø65mm	0.19µm-20µm	500mW-600W	250mJ-600J
FL600A-LP1-65	Fan cooled to 600W for long pulsed lasers	Ø65mm	0.35µm-2.2µm	500mW-600W	250mJ-600J
FL1100A-BB-65	Fan cooled to 1100W	Ø65mm	0.19µm-20µm	1W-1100W	250mJ-600J

High power water cooled thermal sensors - 1W – 10kW

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
L250W	Thin profile, 20mm thick, water cooled to 250W	Ø50mm	0.19-20µm	1W-250W	120mJ-200J
L300W-LP1-50	Thin profile, 20mm thick, water cooled to 300W	Ø50mm	0.35-2.2µm, 10.6µm	1W-300W	200mJ-300mJ
1000W-BB-34	Water cooled to 1000W	Ø34mm	0.19-20µm	5W-1000W	400mJ-300J
1000WP-BB-34	Water cooled to 1000W with non contaminating water circuit	Ø34mm	0.19µm-20µm	5W-1000W	400mJ-300J
1000W-LP1-34	Water cooled to 1000W, high power densities and long pulses	Ø34mm	0.35-2.2µm, 10.6µm	5W-1000W	400mJ-300J
L1000W-BB-120	Water cooled to 1000W. Very large aperture 120mm	Ø120mm	0.19µm-20µm	1W-1000W	2J-600J
L1500W-BB-50	Water cooled to 1500W	Ø50mm	0.19-20µm	15W-1500W	500mJ-200J
L1500W-LP1-50	As above, high power densities and long pulses	Ø50mm	0.35-2.2µm, 10.6µm	15W-1500W	500mJ-200J
5000W-BB-50	Water cooled to 5000W	Ø50mm	0.19-20µm	20W-5000W	N.A.
5000W-LP1-50	As above, high power densities and long pulses	Ø50mm	0.35-3.2µm	20W-5000W	N.A.
10K-W-BB-45	Water cooled to 10,000W, very high power densities	Ø45mm	0.8-2µm, 10.6µm	100W-10KW	N.A.
5000W / 10K-W	Housing with shutter to protect 5000W and 10K-W	Ø52mm	N.A.	N.A.	N.A.

Protective Housing sensors from contamination by debris with Shutter

Very high power water cooled thermal sensors 100W – 120kW

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
30K-W-BB-74	Water cooled to 30,000W, high power densities	Ø74mm	0.8-2µm, 10.6µm	100W-30kW	N.A.
120K-W	Water cooled to 100,000W. Highest powers	Ø200mm	0.8-1.1µm	10kW-120kW	N.A.

Power pucks 20W – 10kW

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
Comet 1K	Portable low-cost power probe with low powers	Ø50mm	0.2-20µm	20W-1000W	N.A.
Comet 10K	Portable low-cost power probe with high powers	Ø100mm	1.06µm and 10.6µm	200W-10,000W	N.A.
Comet 10K-HD	Portable low-cost power probe with high damage threshold	Ø55mm	1.06µm and 10.6µm	200W-10,000W	N.A.

Beam dumps up to 10kW

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
BDFL500A-BB-50	fan cooled beam dump up to 500W	Ø50mm	0.19-20µm	up to 500W	N.A.
BD5000W-BB-50	Water cooled beam dump up to 5000W	Ø50mm	0.19-20µm	up to 5000W	N.A.
BD10K-W	Water cooled beam dump up to 10,000W	Ø45mm	0.8-20µm	up to 10,000W	N.A.

BeamTrack - Power / Posion / Size Sensors

Sensor	Features	Aperture	Spectral Range	Power Range	Energy Range
3A-QUAD	Power & position, very low powers up to 3W	Ø9.5mm	0.19-20µm	100µW-3W	20µJ-2J
3A-P-QUAD	As above for short pulse lasers	Ø12mm	0.15-8µm	160µW-3W	30µJ-2J
10A - PPS	Power, position & size to 10W	Ø16mm	0.19-20µm	20mW-10W	6mJ-2J
50(150)A-BB-26-PPS	Power, position & size to 50W, 150W intermittent	Ø26mm	0.19-20µm	40mW-150W	20mJ-100J
F150A-BB-26-PPS	Power, position & size to 150W	Ø26mm	0.19-20µm	50mW-150W	20mJ-100J
FL250A-BB-50-PPS	Power, position & size to 250W, large aperture	Ø50mm	0.19-20µm	150mW-250W	80mJ-300J
1000W-BB-34-QUAD	Power & position, high powers up to 1000W	Ø34mm	0.19-20µm	5W-1000W	500mJ-300J

Energy sensors

Photodiode and Pyroelectric Energy Sensors Photodiode energy sensors - 10pJ - 20µJ

Sensor	Features	Aperture	Spectral Range	Energy Range	Maximum Frequency
PD10-C	Very low energies down to nJ, Silicon photodiode	Ø10mm	0.19-1.1µm	1nJ-20µJ	20,000Hz
PD10-pJ-C	Lowest energies down to pJ, Silicon photodiode	Ø10mm	0.2-1.1µm	10pJ-200nJ	20,000Hz
PD10-IR-pJ-C	Lowest energies down to pJ, Germanium photodiode	Ø5mm	0.7-1.8µm	30pJ-20nJ	10,000Hz

Pyroelectric energy sensors - 0.05µJ - 10J

Sensor	Features	Aperture	Spectral Range	Energy Range	Maximum Frequency
PE9-C	Pyroelectric for very low energies	Ø8mm	0.15-12µm	0.2µJ-1mJ	25,000Hz
PE9-ES-C	Pyroelectric for lowest energies	Ø8mm	0.15-12µm	0.05-200µJ	25,000Hz
PE10-C	Pyroelectric for low energies	Ø12mm	0.15-12µm	1µJ-10mJ	25,000Hz
PE10BF-C	As above, high damage threshold	Ø12mm	0.15-3µm, 10.6µm	7µJ-10mJ	250Hz
PE25-C	Medium aperture pyroelectric	Ø24mm	0.15-3µm	8µJ-10J	10,000Hz
PE25BF-C	As above, high damage threshold	Ø24mm	0.15-3µm, 10.6µm	60µJ-10J	250Hz
PE50-C	Large aperture pyroelectric	Ø46mm	0.15-3µm	10µJ-10J	10,000Hz
PE50BF-C	As above, high damage threshold	Ø46mm	0.15-3µm, 10.6µm	120µJ-10J	250Hz
PE50HD-C	Pyroelectric for 193nm with high damage threshold	Ø56mm	193nm	500µJ-10J	100Hz

High energy pyroelectric sensors - 10µJ - 40J

Sensor	Features	Aperture	Spectral Range	Energy Range	Maximum Frequency
PE50-DIF-C	Pyroelectric with diffuser, high repetition rate. Complete calibration curve	Ø35mm	0.19-2.2, 2.94µm	20µJ-10J	10,000Hz
PE25BF-DIF-C	Pyroelectric with diffuser for high damage threshold. Complete calibration curve	Ø20mm	0.24-2.2µm	100µJ-10J	250Hz
PE50BF-DIF-C	Pyroelectric with diffuser for highest damage threshold. Complete calibration curve	Ø35mm	0.19-2.2µm, 2.94µm	200µJ-10J	250Hz
PE50BF-DIFH-C	Similar to PE50BF-DIF-C but with higher damage threshold	Ø35mm	0.19-2.2µm, 2.94µm	200µJ-10J	250Hz
PE50BB-DIF-C	Pyroelectric with removable diffuser. Wide spectral range w/o diffuser	Ø46mm Ø33mm with diffuser	0.19-20µm, 0.4-2.5µm with diffuser	100µJ-40J	40Hz
PE50-DIF-ER-C	Pyroelectric with removable diffuser. Especially for Erbium laser	Ø46mm Ø33mm with diffuser	0.19-3µm, 0.4-3µm With diffuser	10µJ-30J	10,000Hz
PE100BF-DIF-C	Largest aperture pyroelectric with removable diffuser	Ø96mm Ø85mm with diffuser	0.15-3µm, 0.4-2.5µm with diffuser	400µJ-40J	200Hz
FPE80BF-DIF-C	Fan cooled pyroelectric for high ave powers to 200W	Ø53mm	0.19-2.2µm, 2.94µm	1mJ-40J	250Hz