長豐光學科技股份有限公司

Solutions For Industrial Laser Beam Delivery

PRIMES

功率測量立方體Cube

Cube

Fiber and disc laser

Diode laser

Ultrashort pulse laser

CO_2 CO_2 la

產品特點

- 25W~1.2KW
- 450 – 550 nm, 900 – 1 090 nm
- 掌中型設計攜帶方便
- 無須水冷裝置冷卻量測儀
- 0.1 – 2.0 s快速取得量測結果
- 量測後無須數十分鐘等待即可接續測量
- 有效控管加工品質

• 產品規格

MEASUREMENT PARAMETERS	CUBE	CUBE L
Power range	25 – 12 000 W [1]	200 – 20 000 W [1]
Wavelength range	450 – 550 nm, 900 – 1 090 nm	450 – 550 nm, 900 – 1 090 nm
Max. beam diameter on the absorber	30 mm	45 mm
Max. power density on the absorber at beam diameters > 10 mm 10 – 3 mm 3 – 1.5 mm < 1.5 mm	(ca. 30 mm underneath the protective window) 4 kW/cm² 5 kW/cm² 10 kW/cm² 12 kW/cm²	(ca. 29 mm underneath the protective window) 4 kW/cm² - - -
Irradiation time (depending on laser power)	0.1 – 2.0 s [1]	0.1 – 2.0 s [1]
Min. on/off times (duty cycle) for pulsed lasers (e.g. max. 10 kHz at 50 % duty cycle)	50 µs	50 µs
Max. laser rise time	100 µs	100 µs
Energy per measurement	50 – 3 000 J	depending on beam diameter[2]: d > 35 mm: 200 - 5000 J 28 - 35 mm: 200 - 4000 J 20 - 28 mm: 200 - 3000 J d < 20 mm: 200 - 2000 J
Recommended energy per measurement	300 – 500 J	500 – 2 000 J
Total duration until measurement value output	< 15 s	< 15 s
Nominal measurement frequency	300 J: 1 cycle/min 3 000 J: 1 cycle /15 min	700 J: 1 cycle/min 5 000 J: 1 cycle/15 min
DEVICE PARAMETERS		
Max. absorber temperature	120 °C	120 °C
Max. angle of incidence perpendicular to inlet aperture	± 5 °	± 5 °
Max. centered tolerance	± 2.0 mm	± 5.0 mm
Accuracy at angle of incidence up to 5 °	± 3 %	± 3 %
Reproducibility	± 1 %	± 1 %
SUPPLY DATA		
Power supply	Built in lithium-ion battery, which can be charged via a micro-USB port	
Temperature range for charging the lithium-ion cell	0 – 45 °C	0 – 45 °C
COMMUNICATION		
Interfaces	USB/Bluetooth	USB/Bluetooth
Software	LaserDiagnosticsSoftware (LDS) and Cube App	
DIMENSIONS AND WEIGHT		
Dimensions (L x W x H) (without connectors)	60 x 65 x 65 mm	92 x 97 x 65 mm
Weight (approx.)	400 g	1 100 g

[1] The stated limit values are to be understood in correlation with the permitted maximum energy (E = P · t).
[2] Limiting the maximum energy as a function of the beam diameter serves to protect the device and prolongs its service life.

掌中型功率測量儀

功率測量立方體(Cube)是專為雷射光源的功率測量器。
在雷射加工中，雷射功率為加工材料處理的關鍵參數之一，功率的錯誤可能會導致加工處理中嚴重的品質問題，這就是為什麼雷射功率必須直接或接近加工處理區進行測量，上方為功率測量探頭，使螢幕顯是雷射功率數據。

實際操作

測量儀器用來檢視產生出的雷射功率。
輕便的設計使Cube在量測儀器中是最小的，可隨身攜帶進行功率量測。
Cube適由兼顧的外殼組成，防撞和避震以及防塵。
內有離電池，可以透過一個微型USB端口充電。
可以儲存功率數據達14次，最新數據可在顯示器上觀看。

Cube