



compact and economic

SCANLAB's basiCube scan heads are the ideal entry-level 2D scan systems for deflecting and positioning laser beams in the working plane.

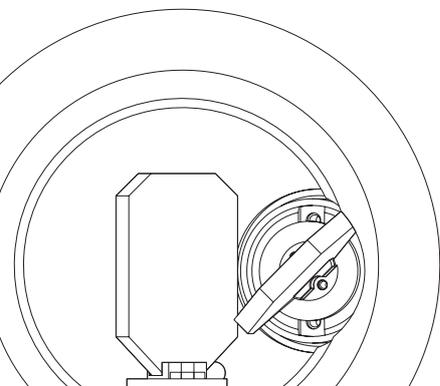
Key Features

- Compact & light-weight design
- Very fast writing speed
- Excellent price/performance ratio

The basiCube scan head series offers superior cost effectiveness and is optimized for coding and marking.

Typical Applications

- Marking
- Processing-on-the-fly



Specifications

Dynamics

	basiCube 10	basiCube 10d	basiCube 14
Aperture [mm]	10	10	14
Tracking error [ms]	< 0.14	0.10 ⁽⁴⁾	< 0.18
Typical speeds ⁽¹⁾			
Marking speed [m/s]	2.5	3.0	2.0
Positioning speed [m/s]	12.8	20.8	12.8
Writing speed ⁽²⁾			
Good writing quality [cps]	800	860	600
High writing quality [cps]	570	590	375
Step response time ⁽³⁾			
1% of full scale [ms]	0.35	0.30	0.45
10% of full scale [ms]	1.0	0.9	1.4

⁽¹⁾ with F-Theta objective, f = 160 mm
⁽²⁾ single-stroke characters of 1 mm height
⁽³⁾ settling to 1/1000 of full scale
⁽⁴⁾ dynamically relevant tracking error

Precision & Stability

	basiCube 10	basiCube 10d, basiCube 14
Repeatability (RMS) [μrad]	< 2	< 2
Positioning resolution [Bit] ⁽⁵⁾	16	16
Nonlinearity ⁽⁶⁾	< 3.5 mrad	< 0.9 mrad
Temperature drift		
Offset [μrad/K]	< 30	< 30
Gain [ppm/K]	< 160	< 160
Long-term drift		
8-h-drift (after 30 min warm-up) ⁽⁷⁾		
Offset [μrad]	< 100	< 100
Gain [ppm]	< 250	< 250

⁽⁵⁾ based on the full angle range (e.g. positioning resolution 11 μrad for angle range ±0.36 rad)
⁽⁶⁾ related to 0.77 rad
⁽⁷⁾ at constant ambient temperature and load

Further Specifications

Optical performance

Typical scan angle [rad]	±0.35
Gain error [mrad]	< 5
Zero offset [mrad]	< 5

Power requirements

basiCube 10	±15 V DC; max. 3 A each
basiCube 10d, 14	available variants: 24 V DC, 30 V DC; max. 3 A each

Interface (digital)

SL2-100, XY2-100

IP protection class

IP 50

Operating temperature [°C]

25 ± 10

(all angles are in optical degrees)

Options & Variants

Extensions

- varioSCAN II: Extension into a 3-axis scan system

Optics

- Coatings for the following wavelengths:
 basiCube 10, 10d: 355 nm, 532 nm, 1064 nm, 10600 nm
 basiCube 14: 355 nm, 1064 nm, 10600 nm
- Suitable objectives available for various image fields and focal lengths

Control Boards

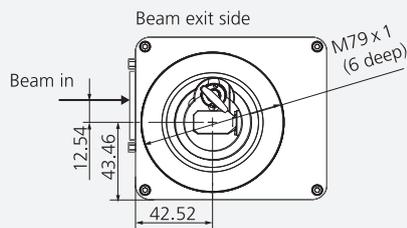
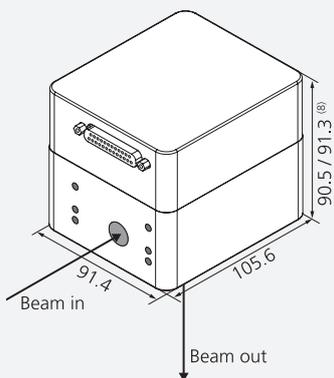
- RTC4 (PCIe, Ethernet), RTC5, RTC6 (PCIe, Ethernet)

Software

- Flexible calibration solution: CalibrationLibrary

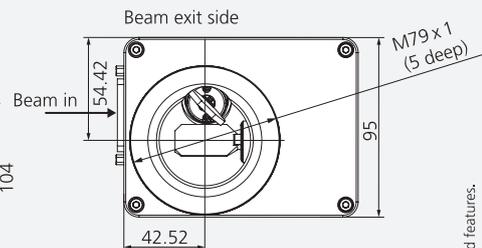
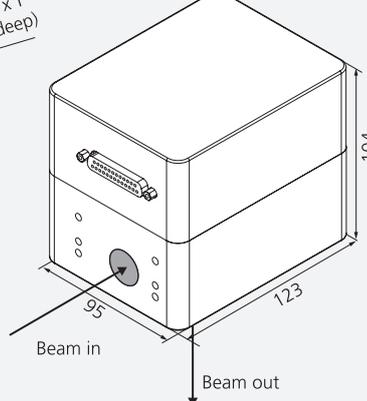
basiCube10

Diagonal View



basiCube14

Diagonal View



	basiCube 10, 10d	basiCube 14
Aperture	10 mm	14 mm
Beam displacement	12.54 mm	16.42 mm
Weight	1.5 kg	2.15 kg

⁽⁸⁾ basiCube 10: 90.5 mm
 basiCube 10d: 91.3 mm
 all dimensions in mm

SCANcalc App



Google Play

App Store

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