
## 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.

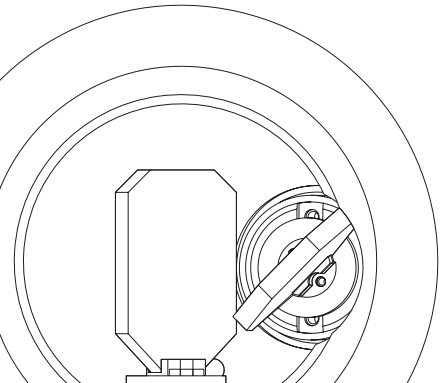
The basiCube scan head series offers superior cost effectiveness and is optimized for coding and marking.

### Key Features

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

### Typical Applications

- Marking
- Processing-on-the-fly



SCANLAB
innovators for industry

# 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 heigth
[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

- vario*SCAN* 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

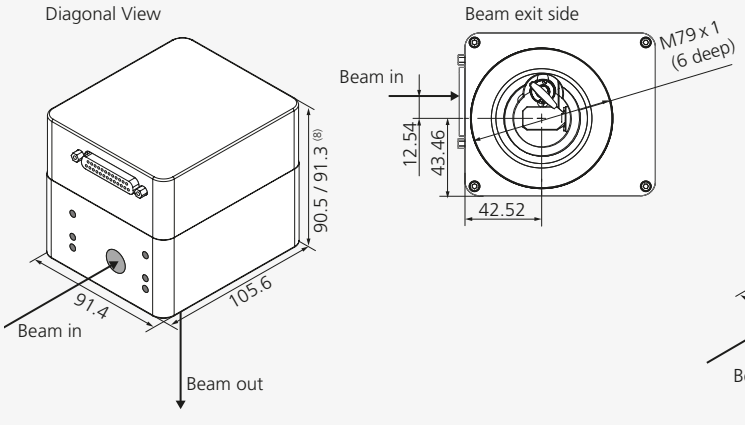
## Control Boards

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

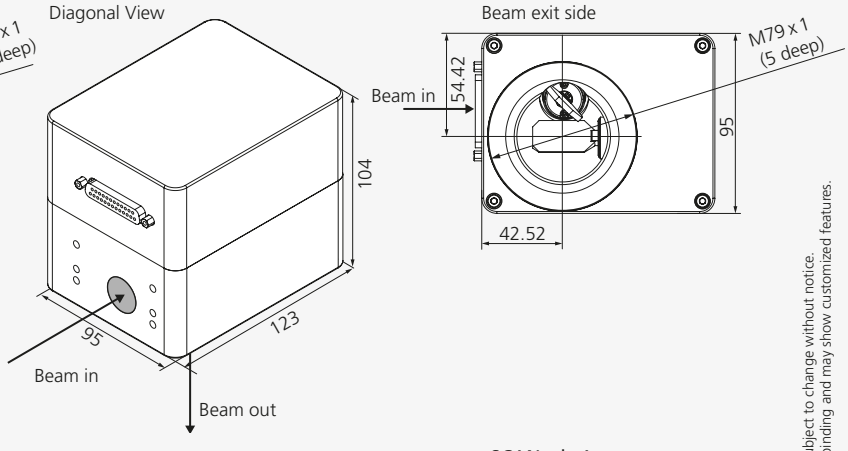
## Software

- Flexible calibration solution: CalibrationLibrary

basiCube10




basiCube14




| | 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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