



high speed scanning in pocket size

SCANLAB's SCANcube series of scan heads are characterized by their remarkably compact construction. These 2D scan systems enable deflecting and positioning of laser beams in the working plane.

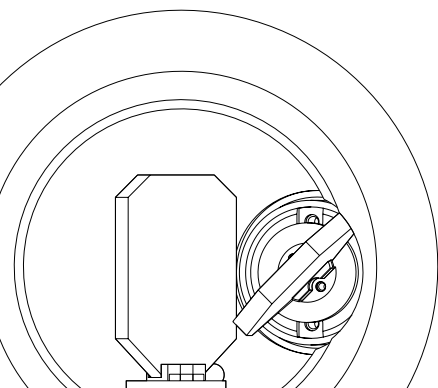
Key Features

- Compact & lightweight design
- Robust, sealed housing
- High dynamic performance
- Large selection of mirror coatings

In addition to its robust housing, the SCANcube series offers an attractive price/performance ratio, making it the best choice for your standard applications.

Typical Applications

- Marking tasks
- Semiconductor-industry materials processing
- Microstructuring
- Processing-on-the-fly



Features of the SCANcube und SCANcube III Product Lines

Summary

The SCANcube product line is optimized for the demands of typical marking applications.

SCANcube III scan heads address marking tasks that prioritize faster write speeds and far higher precision, along with long-term stability.

Shared Characteristics

- Full electrical compatibility
- Full mechanical compatibility
- Design optimized for labeling and marking in industrial environments

SCANcube III Performance Enhancements

Boosts in:

- Scan speed: up to 100%
- Dynamic performance: up to 50%

Reductions in:

- Long-term drift: more than 50%
- Temperature drift: more than 40%
- Heat generation: more than 50%

Options & Variants

Extensions

- varioSCAN: Extension into a 3-axis scan system
- Camera adapter: Optical process monitoring

Mirrors

- Over 40 standard coatings for various wavelengths
- Maximum average powers up to 250 W for standard systems

Objectives

- Standard range of over 330 objectives available for the SCANcube series from leading manufacturers to achieve various image fields and focal lengths
- Matching mechanical objective mount on scan head, optimized to take occurring back reflections into account
- Objective-specific correction files

Control boards

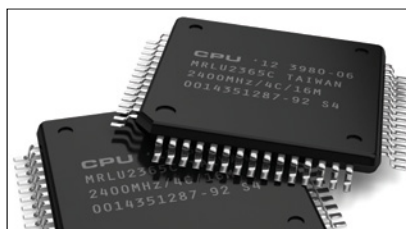
- RTC4 (PCIe, Ethernet) or RTC5

Software

- laserDESK: Professional software for laser marking and laser processing of materials
- correXion pro: System-specific customizing of correction files



Laser Engraving

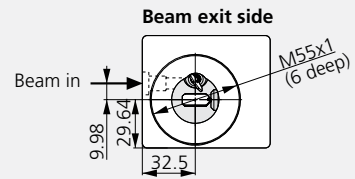
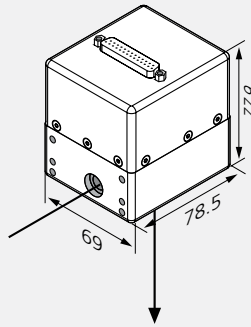


Marking

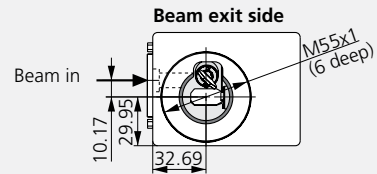
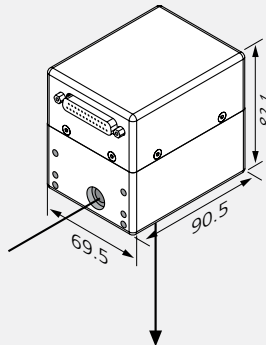


Day & Night Design

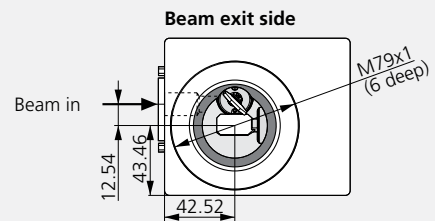
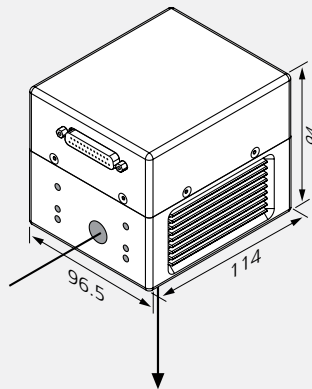
SCANcube 7



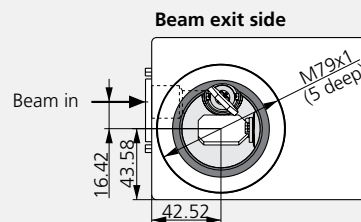
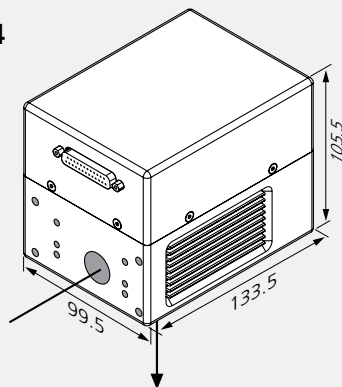
SCANcube 8.5



**SCANcube 10
SCANcube III 10**



**SCANcube 14
SCANcube III 14**



	SCANcube		SCANcube, SCANcube III	
Aperture	7 mm	8,5 mm	10 mm	14 mm
Beam displacement	9,98 mm	10,17 mm	12,54 mm	16,42 mm
Weight	650 g	1 kg	1,9 kg	2,3 kg

all dimensions in mm

Specifications

Dynamics

	SCANcube 7	SCANcube 8.5	SCANcube 10		SCANcube 14	
Product line	I-series	I-series	I-series	III-series	I-series	III-series
Aperture [mm]	7	8.5	10	10	14	14
Tracking error [ms]	0.14	0.14	0.16	0.12	0.30	0.15
Typical speeds ⁽¹⁾						
Marking speed [m/s]	2.5	2.5	2.0	3.0	1.0	2.0
Positioning speed [m/s]	15.0	15.0	10.0	16.0	7.0	14.0
Writing speed [cps] ⁽²⁾						
good writing quality [cps]	900	900	640	925	410	740
high writing quality [cps]	600	600	400	500	280	320
Step response time ⁽³⁾						
1 % of full scale [ms]	0.25	0.30	0.40	0.30	0.65	0.35
10% of full scale [ms]	0.70	0.70	1.2	0.80	1.6	0.90

⁽¹⁾ with F-Theta objective, f = 160 mm

⁽²⁾ single-stroke characters of 1 mm height

⁽³⁾ settling to 1/1000 of full scale

Precision & Stability

	SCANcube	SCANcube III
Repeatability (RMS) [μrad]	< 2	< 2
Positioning resolution [bit] ⁽⁴⁾	16	16
Nonlinearity	< 3.5 mrad/44°	< 0.9 mrad / 44°
Temperature drift		
Offset [μrad/K]	< 30	< 25
Gain [ppm/K]	< 80	< 25
Long-term drift		
8-h-drift (after 30 min warm-up) ⁽⁵⁾	< 0.3 mrad ⁽⁶⁾	
Offset [μrad]		< 100
Gain [ppm]		< 100

⁽⁴⁾ based on the full angle range (e.g. positioning resolution 11 μrad for angle range ±0,36 rad)

⁽⁵⁾ at constant ambient temperature and load

⁽⁶⁾ plus temperature-included Gain and Offset drift

Common Specifications

	SCANcube Serie
Optical performance	
Typical scan angle [rad]	± 0.35
Gain error [mrad]	< 5
Zero offset [mrad]	< 5
Power requirements	± 15 V DC, max. 3 A each
Interface	
digital version	SL2-100 or XY2-100
analog version	± 4.8 V
IP protection class	IP 50 ⁽⁷⁾
Operating temperature [°C]	25 ± 10

(all angles are in optical degrees)

⁽⁷⁾ also available as IP 66 for SCANcube III 10 and 14 on request

SCANcalc App



Google Play

App Store

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