



high speed scanning in pocket size

SCANcube series combines a robust and compact design with an attractive price/performance ratio. It is the best choice for both standard and demanding laser applications.

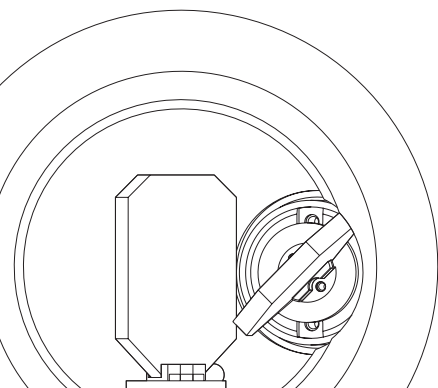
Key Features

- Compact & lightweight design
- Robust, sealed housing
- High dynamic performance
- Large selection of mirror coatings
- Optional: readback function of actual position, temperature and status values

The latest generation of our versatile scan head series is now also available with readback functions.

Typical Applications

- Marking tasks
- Semiconductor-industry materials processing
- Microstructuring
- Processing-on-the-fly
- Additive manufacturing (3D printing)



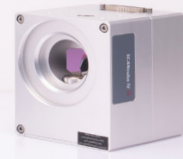
SCANcube



SCANcube III




SCANcube IV



Apertures	7 mm, 8.5 mm, 10 mm, 14 mm	10 mm, 14 mm	10 mm, 14 mm
Interface	analog, digital	analog, digital	digital
Control	analog	analog	digital
Galvanometer	dynAXIS	dynAXIS 3	dynAXIS 3
Tuning(s)	Fast-Vector	Fast-Vector	Fast-Vector, Sharp-Edge, Line Scan
Readback function	no	no	yes

Note: Comma-separated values imply selection options

Options

- **Mirrors**
Different wavelengths and laser powers
- **Objectives and objective holders**
Several focal lengths and resulting image field sizes
- **Camera adapter**
Various versions for optical process monitoring
- **Z axes**
varioSCAN II, excellISHIFT
- **Control boards**
RTC4, RTC5, RTC6
- **Correction files**
Objective-specific RTC correction files
- **Laser processing software**
 laser processing software

Applications



Marking

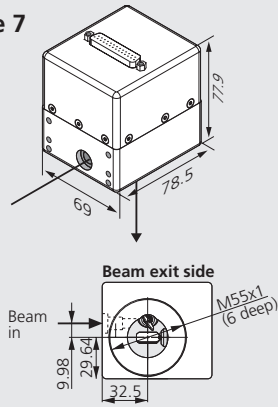


Laser engraving

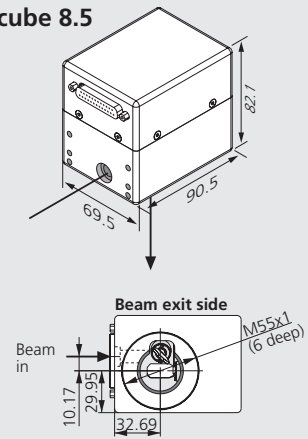


Additive manufacturing (3D printing)

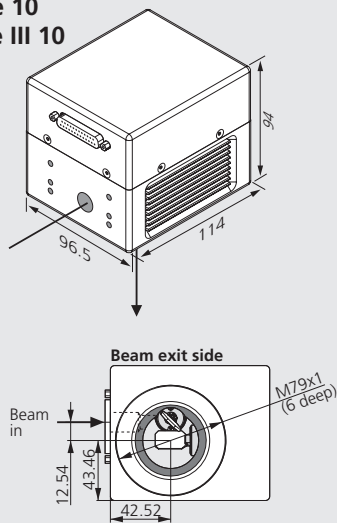
SCANcube 7



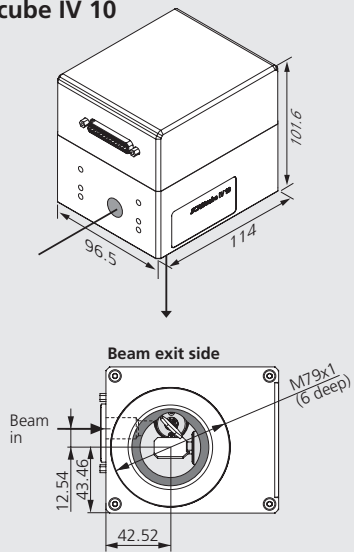
SCANcube 8.5



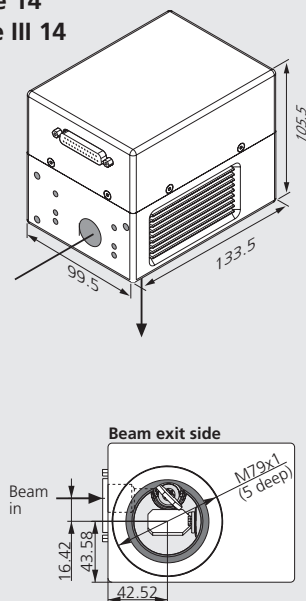
**SCANcube 10
SCANcube III 10**



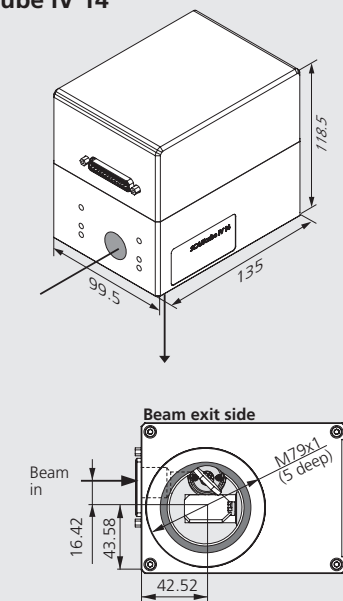
SCANcube IV 10



**SCANcube 14
SCANcube III 14**



SCANcube IV 14



all dimensions in mm

	SCANcube		SCANcube, SCANcube III		SCANcube IV	
Aperture	7 mm	8.5 mm	10 mm	14 mm	10 mm	14 mm
Beam displacement	9.98 mm	10.17 mm	12.54 mm	16.42 mm	12.54 mm	16.42 mm
Weight	650 g	1 kg	1.9 kg	2.3 kg	2.1 kg	2.7 kg

Specifications

Dynamics

	SCANcube	SCANcube	SCANcube	SCANcube III	SCANcube IV ⁽⁴⁾	SCANcube	SCANcube III	SCANcube IV ⁽⁴⁾
Aperture [mm]	7	8.5	10	10	10	14	14	14
Tracking error [ms]	0.14	0.14	0.16	0.12	0.12	0.3	0.15	0.15
Typical speeds ⁽¹⁾								
Marking speed [m/s]	2.5	2.5	2.0	3.0	3.0	1.0	2.0	2.5
Positioning speed [m/s]	15.0	15.0	10.0	16.0	20.8	7.0	14.0	14.4
Writing speed [cps] ⁽²⁾								
good writing quality [cps]	900	900	640	925	950	410	740	750
high writing quality [cps]	600	600	400	500	700	280	500	540
Step response time ⁽³⁾								
1 % of full scale [ms]	0.25	0.3	0.4	0.3	0.3	0.65	0.35	0.35
10% of full scale [ms]	0.7	0.7	1.2	0.8	0.8	1.6	0.9	1.2

⁽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⁾ specifications for vector tuning with 30 V power. More tunings on request.

Precision & Stability

	SCANcube	SCANcube III	SCANcube IV
Repeatability (RMS) [μrad]	< 2	< 2	< 2
Positioning resolution [bit] ⁽⁵⁾	16	16	16
Nonlinearity	< 3.5 mrad/44°	< 0.9 mrad / 44°	< 0.7 mrad / 44°
Temperature drift			
Offset [μrad/K]	< 30	< 25	< 20
Gain [ppm/K]	< 80	< 25	< 20
Long-term drift			
8-h-drift (after 30 min warm-up) ⁽⁶⁾	< 0.3 mrad ⁽⁷⁾		
Offset [μrad]		< 100	< 50
Gain [ppm]		< 100	< 50

⁽⁵⁾ based on the full angle range (e.g. positioning resolution 11 μrad for angle range ±0,36 rad)

⁽⁶⁾ at constant ambient temperature and load

⁽⁷⁾ plus temperature-included Gain and Offset drift

Common Specifications

	SCANcube SCANcube III	SCANcube IV
Optical performance		
Typical scan angle [rad]	± 0.35	± 0.35
Gain error [mrad]	< 5	< 5
Zero offset [mrad]	< 5	< 5
Power requirements	± 15 V DC, max. 3 A each	24 V DC, 30 V DC, max. 3 A each
Interface		
digital version	SL2-100 or XY2-100	SL2-100 or XY2-100
analog version	± 4.8 V	-
IP protection class	IP 50, IP 66 ⁽⁸⁾	IP 50, IP 66 ⁽⁸⁾
Operating temperature [°C]	25 ± 10	25 ± 10

(all angles are in optical degrees)

⁽⁸⁾ on request

Counterfeit Protection

We equip all scan systems and RTC control cards with a forgery-proof label that contains the following features:

- holographic elements
- authentication features that are not directly visible
- not removable without residue

The allocation and traceability is secured by individual coding in combination with uniquely assigned serial numbers.



SCANcalc App



Google Play

App Store