New!

More Information at:

smart scanning meets low drift

The new intelli*SCAN*® III series of **scan heads** establishes industry standards for long-term stability and dynamic performance.

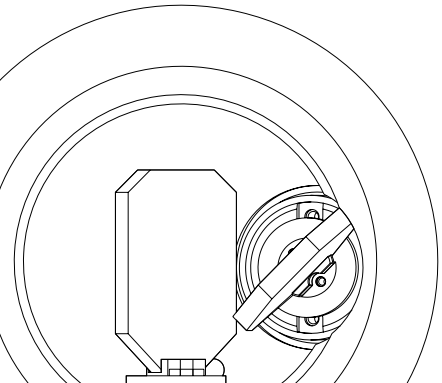
- Much lower long-term drift (- 50%)
- Significantly reduced temperature drift
- Multitude of switchable tunings for shorter process times
- Application-specific and customer-specific tunings
- Realtime acquisition of all key operational states
- Comprehensive diagnostic possibilities

intelli*SCAN*® III scan heads take advantage of the new dyn*AXIS*® 3 series galvanometer scanners for the first time. In conjunction with new electronics, these galvos deliver highest dynamic performance, lowest drift and best linearity.

intelli*SCAN*® III scan heads continue to offer all advantages of the intelli*SCAN*® product line, including a wide assortment of options. Efficient algorithms of the digital servo electronics enable very high dynamic performance and marking quality. And the scan head electronics provide extensive possibilities for diagnostics and communication between the scan system and your control computer, as well as acquisition of all the scan system's key operational states.

Typical Applications:

- Micromachining
- Marking, welding, drilling
- Rapid prototyping, rapid tooling
- Materials processing in the semiconductor industry
- Processing-on-the-fly



SCANLAB
innovators for industry

Specifications

	intelliSCAN® III 10	intelliSCAN® III 14
Aperture	10 mm	14 mm
Tuning	Fast Vector	Sharp Edge
Tracking error	0.11 ms	0.13 ms
Step response time [1]		
1% of full scale	0.40 ms	0.40 ms
10% of full scale	1.1 ms	2.2 ms
Typical speeds [2]		
Marking speed	3.5 m/s	2.5 m/s
Positioning speed	12 m/s	6.0 m/s
Writing speed		
Good writing quality	1080 cps	800 cps
High writing quality	760 cps	550 cps
Long-term drift		
8-h-drift (after 30 min warm-up) [3]		
Offset	< 100 µrad	< 100 µrad
Gain	< 100 ppm	< 100 ppm
24-h-drift (after 3 h warm-up) [3]		
Offset	< 100 µrad	< 100 µrad
Gain	< 100 ppm	< 100 ppm
Temperature drift		
Offset	< 15 µrad/K	< 15 µrad/K
Gain	< 25 ppm/K	< 25 ppm/K

(all angles are in optical degrees)

[1] settling to 1/1000 of full scale
[2] with F-Theta objective, f = 160 mm
[3] at constant ambient temperature and load, without water cooling; achievable even under varying load when equipped with temperature-controlled water cooling

Options

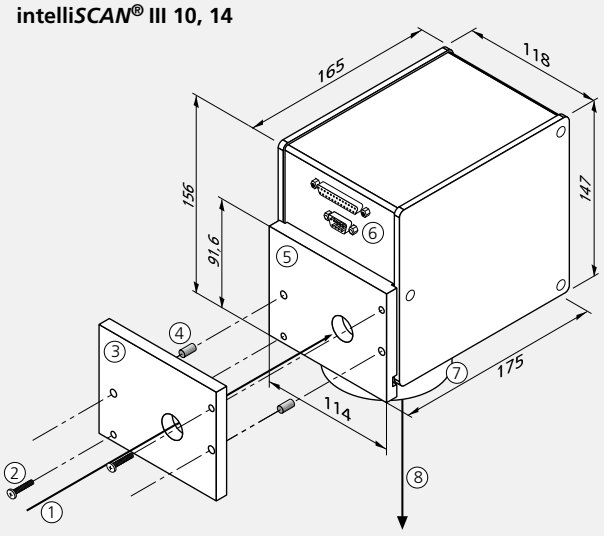
- Assortment of objectives
- varioSCAN: upgrade to a 3-axis scan system
- High-performance variants with light-weight mirrors
- Water and air cooling
- Available as a scan module without housing
- Additional reference sensor system (ASC) for automatic self-calibration
- Camera adapter for optical process monitoring

Common Specifications

Repeatability (RMS)	< 2 µrad
Resolution (18 bit, SL2-100)	2.7 µrad
Optical performance	
Typical scan angle	±0.35 rad
Gain error	< 5 mrad
Zero offset	< 5 mrad
Nonlinearity	< 0.9 mrad / 44°
Power requirements	30 V DC, max. 3 A or 48 V DC, max. 3 A
Interface	SL2-100 , XY2-100 Enhanced, or optical data transfer
Operating temperature	25 °C ± 10 °C

(all angles are in optical degrees)

intelliSCAN® III 10, 14



Legend

1 Beam in
2 Screws (M6 threads) *
3 Flange *
4 Alignment pins (6_{h6}) *
5 Mounting bracket
6 Electrical connectors
7 Objective
8 Beam out

(* not included)

The housings of the intelliSCAN® III series are identical with those of the intelliSCAN® and hurrySCAN® series.

The denoted dimensions refer to **standard housing type** (with standard mounting bracket, 10 mm aperture). Variations in size and form are possible; also housings with water cooling have other dimensions.

	intelliSCAN® III	
Aperture	10 mm	14 mm
Beam displacement	12.56 mm	16.42 mm
Weight	approx. 3 kg	approx. 3 kg

all dimensions in mm

SCANLAB AG · Siemensstr. 2a · 82178 Puchheim · Germany
Tel. +49 (89) 800 746-0 · Fax +49 (89) 800 746-199
info@scanlab.de · www.scanlab.de

SCANLAB America, Inc. · 100 Illinois St · St. Charles, IL 60174 · USA
Tel. +1 (630) 797-2044 · Fax +1 (630) 797-2001
info@scanlab-america.com · www.scanlab-america.com

SCANLAB innovators for industry