



ProSeries Scan Head

2-Axis, Enclosed

Product Highlights

Our ProSeries 2-Axis enclosed scan heads are designed for a broad range of applications that require fast processing speeds or high-position accuracy. The plug-and-play scan heads are built around advanced moving magnet galvanometers and precision servo drivers for high performance. Each scan head supports industry standard electrical, mechanical, and optical interfaces for easy OEM system integration.

Our ProSeries products are best suited for material processing applications such as high-accuracy marking, scribing, micromachining, trimming, engraving, and perforating.

Convenient, high-performance, enclosed scan heads

- High-position accuracy ensures high-quality output
- High processing speeds maximize scanning throughput
- Optimized components support the high performance of our scan heads
- Wide range of models designed for specific applications

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Product Specifications	PS1-07	PS1-10	PS1-14	PS2-07	PS2-10	PS2-14
Mirror Aperture Size (mm)	7	10	14	7	10	14
Scan Angle	±20°	±22°	±22°	±20°	±22°	±22°
Beam Displacement (mm)	9.3	13.2	18.5	9.3	13.2	18.5
Step Response Time 1% of Full Scale ¹ (ms)	0.185	0.22	0.28	0.23	0.34	0.36
Typical Marking Speed ² (m/s)	4.0	3.1	2.5	3.5	2.9	1.7
Typical Positioning Speed ² (m/s)	24	17	12	12	11	7
Typical Writing Speed ^{2,3} (cps, good quality)	1100	1000	890	1000	650	550
Typical Writing Speed ^{2,3} (cps, high quality)	1000	900	550	900	500	350
Repeatability ⁴ (μrad)	20	16	12	15	15	12
Tracking Error (ms)	0.10	0.13	0.16	0.12	0.17	0.18
Nonlinearity (mrad)	<2.8	<3.1	<3.1	<2.8	<3.1	<3.1
Weight (kg, approximate)	2.7	2.7	4.4	2.7	2.7	4.4

Shared Specifications	PS1	PS2
Wavelength Options	355 nm / 532 nm / 1030 nm - 1080 nm / 9.4 μm - 10.6 μm Broadband Coatings: 350 nm - 12 μm	355 nm / 532 nm / 1030 nm - 1080 nm / 9.4 μm - 10.6 μm Broadband Coatings: 350 nm - 12 μm
Gain Error (mrad)	<5	<5
Zero Offset (mrad)	<5	<5
Skew (mrad)	<1.5	<1.5
Resolution (μrad)	12	12
Long Term Offset Drift ⁵ (μrad)	<200	<100
Long Term Scale Drift ⁵ (ppm)	<200	<100
Temperature Offset Drift (μrad/°C)	<25	<20
Temperature Scale Drift (ppm/°C)	<50	<50
Analog Communication	±10V	±10V
Digital Communication	XY2-100 Protocol	XY2-100 Protocol
Command Resolution	16-bit	16-bit
Power Requirements	±15V, 5A RMS, 10A max	±15V, 5A RMS, 10A max
Operating Temperature	15°C to 35°C	15°C to 35°C

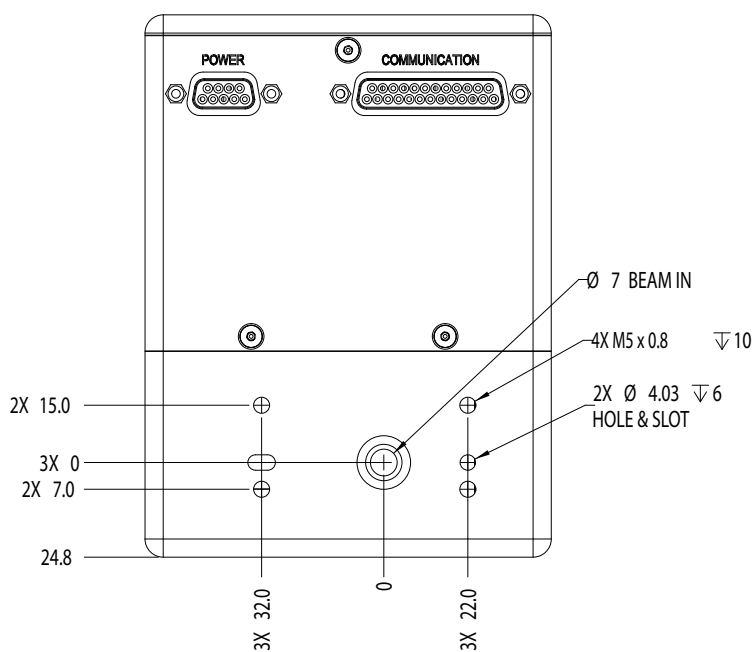
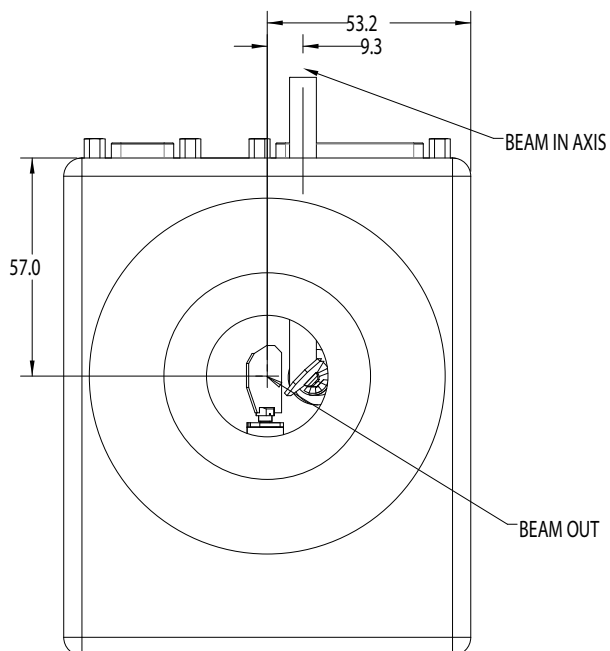
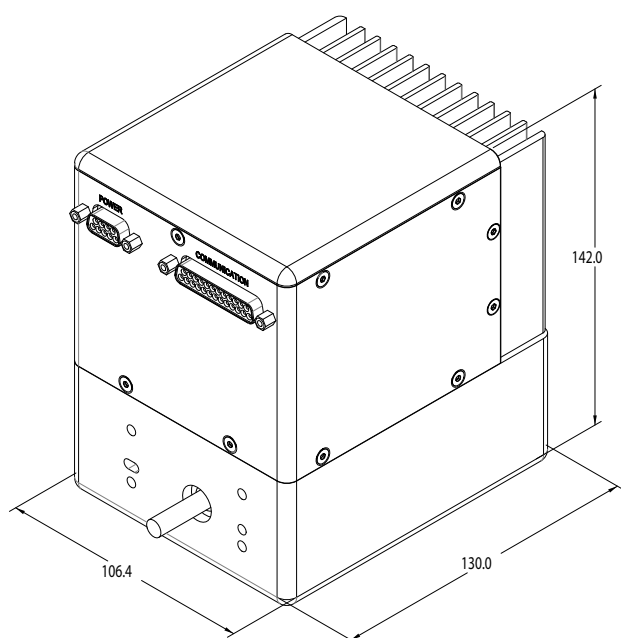
Notes:
All angles are in optical degrees, unless otherwise noted. All specifications subject to change without notice.

References:
1. Settling to within 1% of position. 2. With 160 mm F-Theta lens. 3. Single stroke 1 mm characters, SIMPLEX font.
4. <3 sigma from mean, per axis. 5. During 24 hours of operation after 30 minutes of warm up, per axis.

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PS1-07, PS2-07

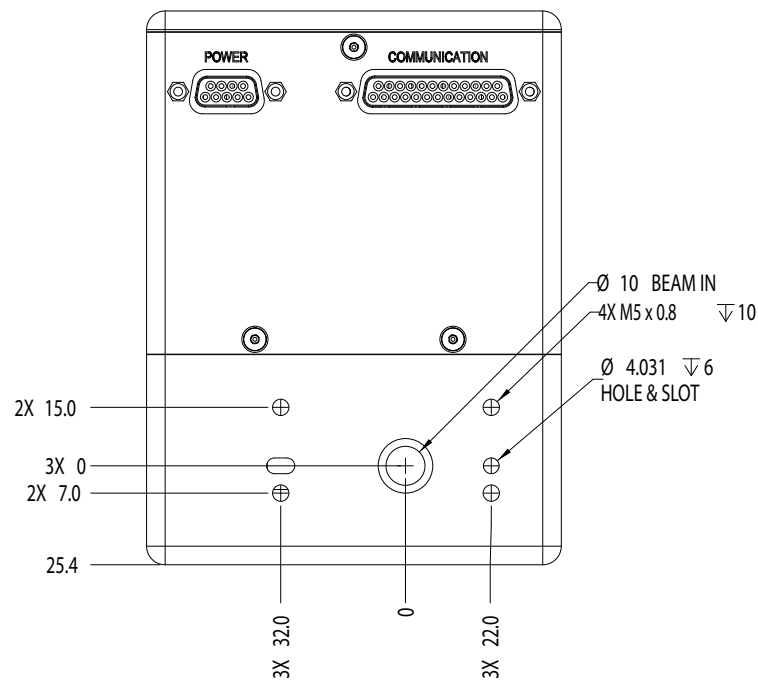
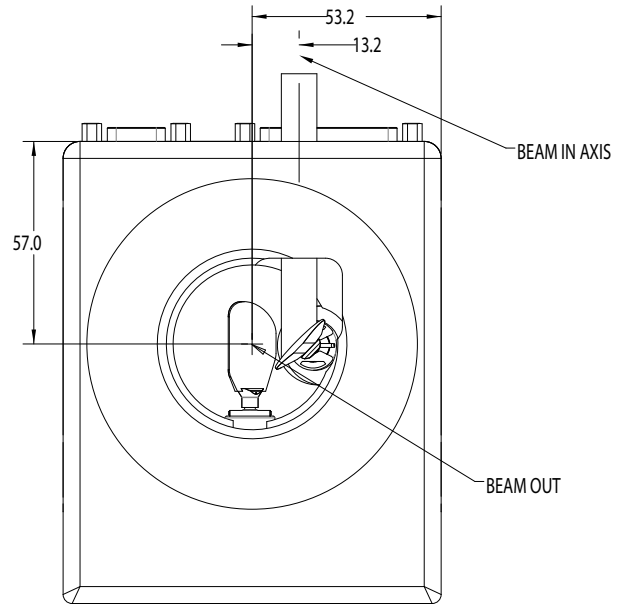
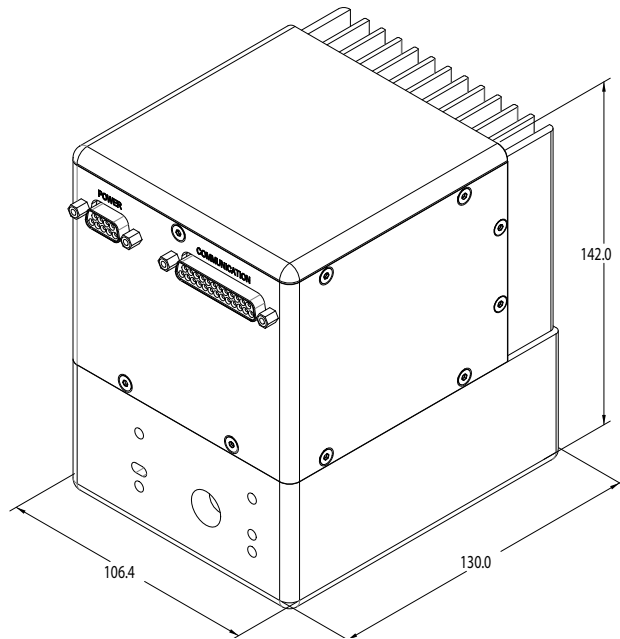


Notes:
All dimensions are in mm, unless otherwise noted. All specifications are subject to change without notice.

ProSeries Scan Head

2-Axis, Enclosed

PS1-10, PS2-10

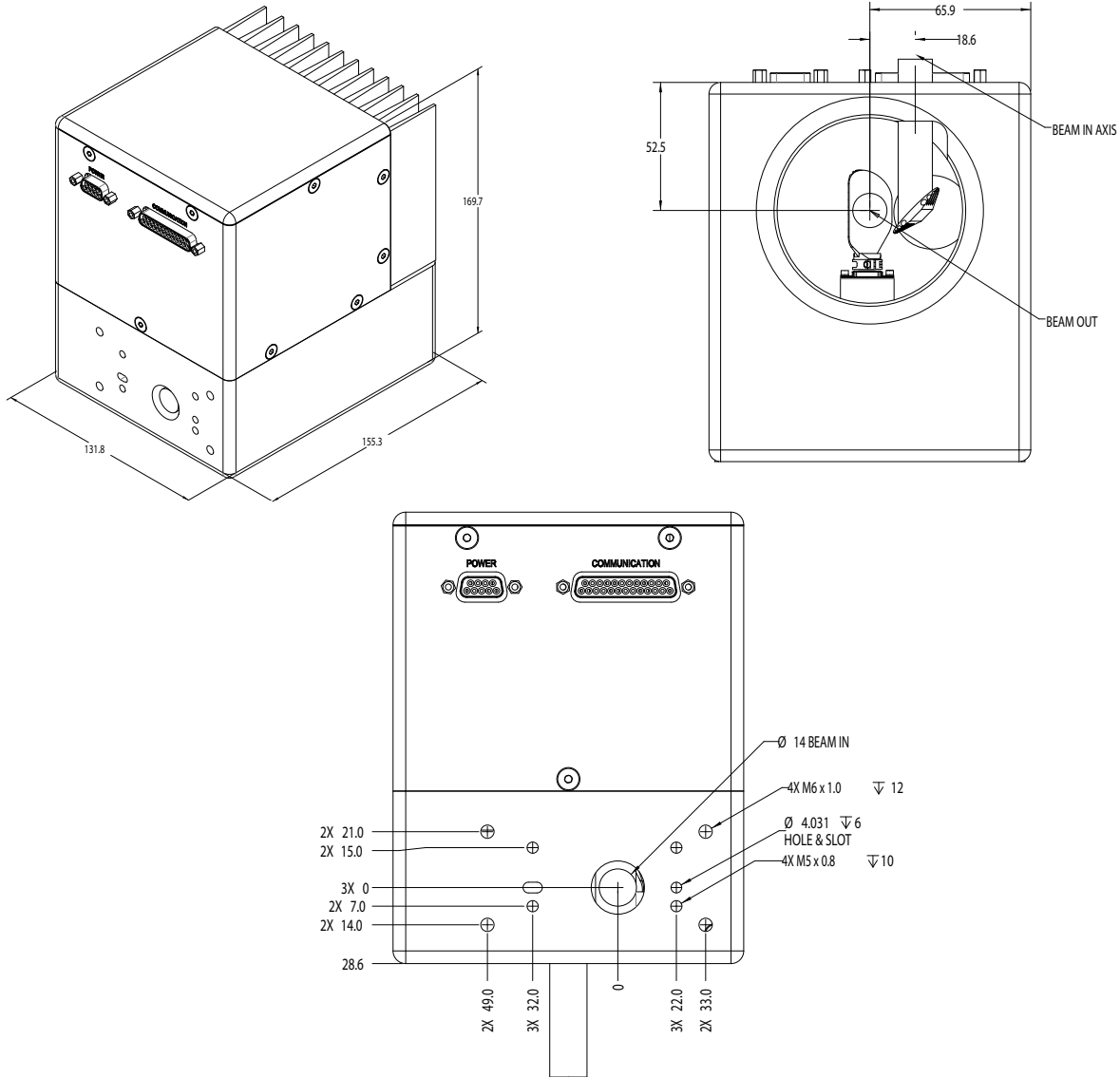


Notes:
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ProSeries Scan Head

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PS1-14, PS2-14



Notes:

All dimensions are in mm, unless otherwise noted. All specifications are subject to change without notice.

About Cambridge Technology

With close to 50 years of expertise, Cambridge Technology designs, develops, and manufactures innovative beam steering solutions including polygon- and galvanometer-based optical scanning components, 2-axis and 3-axis scan heads, scanning subsystems, high power scanning heads, and controlling hardware and software. We excel in collaborating with our key OEM partners to engineer products that meet their needs from the largest engineering solution to the smallest component. Key market applications include advanced industrial processes like additive manufacturing, laser converting, laser marking, and via-hole drilling, and medical applications such as laser treatment and optical coherence tomography. Cambridge Technology is a Novanta company.

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