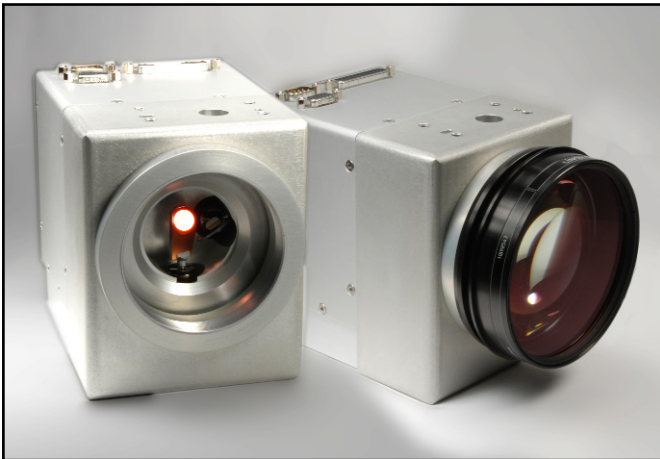


ProSeries II™ Scan Heads

For 7, 10 & 14mm Clear Apertures

Highest Accuracy and Low Drift in a Compact Integratable Design,
with High Stability and Low Noise 673xx Servo Driver.



Enclosed Head Configuration (Shown with and without Lens)

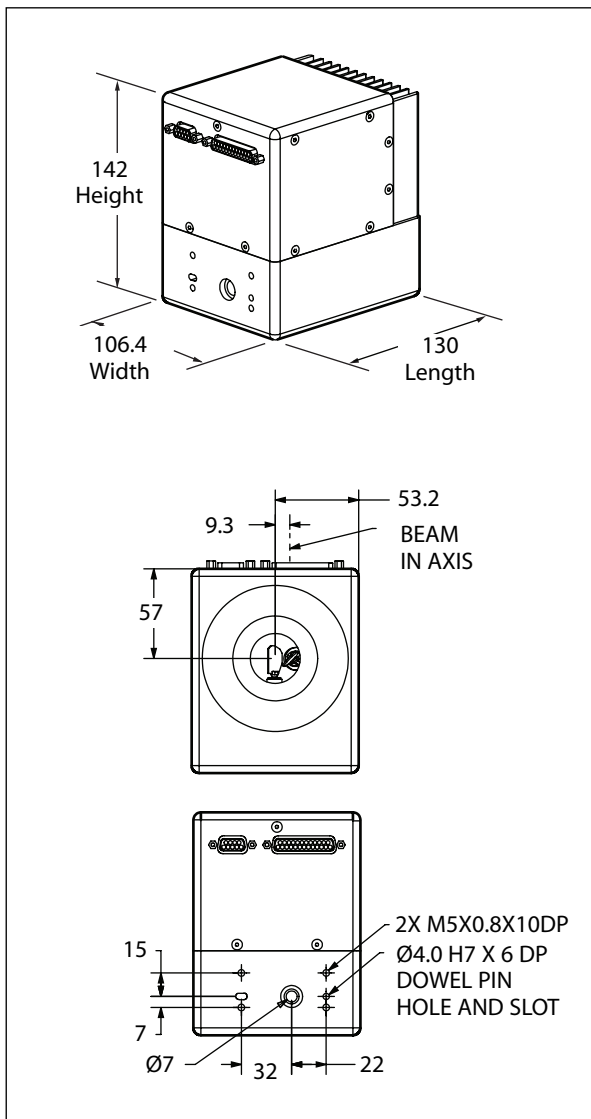
Key Specifications

- **ProSeries II Analog Technology**
 - 83xx Low Drift Galvo Motors
 - 673xx Analog Servo Driver
 - Factory Tuned
- **Family of Sizes**
 - Clear Aperture Sizes of 7mm, 10mm, 14mm
 - Broad Range of Supported Lenses
- **Plug & Play**
 - Analog or Digital XY2-100 Communication Protocol
 - Standard Power and Communication Pinouts
 - Standard Mechanical Interface
 - Standard and Custom Lens Grid Correction Files

General Scanning Solutions brings you a new family of high performance, low noise scan heads for highest accuracy and low drift. Named the **ProSeries II Scan Heads**, they offer high performance galvanometers and the latest analog servo technology with up to 3x lower noise than other systems for the highest accuracy performance in a compact rugged scan head design. These core components are offered with industry standard mechanical bolt patterns, industry standard power and communication pinouts as well as a range of popular apertures, mirror coatings and lenses. These scan heads

are ideal for easy OEM design integration or as drop in replacements to improve total system performance. These scan heads are suited for applications such as high accuracy marking, scribing, photovoltaic, micro-machining, rapid manufacturing, trimming, engraving, perforating and more. **ProSeries II Scan Heads** give highest accuracy, lowest dither and highest stability beam steering for superior performance and quality for your most demanding precision driven material processing applications.

Dimensions and Technical Specifications: ProSeries II Scan Head - 7 mm



Product Specific Specifications	
Aperture Size	7 mm
Beam Displacement	9.3 mm
Step Response (1% Full Scale) ¹	230 µs
Typical Mark Speed ²	3.0 m/s
Typical Jump Speed ²	9.0 m/s
Typical Writing Speed ²	800 cps
Resolution	12 µrad
Long Term Offset Drift ³ (24 hours)	100 µrad
Long Term Scale Drift ³ (24 hours)	200 ppm
Temperature Offset Drift ³	30 µrad/°C
Temperature Scale Drift ³	50 ppm/°C
Nonlinearity (Max. % over ± 20° optical)	0.1
Shared Specifications	
Repeatability ³	20 µrad
Typical Scan Angle	± 20°
Gain Error	< 5 mrad
Zero Offset	< 5 mrad
Skew	< 1.5 mrad
Power Requirements	±15 V DC
Digital Communication	XY2-100
Analog Communication	± 10 V +/- 10 mA
Weight	2.7kg
Operating Temp	25° ± 10° C
Mirror Coatings	YAG, CO2, Silver
F-theta Lenses	YAG - 100, 160, 163, 254, 330, 420 CO2 - 100, 200, 300

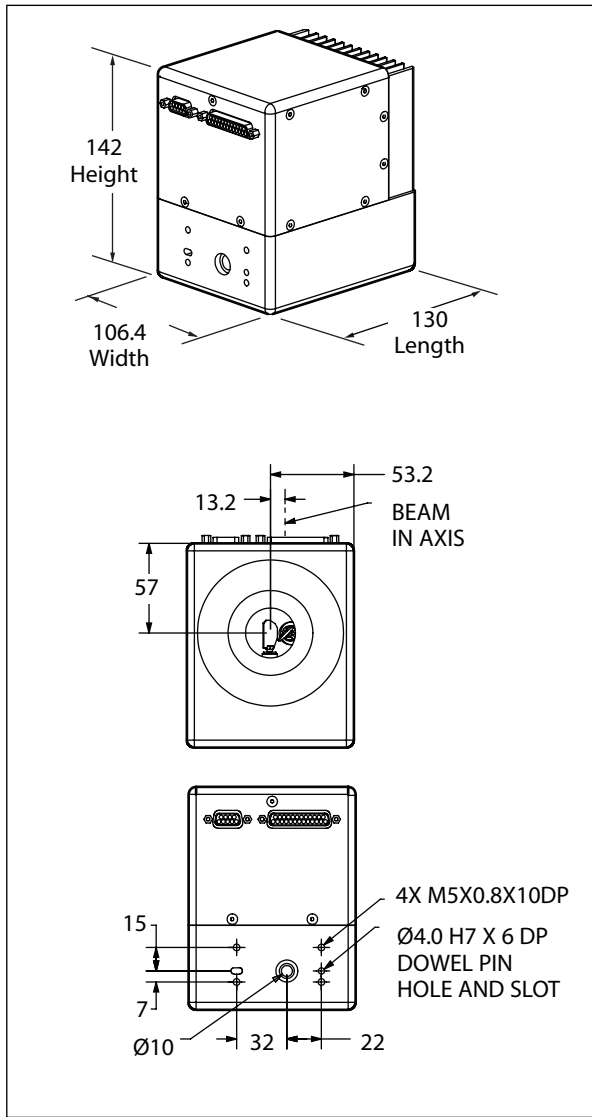
¹ Settling to within 1% of position

² Single stroke 1 mm characters with f-160 lens

³ 3 Sigma from mean position

⁴ All angles are in optical degrees

Dimensions and Technical Specifications: ProSeries II Scan Head - 10 mm



Product Specific Specifications	
Aperture Size	10 mm
Beam Displacement	13.2 mm
Step Response (1% Full Scale) ¹	340 μ s
Typical Mark Speed ²	2.0 m/s
Typical Jump Speed ²	6.0 m/s
Typical Writing Speed ²	500 cps
Resolution	12 μ rad
Long Term Offset Drift ³ (24 hours)	100 μ rad
Long Term Scale Drift ³ (24 hours)	200 ppm
Temperature Offset Drift ³	30 μ rad/ $^{\circ}$ C
Temperature Scale Drift ³	50 ppm/ $^{\circ}$ C
Nonlinearity (Max. % over $\pm 20^{\circ}$ optical)	0.1
Shared Specifications	
Repeatability ³	15 μ rad
Typical Scan Angle	$\pm 22^{\circ}$
Gain Error	< 5 mrad
Zero Offset	< 5 mrad
Skew	< 1.5 mrad
Power Requirements	± 15 V DC
Digital Communication	XY2-100
Analog Communication	+/- 10 V +/- 10 mA
Weight	2.7kg
Operating Temp	$25^{\circ} \pm 10^{\circ}$ C
Mirror Coatings	YAG, DYH, TYH, Silver
F-theta Lenses	YAG - 100, 163, 170, 255, 347, 420 DYAG - 100, 170, 255

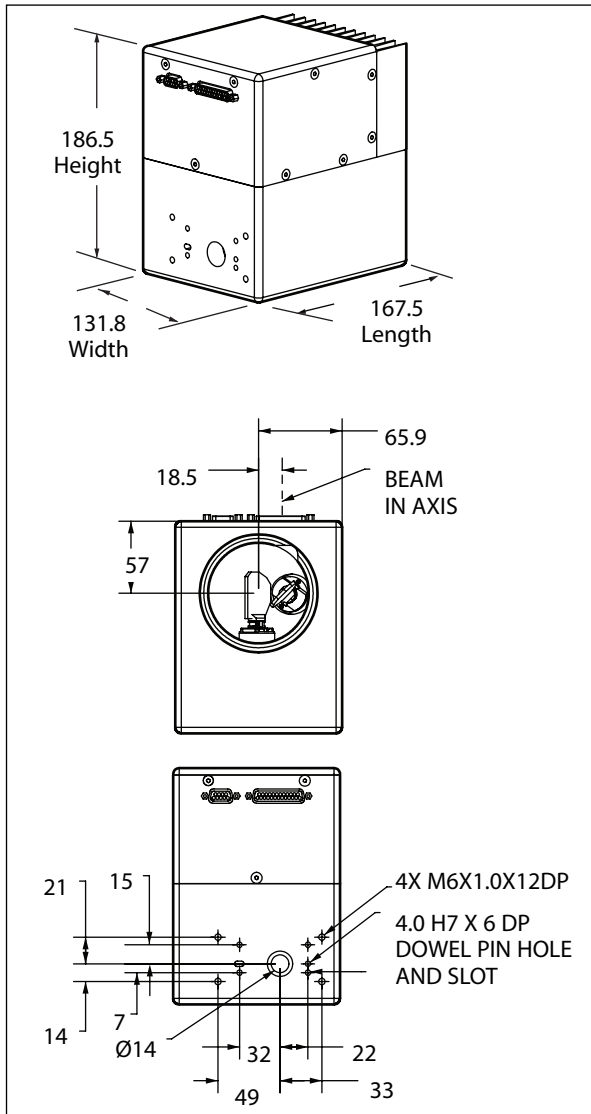
¹ Settling to within 1% of position

² Single stroke 1 mm characters with f-160 lens

³ 3 Sigma from mean position

⁴ All angles are in optical degrees

Dimensions and Technical Specifications: ProSeries II Scan Head - 14 mm



Product Specific Specifications	
Aperture Size	14 mm
Beam Displacement	18.5 mm
Step Response (1% Full Scale) ¹	360 μ s
Typical Mark Speed ²	1.0 m/s
Typical Jump Speed ²	4.0 m/s
Typical Writing Speed ²	300 cps
Resolution	12 μ rad
Long Term Offset Drift ³ (24 hours)	100 μ rad
Long Term Scale Drift ³ (24 hours)	200 ppm
Temperature Offset Drift ³	30 μ rad/ $^{\circ}$ C
Temperature Scale Drift ³	50 ppm/ $^{\circ}$ C
Nonlinearity (Max. % over $\pm 20^{\circ}$ optical)	0.1
Shared Specifications	
Repeatability ³	12 μ rad
Typical Scan Angle	$\pm 22^{\circ}$
Gain Error	< 5 mrad
Zero Offset	< 5 mrad
Skew	< 1.5 mrad
Power Requirements	± 15 V DC
Digital Communication	XY2-100
Analog Communication	+/- 10 V +/- 10 mA
Weight	4.4kg
Operating Temp	$25^{\circ} \pm 10^{\circ}$ C
Mirror Coatings	YAG, DYH, TYH, Silver
F-theta Lenses	YAG - 100, 163, 170, 255, 347, 420 DYAG - 100, 170, 255

¹ Settling to within 1% of position

² Single stroke 1 mm characters with f-160 lens

³ 3 Sigma from mean position

⁴ All angles are in optical degrees

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