

ExtraScan Scan Head

EXTRA-SCAN I II



Mainly used in a variety of high-end laser scanning applications, such as 3D printing, photovoltaic scribing, OLED semiconductor and other precision micro machining fields.

► Application

- 3D printing
- Photovoltaic scribing
- OLED semiconductor
- Other precision micro machining fields

► Features

- Self-developed high-precision grating encoder.
- All digital design ensures minimized drift and maximized stability.
- Real-time detection of galvanometer status to ensure its safety and reliable operation.
- 23bit position resolution digital motor achieves excellent positioning accuracy and repeatability.

Technical Parameters

ExtraScan I

	10 mm	14 mm	20 mm	30 mm
Input Beam Aperture (mm)	10	14	20	30
Beam Displacement (mm)	12.45	16.42	25.25	35.53
Acceleration Time (ms)	0.3	0.4	0.65	1.2
Tracking Error (ms)	0.21	0.24	0.24	0.5
Repeatability (μrad)	< 1	< 1	< 1	< 1
Offset Drift (μrad/K)	< 15	< 15	< 15	< 15
Gain Drift (ppm/K)	< 8	< 8	< 8	< 8
Long-Term Drift over 8h (mrad)	< 0.1	< 0.1	< 0.1	< 0.1
1% of Full Travel (ms)	0.35	0.6	0.75	1.5
10% of Full Travel (ms)	0.75	1	1.2	5
Positioning Speed (m/s)①	12.5	10	5	3
Scan Angle (°)②	± 25			
Gain Error (mrad)	< 5			
Offset Error (mrad)	< 5			
Power Requirements	± 15 VDC , ≥ 3 A			
Communication Protocol	16 bit: XY2 - 100 20bit: ST2-100			
Operation Temperature (°C)	25 ± 10			
Typical Water Requirements	5l/min at $\Delta p < 0.1$ bar, $p < 4$ bar			
Weight (kg)	1.9	2.3	5.0	5.2

► All specifications are typical data and subject to change without notice due to product improvements.

► ① Test using F-theta lens with focal length F=160mm

② All angles above are optical angles

Technical Parameters

ExtraScan II

	10 mm	14 mm	20 mm	30 mm
Input Beam Aperture (mm)	10	14	20	30
Beam Displacement (mm)	12.54	16.42	25.25	35.53
Acceleration Time (ms)	0.2	0.25	0.5	1.2
Tracking Error (ms)	0.21	0.24	0.24	0.5
Repeatability (μrad)	< 1	< 1	< 1	< 1
Offset Drift (μrad/K)	< 15	< 15	< 15	< 15
Gain Drift (ppm/K)	< 8	< 8	< 8	< 8
Long-Term Drift over 8h (mrad)	< 0.08	< 0.08	< 0.08	< 0.08
1% of Full Travel (ms)	0.45	0.6	0.85	1.3
10% of Full Travel (ms)	1.3	1.5	2.6	4.8
Positioning Speed (m/s)①	12	10	8	5
Scan Angle (°)②	± 25			
Gain Error (mrad)	< 5			
Offset Error (mrad)	< 5			
Power Requirements	± 15 VDC , ≥ 3 A			
Communication Protocol	16 bit: XY2 - 100 20bit: ST2-100			
Operation Temperature (°C)	25 ± 10			
Typical Water Requirements	5l/min at $\Delta p < 0.1$ bar, $p < 4$ bar			
Weight (kg)	1.9	2.3	5.0	5.2

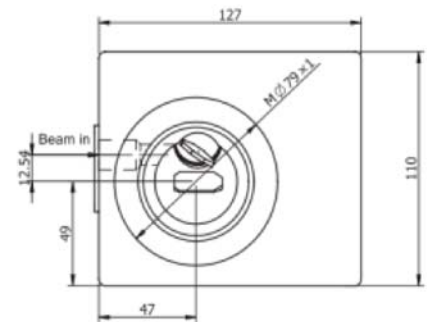
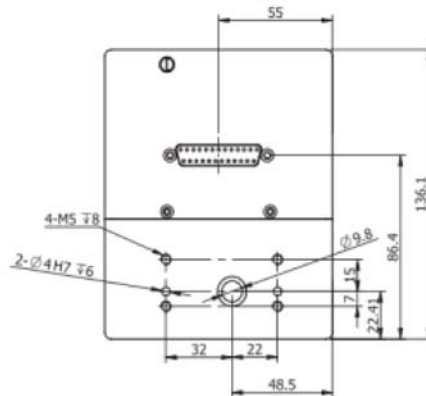
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► ① Test using F-theta lens with focal length F=160mm

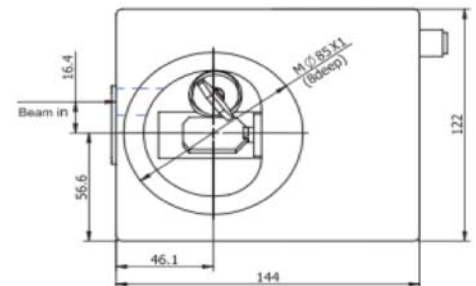
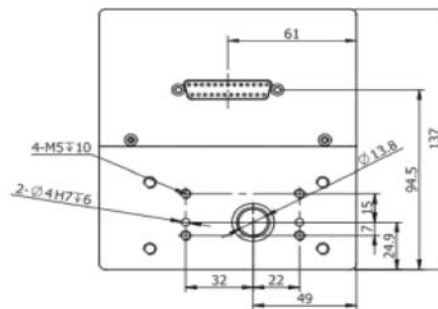
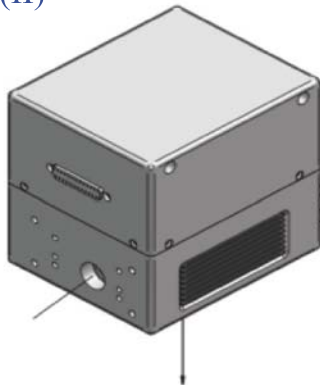
② All angles above are optical angles

Laser Dimensions (mm)

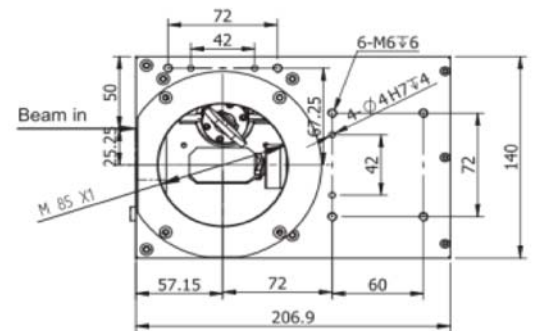
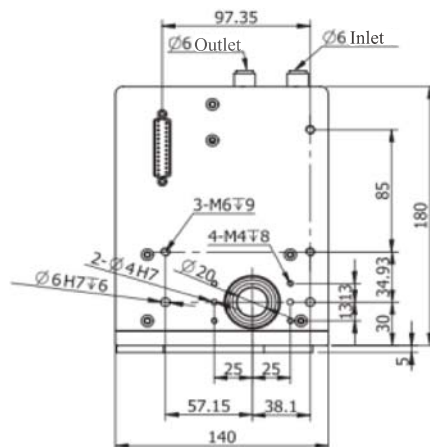
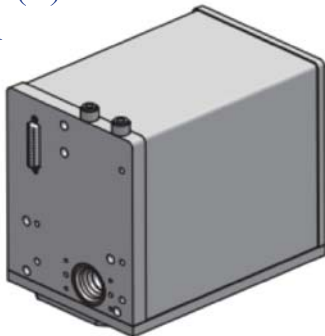
ExtraScan I(II)
10mm



ExtraScan I(II)
14mm



ExtraScan I(II)
20mm



ExtraScan I(II)
30mm

