

# EXTRASCAN SCAN HEAD

## 光栅振镜方头



### 产品特点

#### FEATURES



自主研发高精度光栅编码器。  
Self-developed high-precision grating encoder.



23bit位置分辨率数字电机实现卓越的定位精度和重复定位精度。

23bit position resolution digital motor achieves excellent positioning accuracy and repeatability.



实时检测振镜状态, 确保振镜安全可靠运行。  
Real-time detection of galvanometer status to ensure its safety and reliable operation.



全数字设计保证极低的漂移和极高的稳定性。  
All digital design ensures minimized drift and maximized stability.

### 行业应用

#### INDUSTRY APPLICATIONS

主要应用于各种高端激光扫描应用, 现已广泛应用于3D打印、光伏划线、OLED、半导体等精密微加工领域。

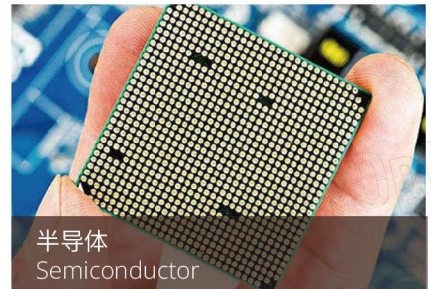
Mainly used in a variety of high-end laser scanning applications, such as 3D printing, photovoltaic scribing, OLED, semiconductor and other precision micro machining fields.



3D打印  
SLM



光伏划线  
Photovoltaic Scribing



半导体  
Semiconductor

## □ 技术参数

### TECHNICAL PARAMETERS

ExtraScan I	10mm	14mm	20mm	30mm
入射光斑直径 Input Beam Aperture (mm)	10	14	20	30
光柱位移 Beam Displacement (mm)	12.54	16.42	25.25	35.53
加速时间 Acceleration Time (ms)	0.3	0.4	0.65	1.2
跟随误差 Tracking Error (ms)	0.21	0.24	0.24	0.5
重复精度 Repeatability ( $\mu$ rad)	<1	<1	<1	<1
零位漂移 Offset Drift ( $\mu$ rad/K)	<15	<15	<15	<15
增益漂移 Gain Drift (ppm/K)	<8	<8	<8	<8
>8小时长时间漂移 Long-Term Drift over 8h (mrad)	<0.08	<0.08	<0.08	<0.08
1%全行程 1% of Full Travel (ms)	0.45	0.6	0.85	1.3
10%全行程 10% of Full Travel (ms)	1.3	1.5	2.6	4.8
定位速度 <sup>①</sup> Positioning Speed (m/s)	12.5	10	5	3
扫描角度 <sup>②</sup> Scan Angle ( $^{\circ}$ )	$\pm 25$			
增益误差 Gain Error (mrad)	<5			
零位误差 Zero Offset (mrad)	<5			
电源要求 Power Requirements	$\pm 15$ VDC, $\geq 3$ A			
通讯协议 Communication Protocol	16bit: XY2-100		20bit: ST2-100	
工作温度 Operation Temperature ( $^{\circ}$ C)	25 $\pm$ 10			
水冷要求 Typical Water Requirements	5l/min at $\Delta p < 0.1$ bar, $p < 4$ bar			
重量 Weight (kg)	1.9	2.3	5.0	5.2

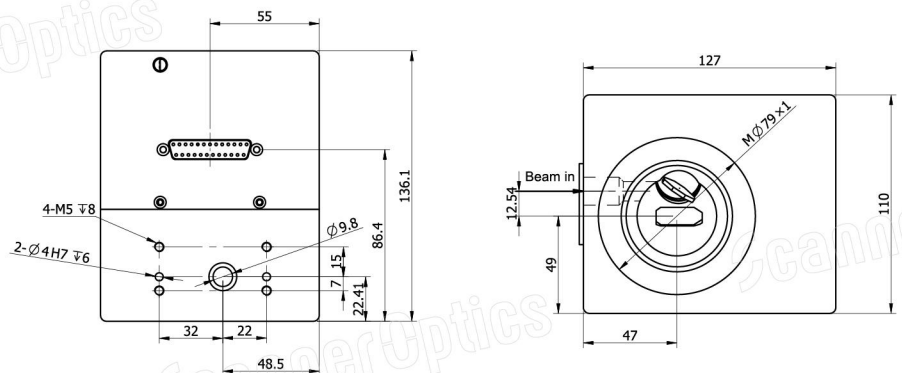
① 使用焦距F=160mm的场镜测试 Test using F-theta lens with focal length F=160mm

② 以上角度均为光学角度 All angles above are optical angles

## □ 外形尺寸图

### TECHNICAL DRAWING

ExtraScan I(II) 10mm



## □ 技术参数

### TECHNICAL PARAMETERS

ExtraScan II	10mm	14mm	20mm	30mm
入射光斑直径 Input Beam Aperture (mm)	10	14	20	30
光柱位移 Beam Displacement (mm)	12.54	16.42	25.25	35.53
加速时间 Acceleration Time (ms)	0.2	0.25	0.5	0.8
跟随误差 Tracking Error (ms)	0.21	0.24	0.24	0.5
重复精度 Repeatability ( $\mu$ rad)	<1	<1	<1	<1
零位漂移 Offset Drift ( $\mu$ rad/K)	<15	<15	<15	<15
增益漂移 Gain Drift (ppm/K)	<8	<8	<8	<8
>8小时长时间漂移 Long-Term Drift over 8h (mrad)	<0.05	<0.05	<0.05	<0.05
1%全行程 1% of Full Travel (ms)	0.35	0.6	0.75	1.5
10%全行程 10% of Full Travel (ms)	0.75	1	1.2	5
定位速度 <sup>①</sup> Positioning Speed (m/s)	12	10	8	5
扫描角度 <sup>②</sup> Scan Angle ( $^{\circ}$ )	$\pm 25$			
增益误差 Gain Error (mrad)	<5			
零位误差 Zero Offset (mrad)	<5			
电源要求 Power Requirements	$\pm 15$ VDC, $\geq 3$ A			
通讯协议 Communication Protocol	16bit: XY2-100		20bit: ST2-100	
工作温度 Operation Temperature ( $^{\circ}$ C)	25 $\pm$ 10			
水冷要求 Typical Water Requirements	5l/min at $\Delta p < 0.1$ bar, $p < 4$ bar			
重量 Weight (kg)	1.9	2.3	5.0	5.2

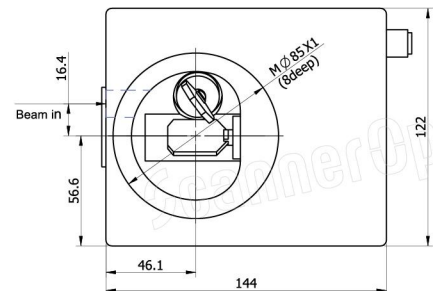
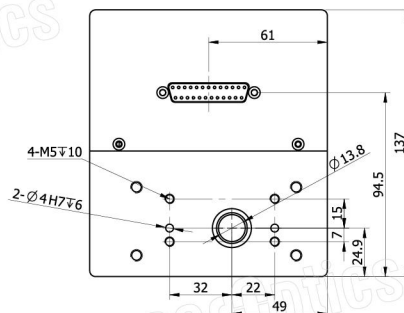
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## □ 外形尺寸图

### TECHNICAL DRAWING

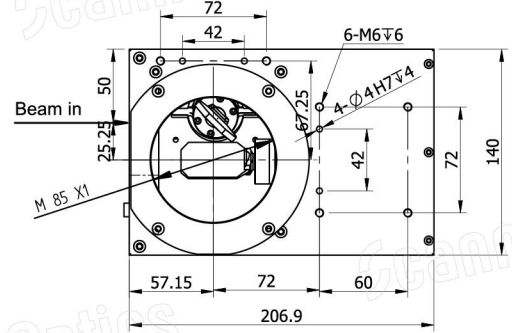
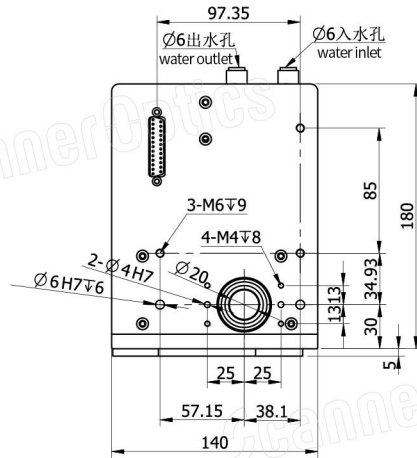
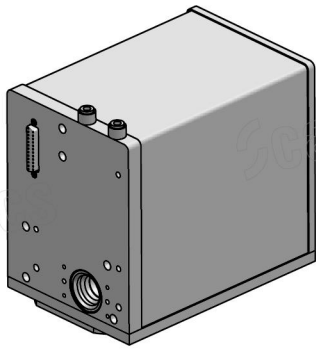
ExtraScan I(II) 14mm



外形尺寸图

TECHNICAL DRAWING

ExtraScan I(II) 20mm



ExtraScan I(II) 30mm

