

# ULTRAGALVO MOTOR

## 光电振镜电机



光电系列 **ULTRA SERIES**



## THE MOST COMPREHENSIVE SERIES OF GALVO MOTORS IN THE INDUSTRY 行业最全振镜电机系列

思特光学拥有行业最全的振镜电机系列,其中包含STGalvo和UltraGalvo两个光电振镜电机系列和Extragalvo光栅振镜电机系列。这三个系列的振镜电机都是由基于动磁电机技术和高分辨率和高精度位置传感器组成,主要作为是驱动镜片反射激光光束,应用于各种工业激光加工和光束扫描应用中。

Scanner Optics has the most comprehensive series of galvo motors in the industry, including the STGalvo, UltraGalvo and Extragalvo. These three series of galvo motors are composed of dynamic magnetic based technology, high-resolution and high-precision sensors, which mainly used for driving lens to reflect laser beams in various laser processing and beam scanning applications.

经过多年的技术沉淀,思特光学的振镜电机经过多次的迭代优化,不仅动态性能优越,响应速度快;而且定位精度高,长时间漂移小,满足了工业客户对振镜的电机性能的苛刻要求。基于高性能振镜电机技术,根据不同的应用场景,思特光学开发了多个系列的振镜方头产品,满足不同领域的客户的应用需求。

After years of efforts, galvo motors from Scanner Optics have completed multiple updates and iterative optimization, which not only excellent dynamic performance and fast response speed but also high positioning precision and low drift. Based on high-performance galvo motor technology, Scanner Optics has developed multiple series of scan heads to meet the different industry applications.

## 产品特点

### FEATURES

18bit

结构紧凑的光电编码器  
位置分辨率达18bit, 重复定位精度高

Compact structure encoder with  
a position resolution of 18 bits.  
High repeatability accuracy.



动态性能优越、响应速度快  
长时间工作性能稳定

Excellent dynamic performance.  
Fast response speed.  
Long-term stable performance.

7-50

振镜电机配置丰富  
适配7-50mm孔径的镜片负载

Rich configurations, suitable for  
the lens with 7-50mm aperture.



特殊优化的电机结构  
机械精度高, 转矩常数大

Special optimized motor structure  
with high mechanical accuracy  
and large torque constant.



特殊优化的编码器结构  
线性度>99.6%@20°偏转角度

Special optimized encoder structure.  
Linearity >99.6%@20° deflection angle.

## 技术参数

### TECHNICAL PARAMETERS



光电振镜电机 UltraGalvo Motor		S	M	L
入口光斑	Input Beam Aperture (mm)	10	14	20-30
转动惯量	Moment Of Inertia (g·cm <sup>2</sup> )	0.34	1.2	5.1
力常数	Force Constant (N·mm/A)	7.5	15	24
线圈电阻	Coil Resistance (Ω)	2.7	2.6	1.58
线圈电感	Coil Inductance (μH)	165	275	300
最大连续电流	Max. Continuous Current (A)	2.5	3.5	5
峰值电流	Peak Current (A)	10	10	10
上升时间	Rise Time (ms)	0.18	0.3	0.7
重量	Weight (g)	220	300	400

传感器参数		
最大偏转角度 <sup>①</sup>	Max. Scanning Angle (°)	±12.5
非线性度	Nonlinearity (%)	<0.4
重复精度	Repeatability (μrad)	<2
零位漂移	Offset Drift (μrad/K)	<15
增益漂移	Gain Drift (ppm/K)	<50
位置解析度	Position Resolution	18 Bit <sup>②</sup>
共模输出信号	Output signal, Common mode	Typical 170uA with AGC current of 30-40mA
差模输出信号	Output signal, differential mode	9-10uA/° with AGC current of 30-40mA

① 以上角度均为机械角度 All angles above are mechanical angles

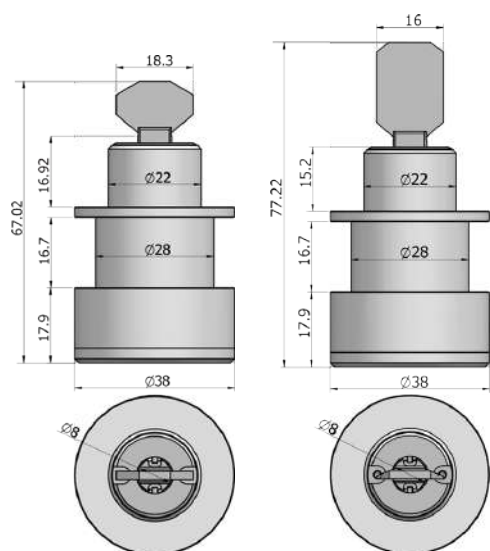
② 经过换算, 18bit@25°对应为1.7urad, 23bit@360°对应为0.75urad

After calculation, 18 bit @25°corresponds to 1.7 urad, and 23bit @corresponds to 0.75urad

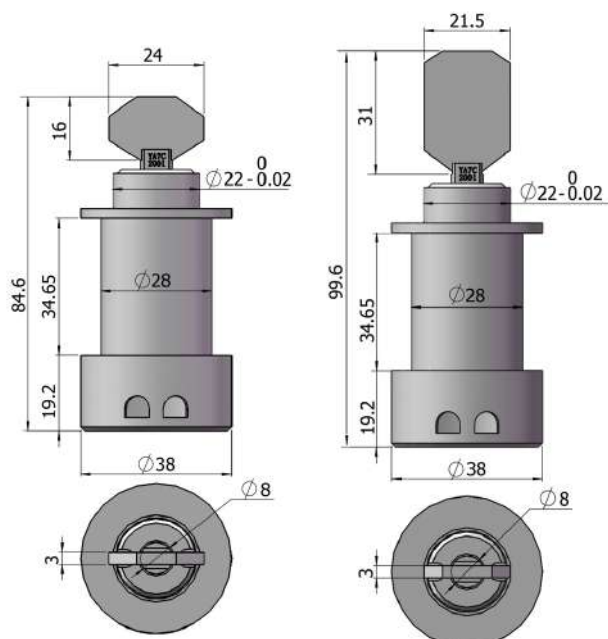
# 外形尺寸图

TECHNICAL DRAWING

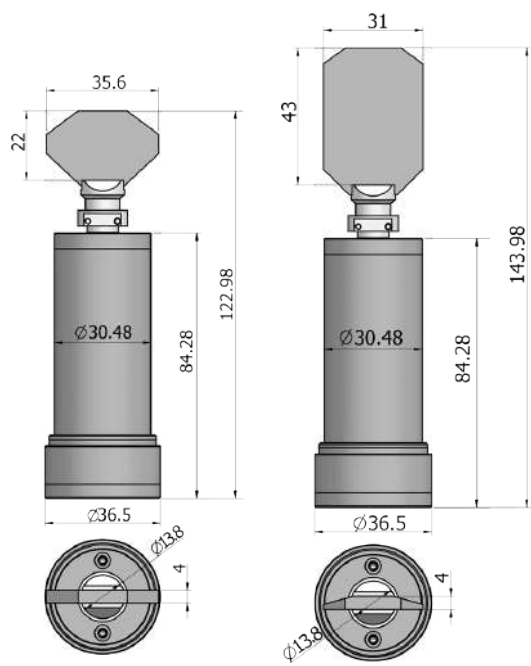
UltraGalvo S (10mm)



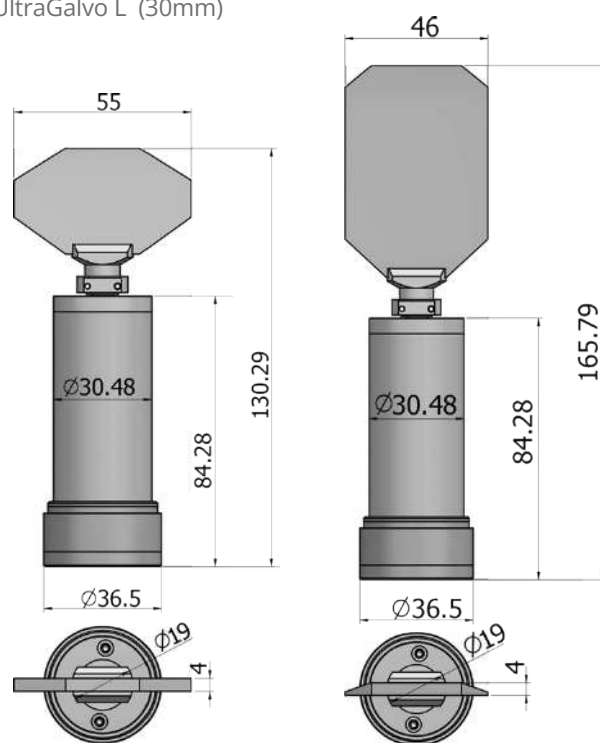
UltraGalvo M (14mm)



UltraGalvo L (20mm)



UltraGalvo L (30mm)



## 适配镜片

### ADAPTIVE LENS

	<7mm	7mm	8.5mm	10mm	14mm	20mm	30mm	40mm	50mm	80mm
ST200	√									
ST210		√								
ST220			√							
ST231				√						
ST230					√					
ST240						√	√			
ST250								√	√	
ST260									√	√
<b>UltraGalvo S</b>				√						
<b>UltraGalvo M</b>					√					
<b>UltraGalvo L</b>						√	√			
ExtraGalvo S				√						
ExtraGalvo M					√					
ExtraGalvo L						√	√			

**ScannerOptics 思特光学**

深圳市思特光学科技有限公司  
Scanner Optics Co., Ltd.

广东省深圳市宝安区西乡街道桃花源科技创新园B2&B10栋  
Building B2&B10, Taohuayuan Science and Technology Innovation Park,  
Xixiang Street, Bao'an District, Shenzhen City, Guangdong Province, China.



www.scanneroptics.cn / www.scanneroptics.com  
0755-2304 1055  
hansscanner@hanslaser.com