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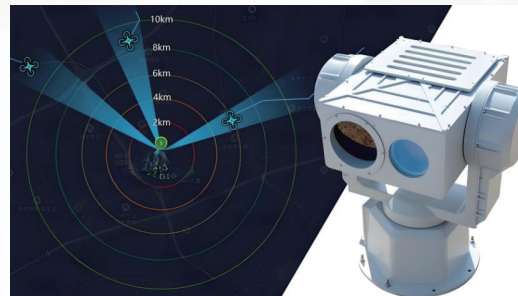
2025 产品手册
Product Catalog

激光测距模块
LRF Module

10m-90km

多用途远程激光测距模块简介

Introduction to Multi-Purpose Remote Laser Ranging Modules



High Frequency Laser Ranging Radar



型号 Model	STA-B10X	STA-B22X	STA-B50X	STA-T50A	STA-T100A	STA-T200A	STA-T300A	STA-T600A	STA-T1500A
测距范围 Ranging Range	3cm-10m	3cm-22m	3cm-50m	5cm-50m	5cm-100m	5cm-200m	5cm-300m	5cm-600m	5cm-1500m
测距频率 Ranging frequency	100Hz	500Hz		20-1kHz			50/100Hz		50Hz
测距精度 Range Accuracy	1%	±3cm(0.2~6m), 1%(≥6m)			±10cm				
分辨率 Resolution	1mm			1cm					
工作温度 Operation temperature	-30~+65℃			-40~+65℃					
供电电压 Supply Voltage	3.3V		3.3-5V	9-36V					
模块尺寸 Module Size	12x9x8.5mm	21x15x7.5mm	19x12x13.3mm	27x30x20mm	33x34x18mm				
重量 Weight	1g	2g		15±1g	20±1g				
应用 Application scope	无人机定高、AGV、机器人避障、工业级光幕、交通、安防、风电、塔吊安全距离检测及工业自动化领域高速测量和安全监测等。 UAV height determination, AGV/robot obstacle avoidance, industrial grade light curtains, traffic, security, wind power, tower crane safety distance detection, and high-speed measurement and safety monitoring in the field of industrial automation.								

工业级905nm激光测距模块

Industrial Grade 905nm Laser Ranging Module

1.5-2km



该产品以人眼安全的905nm半导体激光器为基础，采用 SWaP，具有体积小，重量轻，测量距离长等特点，广泛应用于微小型无人机定高、手持测距仪、多光谱望远镜、瞄准镜等设备集成。

The product is based on human eye-safe 905nm semiconductor laser, using SWaP, with small size, light weight, long measuring distance and other characteristics, widely used in micro and small UAV height setting, handheld rangefinder, multi-spectral binoculars, scopes and other equipment integration.

型号 Model	STA-M15X	STA-W15X	STA-W2X
测距范围 Ranging Range	5-1500m		5-2000m
发散角 Divergence angle	6mrad		12mrad
测距精度 Range Accuracy	±1m		
测距频率 Ranging frequency	1-5Hz	1-3Hz	
供电电压 Supply Voltage	3-5V	3.3V	3-5V
功耗 Power consumption	工作 Work ≤0.3W 待机 Standby≤0.1W	工作 Work ≤0.8W 待机 Standby≤0.3W	工作 Work ≤1.5W 待机 Standby≤0.5W
工作温度 Operation temperature	-20~+55℃	-20~+55℃	-40~+60℃
模块尺寸 Module Size	30x20x15mm	26x25x14mm	26x25x13mm
重量 Weight	10±0.5g	12±0.5g	10±0.5g

注：STA-W2X模块可通过电源使能引脚实现待机≤1mW。

Note: The STA-W2X module can achieve standby ≤ 1mW by pulling down the power on.

工业级905nm激光测距模块

Industrial Grade 905nm Laser Ranging Module

1.2-2.5km



该产品以人眼安全的905nm半导体激光器为基础，采用TDC+AD，具有体积小，重量轻，测量距离长等特点，广泛应用于小型无人机吊舱、多光谱红外望远镜、夜视仪、瞄准镜等设备集成。

The product is based on human eye-safe 905nm semiconductor laser and adopts TDC+AD, which has the features of small size, light weight and long measuring distance, etc. It is widely used in the integration of small UAV pods, multi-spectral infrared telescopes, night-vision devices, scopes and other equipments.

型号 Model	STA-M010X	STA-M020X	STA-M020Pro
测距范围 Ranging Range	5-1200m	5-2000m	5-2500m
测距精度 Range Accuracy	±1m		
测距频率 Ranging frequency	1-5Hz		
发散角 Divergence angle	5mrad		
供电电压 Supply Voltage	3-5V		
功耗 Power consumption	工作 Work ≤0.25W 待机 Standby≤0.09W	工作 Work ≤0.56W 待机 Standby≤0.18W	
工作温度 Operation temperature	-40~+60℃	-20~+55℃	
模块尺寸 Module Size	Φ23x47mm / Φ22x43mm		
重量 Weight	14±0.5g		

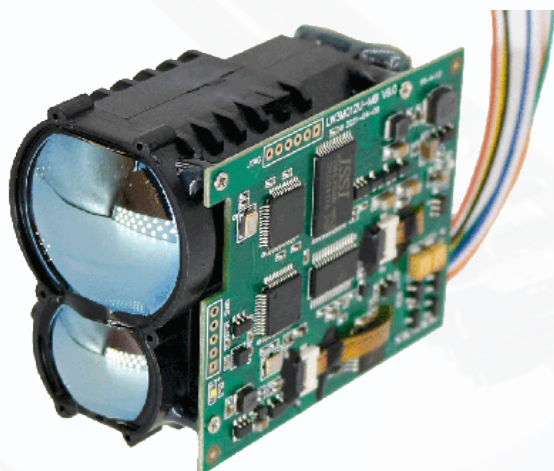
注：测量最大范围目标为建筑物。

Note: The target for measuring the maximum range is buildings.

工业级905nm激光测距模块

Industrial Grade 905nm Laser Ranging Module

3-5km



该产品以人眼安全的905nm半导体激光器为基础，采用TDC+AD，具有体积小，重量轻，测量距离长等特点，广泛应用于无人机吊舱、多光谱红外望远镜、夜视仪、安防云台等设备集成。

The product is based on human eye-safe 905nm semiconductor laser and adopts TDC+AD, which has the features of small size, light weight and long measuring distance, etc. It is widely used in the integration of UAV pods, multi-spectral infrared telescopes, night-vision devices, Security Heads and other equipments.

型号 Model	STA-M30X	STA-M40X	STA-M50X
测距范围 Ranging Range	5-3500m	5-4500m	5-5500m
测距精度 Range Accuracy	±1m		
测距频率 Ranging frequency	1-5Hz		
发散角 Divergence angle	5mrad		
供电电压 Supply Voltage	3-5V		
功耗 Power consumption	工作 Work ≤0.3W 待机 Standby≤0.1W	工作 Work ≤0.35W 待机 Standby≤0.12W	工作 Work ≤0.5W 待机 Standby≤0.15W
工作温度 Operation temperature	-20~+55℃		
模块尺寸 Module Size	32x37x47mm		
重量 Weight	38±0.5g		

注：测量最大范围目标为建筑物。

Note: The target for measuring the maximum range is buildings.

防务级1535nm激光测距模块

Military Grade 1535nm Laser Ranging Module

3-5km



模块采用1535nm铟玻璃泵浦激光器组件，具有测量距离远、功耗低、性能稳定、对人眼安全等特点。优异的高低温性能可在恶劣环境下持续使用，广泛应用于无人机吊舱，安防云台，热成像，多光谱望远镜，瞄准镜等设备集成。

The module adopts 1535nm laser components, which have the characteristics of long measurement distance, stable performance, and eye safety. Widely used in the integration of unmanned aerial vehicle pods, security gimbals, thermal imaging, multispectral telescopes, sights and other equipment.

型号 Model	STA-LD30X		STA-H0407X		STA-H0508X	
测距范围 Ranging Range	15-5000m		30-7000m		30-8000m	
	车辆 Vehicle	≥3km	车辆 Vehicle	≥4km	车辆 Vehicle	≥5km
测距精度 Range Accuracy	±1m					
测距频率 Ranging frequency	1-10Hz					
发散角 Divergence angle	≤0.6mrad		≤0.5mrad			
供电电压 Supply Voltage	5-24V		5V		9-15V	
功耗 Power consumption	待机 Standby≤0.7W 平均 Average≤1.5W 峰值 Peak value≤3W		待机 Standby≤1.5W 平均 Average≤2W 峰值 Peak values≤4W		待机 Standby≤1.5W 平均 Average≤3.5W 峰值 Peak values≤7W	
工作温度 Operation temperature	-40~+60℃					
模块尺寸 Module Size	≤48x21x31mm		≤48.5x36x26mm		≤54x34x44mm	
重量 Weight	33±0.5g		57±0.5g		75±0.5g	

备注 Note：能见度≥15公里 / observer visibility ≥ 15 km

车辆目标尺寸2.3x2.3米,反射率≥30%;

Range performance on 2.3X2.3m NATO target size,reflectivity:30%;

防务级1535nm激光测距模块

Military Grade 1535nm Laser Ranging Module

6-10km



模块采用1535nm眼睛安全激光器组件，具有测量距离远、功耗低、性能稳定等特点，广泛应用于无人机吊舱，无人车，安防云台，热成像等设备集成。通过RS422/RS232/TTL串口连接，便于二次开发

LRF adopts 1535nm eye safe laser components, which have the characteristics of long measurement distance, low power consumption, and stable performance. It is widely used in the integration of unmanned aerial vehicle pods, unmanned vehicles, security gimbals, thermal imaging and other equipment. Connected via RS422/RS232/TTL serial port for easy secondary development.

型号 Model	STA-B0610X		STA-B0815X		STA-B1018X	
测距范围 Ranging Range	50-10000m		50-15000m		50-18000m	
	车辆 Vehicle	≥6km	车辆 Vehicle	≥8km	车辆 Vehicle	≥10km
测距精度 Range Accuracy	±1m					
测距频率 Ranging frequency	1-10Hz					
发散角 Divergence angle	≤0.3mrad					
供电电压 Supply Voltage	9-15V		9-36V		12V	
功耗 Power consumption	待机 Standby≤0.1W;工作 Work ≤3W@10hz;峰值 Peak values≤5W					
工作温度 Operation temperature	-40~+60℃					
模块尺寸 Module Size	≤73x45x59mm		≤80x67x47mm		≤100x61x71mm	
重量 Weight	120±2g		120±2g		220±2g	

备注 Note：能见度≥20公里 / observer visibility ≥20km

车辆目标尺寸2.3x2.3米,反射率≥30%;

Range performance on 2.3X2.3m NATO target size,reflectivity:30%;

防务级1535nm激光测距模块

Military Grade 1535nm Laser Ranging Module

12-20km



模块采用1535nm眼睛安全激光器组件,具有测量距离远、功耗低、性能稳定等特点,其轻量化设计非常适合机载、车载等设备集成。通过RS422/TTL串口连接,便于二次开发。

The module adopts 1535nm eye safe laser components, which have the characteristics of long measurement distance, low power consumption, and stable performance. Its lightweight design is very suitable for integration of airborne, vehicle mounted and other equipment. Connected via RS422/TTL serial port for easy secondary development.

型号 Model	STA-B1220X		STA-C1826X		STA-C2030X	
测距范围 Ranging Range	50-20000m		100-26000m		100-30000m	
	车辆 Vehicle	≥12km	车辆 Vehicle	≥18km	车辆 Vehicle	≥20km
测距精度 Range Accuracy	±1m(RMS)					
测距频率 Ranging frequency	1-10Hz		0.5-10Hz			
供电电压 Supply Voltage	9-15V		12V			
发散角 Divergence angle	≤0.3mrad					
功耗 Power consumption	待机 Standby≤1W		待机 Standby≤1.2W			
	工作 Work ≤3W		工作 Work ≤2W			
	峰值 Peak value≤6W		峰值 Peak value≤3W			
工作温度 Operation temperature	-40~+60℃					
模块尺寸 Module Size	≤90x63x82mm		≤125x100x70mm			
重量 Weight	300±2g		380±2g			

备注 Note: 能见度≥25公里 / observer visibility ≥25km

车辆目标尺寸2.3x2.3米,反射率≥30%;

Range performance on 2.3X2.3m NATO target size,reflectivity:30%;

防务级1535nm激光测距模块

Military Grade 1535nm Laser Ranging Module

15-20km



模块采用1535nm眼睛安全激光器组件,具有测量距离远、功耗低、性能稳定等特点,其三防设计非常适合舰载,陆基,船载等高防护等级设备集成。是远程系统的绝佳选择。

The module adopts 1535nm eye safe laser components, which have the characteristics of long measurement distance, low power consumption, and stable performance. Its three proof design is very suitable for the integration of high protection level equipment such as shipborne, land-based, and shipborne. It is an excellent choice for remote fire control systems.

型号 Model	STA-B1520X		STA-H1520X		STA-H2030X	
测距范围 Ranging Range	150-20000m		100-23000m		100-30000m	
	车辆 Vehicle	≥15km	车辆 Vehicle	≥15km	车辆 Vehicle	≥20km
测距精度 Range Accuracy	±3m(RMS)					
测距频率 Ranging frequency	1-5Hz		1Hz			
供电电压 Supply Voltage	18-32V		22-34V			
发散角 Divergence angle	≤0.3mrad					
功耗 Power consumption	平均 Average ≤30W. 峰值 Peak ≤60W		平均 Average ≤10W. 峰值 Peak ≤30W			
工作温度 Operation temperature	-40~+60℃					
模块尺寸 Module Size	≤130x114x81mm		≤132x103x75mm			
重量 Weight	≤1.2kg		≤870g			

备注 Note: 能见度≥25公里 / observer visibility ≥25km

车辆目标尺寸2.3x4.6米,反射率≥30%;

Range performance on 2.3X4.6m NATO target size,reflectivity:30%;

防务级1570nm OPO 激光测距模块

Military Grade 1570nm OPO Laser Ranging Module

15-30km



模块采用1570nm OPO激光器组件,具有测量距离远、性能稳定、眼睛安全等特点,是舰载,陆基地对空/对海,船载等高防护等级设备集成的最佳选择。其地对空测量无人机性能卓越。

The module adopts 1570nm OPO laser components, which have the characteristics of long measurement distance, stable performance, and eye safety. It is the best choice for integrating high protection level equipment such as shipborne, land-based ground to air/sea, and shipborne. Its ground to air measurement UAV has excellent performance.

型号 Model	STA-Z1520X		STA-Z2030X		STA-Z3040X	
测距范围 Ranging Range	100-20000m		500-30000m		500-40000m	
	车辆 Vehicle	≥15km	车辆 Vehicle	≥20km	车辆 Vehicle	≥30km
测距精度 Range Accuracy	±5m(RMS)					
测距频率 Ranging frequency	1-10Hz					
供电电压 Supply Voltage	18-30V					
发散角 Divergence angle	≤0.3mrad		≤0.7mrad		可定制2毫弧度 Customizable 2mrad	
功耗 Power consumption	待机 Standby ≤20W. 峰值 Peak ≤80W		待机 Standby≤50W. 峰值 Peak ≤100W			
工作温度 Operation temperature	-40~+60℃					
模块尺寸 Module Size	≤182x116x68mm		≤220x140x72mm			
重量 Weight	≤1kg		≤2kg			

备注 Note: 能见度≥25公里 / observer visibility ≥25km

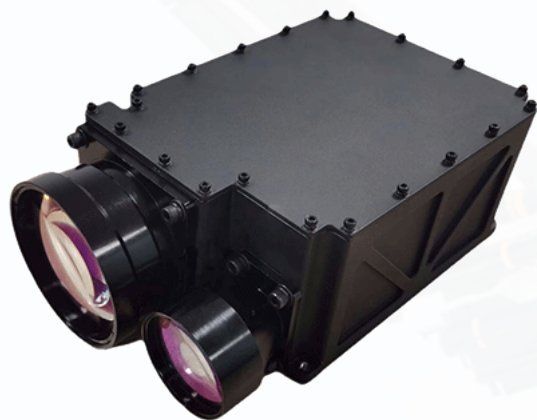
车辆目标尺寸2.3x4.6米,反射率≥30%;

Range performance on 2.3X4.6m NATO target size,reflectivity:30%;

防务级1570nm OPO激光测距模块

Military Grade 1570nm OPO Laser Ranging Module

90km



模块采用1570nm OPO激光器组件,具有测量距离远、性能稳定、眼睛安全等特点，是机载,陆基地对空/对海等超远设备集成的最佳选择。

The module adopts 1570nm OPO laser components, which have the characteristics of long measurement distance, stable performance, and eye safety. It is the best choice for integrating airborne, land-based ground to air/sea and other ultra long distance equipment.

型号 Model	STA-B4090X	
测距范围 Ranging Range	200-90000m	
	≥90km	空对地目标直径≥54m，能见度≥60km Air-to-ground target diameter ≥ 54m, visibility ≥ 60km
	≥40km	测2.3x4.6米目标，能见度≥40km NATO Targets,Visibility ≥ 40km
	≥15km	对截面积0.1㎡无人机目标，能见度≥20km For targets with a cut-off area of 0.1 m²,visibility≥20 km
测距频率 Ranging frequency	≥20Hz	
测距精度 Range Accuracy	≤±3m@≤10km；≤±5m@> 10km	
发散角 Divergence angle	0.6±0.1mrad	
供电电压 Supply Voltage	22-30V	
功耗 Power consumption	平均 Average≤50W	
工作温度 Operation temperature	-40~ + 60℃	
模块尺寸 Module Size	405x230x160mm	
重量 Weight	≤12kg	

备注 Note:
目标反射率≥30%;Targetre flectivity:30%;

测无人机专用激光测距模块

Measurement UAV specific laser ranging module



STA-UL系列激光测距仪模块专为测量小型无人机设计，具有9mrad的宽发散角和高达20/100Hz测量频率，可轻松测量无人机的距离。

The UL-series laser rangefinder module is specifically designed for small UAVs, featuring a wide divergence angle of 9 mrad and a high measurement rate of up to 20/100Hz, enabling effortless distance measurement of drones.

型号 Model	STA-UL1000X	STA-UL800X
测无人机范围 Ranging UAV Range	$\geq 1000\text{m}@0.5\times 0.2\text{m}$ 目标 Target	$\geq 800\text{m}@0.5\times 0.2\text{m}$ 目标 Target
	$\geq 1400\text{m}@0.8\times 0.3\text{m}$ 目标 Target	$\geq 1000\text{m}@0.8\times 0.3\text{m}$ 目标 Target
测距频率 Ranging frequency	$\geq 20\text{Hz}$	$\geq 100\text{Hz}$
测距精度 Range Accuracy	$\leq \pm 2\text{m(RMS)}$	
发散角 Divergence angle	$9\pm 1\text{mrad}$	
供电电压 Supply Voltage	9--36V	
功耗 Power consumption	工作 Work $\leq 8\text{W}$, 峰值 Peak value $\leq 15\text{W}$	
工作温度 Operation temperature	$-40\sim +60^{\circ}\text{C}$	
模块尺寸 Module Size	90x63x82mm	
重量 Weight	$\leq 300\text{g}$	

备注 Note:

能见度 $\geq 20\text{km}$, 目标反射率 $\geq 30\%$; Visibility $\geq 20\text{km}$, Target reflectivity: 30%;



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