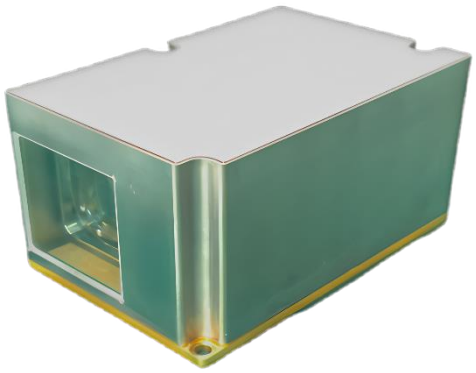
Laser Target Designator & Rangfinder
Night Star Series



PRODUCT DESCRIPTION

The Laser Target Designator Night Star series is capable of delivering highly reliable and stable laser output in diverse harsh environments, providing consistent, high-precision laser guidance for various laser-guided weapon systems to enable precise target strikes.

The Night Star Series Laser Target Designator employs advanced thermal management technology in its compact, lightweight design, meeting rigorous size and weight constraints for military electro-optical platforms.

PRODUCT FUNCTIONS

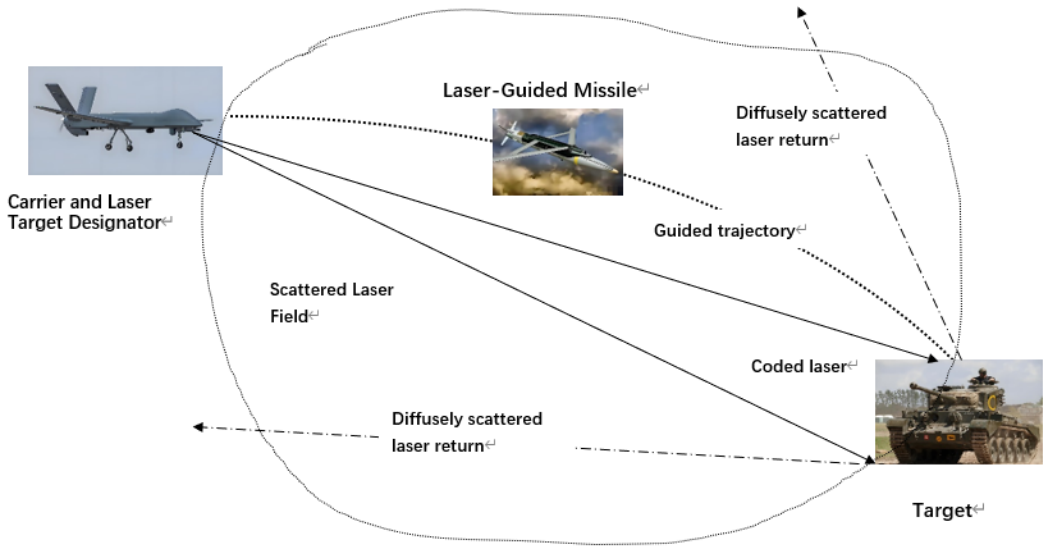
- **Laser Ranging:** Laser Range-finding with Live Data Transmission、APD Latch-up Protection、Range Gating
- **Laser Designation:** Laser irradiation with configurable internal/external sync encoding、Programmable laser emission delay、Synchronized laser signal output
- **Self-Test:** Built-in self-test、Laser pulse counting、Real-time device status monitoring、Multi-stage power protection
- **Control:** Serial Port Control (Receive and Respond to Host Bus Commands)、One-Key Reset Function、Self-Destruct Function via Encoding、Serial Port Online Firmware Upgrade Function

TECHNICAL SPECIFICATIONS

Category	NS2050	NS4040	NS6030	NS8025
Wavelength	1064 nm	1064 nm	1064 nm	1064 nm
Laser energy	20 mJ	40 mJ	60 mJ	80 mJ
Start-up Time	Plug-and-Play			
Energy fluctuation range	≤5%, Active Energy Monitoring Closed-Loop Control Technology			
Pulse width	15±5 ns	15±5 ns	15±5 ns	15±5 ns
Ranging Range (10km visibility, target reflectivity greater than20%, for a 2.3m× 2.3m target)	≥5 km	≥7 km	≥9 km	≥10 km

Ranging Accuracy	± 5 m	± 5 m	± 5 m	± 5 m
illumination range	⩾2 km	⩾4 km	⩾6 km	⩾8 km
Encoding Accuracy	⩽2 μs	⩽3 μs	⩽4 μs	⩽5 μs
Divergence Angle	⩽0.5 mrad	⩽0.4 mrad	⩽0.3 mrad	⩽0.25 mrad
Irradiationtion Frequency (Base)	20 Hz	20 Hz	20 Hz	20 Hz
Laser Coding	Pulse Repetition Frequency Coding Variable Pulse Interval Code Pseudonoise Code			
Volume(mm)	88×60×52	98×65×52	108×70×55	110×73×60
Weight	500 g	600 g	700 g	800 g
Irradiation Duration	Single cycle: ⩾60s (interval: 60s, 2 cycles)			
Continuous ranging duration	5min（1Hz），2min（5Hz）			
Operating Temp.	-40℃ ~ +60℃			
Perational life	Long service life, exceeding 2 million cycles with less than 10% energy degradation.			
Optical Axis Stability	⩽0.3mrad， Technology：Dynamic Thermally-Stabilized Cavity			
Working power	Average⩽15W Standby⩽5W Peak Current⩽3A	Average⩽25W Standby⩽5W Peak Current⩽3A	Average⩽35W Standby⩽5W Peak Current⩽4A	Average⩽45W Standby⩽5W Peak Current⩽4A
Electrical Interface	RS-422（Configurable RS232 & TTL Interfaces）			
Baud rate	115200bps			
Configurable range	Laser energy	20mJ ~ 300mJ		
	Optical axis instability	0.1 mrad ~ 3 mrad		
	Contoured envelope			
	Electrical Interface	RS-422、RS232、TTL		

System configurations and localization requirements can be fully customized



1064nm 激光照射器

Night Star 系列

产品描述

Night Star 系列激光测照器采用专利的激光技术可在各种恶劣环境下实现高可靠高稳定的激光输出，可对各种激光制导武器系统提供稳定、高精度的激光导引，从而实现对目标的精确打击。

Night Star 系列激光测照器基于先进热管理技术的小型轻量化设计，可满足各种对体积重量有严格要求的军用光电平台。

产品功能

- **激光测距功能：**激光测距实时上报距离值，APD 闭锁保护功能，距离选通功能
- **激光照射功能：**能以规定内、外同步编码方式进行激光照射，激光照射延迟功能，激光信号同步输出功能
- **自检功能：**设备内部状态自检功能，激光脉冲计数功能，设备状态监控功能，电源保护功能
- **控制功能：**串口控制，接收和响应上位机总线指令，一键复位功能，编码自毁功能，串口在线升级功能

技术参数

类型	NS2050	NS4040	NS6030	NS8025
波长	1064 nm	1064 nm	1064 nm	1064 nm
能量	20 mJ	40 mJ	60 mJ	80 mJ
启动时间	Plug-and-Play			
能量波动范围	≤5%，主动能量监控闭环控制技术			
脉冲宽度	15±5 ns	15±5 ns	15±5 ns	15±5 ns
测距范围（能见度不小于 10km，对等效尺寸 2.3m×2.3m 目标，目标反射率大于 20%）	≥5 km	≥7 km	≥9 km	≥10 km
测距精度	± 5 m	± 5 m	± 5 m	± 5 m
照射距离	≥2 km	≥4 km	≥6 km	≥8 km

编码精度	≤2 μs	≤3 μs	≤4 μs	≤5 μs
发散角	≤0.5 mrad	≤0.4 mrad	≤0.3 mrad	≤0.25 mrad
照射频率 (Base)	20 Hz	20 Hz	20 Hz	20 Hz
激光编码	精确频率码 变间隔码 伪随机码			
体积(mm)	88×60×52	98×65×52	108×70×55	110×73×60
重量	500 g	600 g	700 g	800 g
照射持续时间	长照射：工作 60s，休息 60s，2 轮			
连续测距持续时间	5min（1Hz），2min（5Hz）			
使用温度范围	-40℃ ~ + 60℃			
使用寿命	使用寿命长，可达 **200 万次**（能量下降 10%以内）以上			
光轴稳定性	光轴稳定性提升至 0.03mrad 以内：动态热稳腔技术			
功耗	平均≤15W 待机≤5W 峰值电流≤3A	平均≤25W 待机≤5W 峰值电流≤3A	平均≤35W 待机≤5W 峰值电流≤4A	平均≤45W 待机≤5W 峰值电流≤4A
异步串行通信标准	RS-422（可定制 RS232 & TTL Interfaces）			
波特率	115200bps			
可定制范围	能量	20mJ ~ 300mJ		
	发散角	0.1 mrad ~ 3 mrad		
	异性包络			
	通信串口	RS-422、RS232、TTL		

系统配置和本地化要求可以完全定制。