

CST-LTD8013 Vehicle Mounted Laser Target Designator



Application

laser semi-active homing guidance, integrated with various optoelectronic systems:

- Airborne, shipborne, and vehicle-mounted optoelectronic systems
- Electro-optical countermeasure system
- Weapon fire control system
- Ground-based optoelectronic reconnaissance system
- Portable individual soldier optoelectronic system

Overview

It adopts LD-pumped Nd:YAG crystal combined with EO Q-switching technology to achieve typical 1064nm pulsed laser output, with a max single-pulse energy of 80mJ and adjustable from 40mJ to 80mJ. The beam divergence angle is 0.3mrad.

It uses TEC temperature-controlled air cooling and a sealed structural design. Operates within ambient temp. range of -40°C~60°C, supporting long (short) cycle continuous illumination durations of 90s (30s) with intervals of 60s (10s), and can perform 2 (8) cycles. It can be integrated into vehicle-mounted EO systems to enable continuous ranging and periodic illumination of targets. The device is suitable for meeting requirements of various laser-guided artillery shells and laser-guided missiles in combat.

Features

Sealed design for the entire unit
 Excellent laser optical axis stability
 Equipped with laser energy step adjustment function

Ranging/Illumination

Max Range ^[1]	≥20km
Min Range	≤300m
Accuracy	±2m
Illumination Range	≥8km
Ranging Frequency	1~20Hz
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Continuous ranging time	30min@5Hz
Illumination Model	Periodic
Illumination Time	≥90s (30s) @20Hz, interval 60s (10s) , 2(8) continuous cycles, then rest for 30 min
Laser coding pattern	Precision Frequency Code, Non-uniform Spacing Code, User-Definable Code Pattern
Encoding Accuracy	±1μs

Environmental Adaptability

Operating Temp	-40°C ~+60°C
Storage Temp	-55°C ~+70°C
Vibration/Impact	Comply with MIL-STD-810H

Electrical Parameters

Power Supply	18~36VDC (typical 24V)
Device Power Consumption	Standby: ≤10W
	Average: ≤90W
	Peak: ≤120W
Comms Interface	RS-422 (standard)
	RS-232/485 (optional)
Baud Rate	115200bit/s

Laser Parameters

Type	LD-pumpedNd:YAG crystal
Cooling	Air-cooling with TEC
Wavelength	1064nm
Single pulse energy	≥80mJ (from 40mJ, step grading at 10mJ)
Energy Fluctuation	Room temp. 5%; -40°Cand +60°C: 8% (RMSE)
Repetition Rate	0~20Hz adjustable
Pulse width	12ns±1ns
Divergence Angle	≤0.3mra (Min 0.2mrad)
beam axis instability	≤0.05mrad
Warm-up time	≤30s
Safety Level	Class 4

MechanicalParameters

Weight	3kg (customized)
Dimension	252mm*157mm*77mm
Installation base/side Non-parallelism with the optical axis	≤0.2mrad

Note: visibility: 15km on 2.3m×2.3m target, reflectivity is 0.3.