

## CST-LTD6010 Laser Target Designator



This LTD employs an LDA-pumped Nd:YAG crystal combined with an electro-optic Q-switching technology, to achieve a typical 1064nm pulsed laser output with a single pulse energy of 60mJ, and a beam divergence angle of 0.3mrad.

Utilizing TEC temperature control technology, the entire device can operate within an ambient temperature range from -40°C to +60°C. It can achieve illumination for 60s with a 30s interval, continuously cycling for 4 periods; or illumination for 45s with a 30s interval for 2 periods from +60°C to +70°C.

It is compatible with various combat platforms EO pods, enabling continuous ranging and periodic illumination on targets. It is a crucial laser device for implementing laser semi-active guidance process.

### Product Features

- Support continuous illumination at high temperatures: 2 cycles continuous illuminations at +70°C.
- Low power consumption: Peak power consumption does not exceed 110W, and average illumination power consumption does not exceed 50W.
- Lightweight: The entire device weighs is no more than 950g (weight optimization is possible based on illumination time).

### Application

Used for laser semi-active guidance and other electro-optical systems.

- Airborne, shipborne and vehicle-borne EO systems
- EO countermeasure system
- Weapon fire control system
- Ground-based E reconnaissance system
- Portable individual soldier EO system

### Technical Specification

| Model No.                       |       |
|---------------------------------|-------|
| Ranging/Illumination Parameters |       |
| Max Range                       | ≥13km |
| Min Range                       | ≤200m |
| Accuracy                        | ±2m   |
| Illumination Distance           | ≥5km  |
| Ranging Frequency               | 1-5Hz |

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| Illumination Frequency                        | 0-25Hz  |
|---|---|
| Continuous Ranging Time                       | 30min@5Hz   |
| Illumination Mode                             | Cycles  |
| Illumination Time                             | ≥60s@20Hz with 30s interval, workable continuously 4 cycles, and will rest for 30mins after 4 cycles. |
| Laser Coding Type                             | Precise frequency code, Variable interval code and customized code.                                   |
| Coding Accuracy                               | ±1μs  |
| Operating Temperature                         | -40°C ~ +70°C   |
| Storage Temperature                           | -55°C ~ +70°C   |
| Vibration Test                                | Meet demands of MIL-STD-810H  |
| Impact Test                                   | Meet demands of MIL-STD-810H  |
| Laser Parameters                              |   |
| Laser Type                                    | LD-pumped Nd:YAG  |
| Cooling Mode                                  | Air cooling, TEC  |
| Wave Length                                   | 1064nm  |
| Single Impulse Energy                         | ≥60mJ   |
| Energy Fluctuation                            | 6% at +25°C (RMS); 10%( RMS) between -40°C and +70°C  |
| Repetition Frequency                          | 0-20Hz adjustable   |
| Impulse Width                                 | 15ns±5ns  |
| Divergence Angle                              | ≤0.3mrad  |
| Optical Axis Instability                      | ≤0.05mrad   |
| Laser Startup Time                            | ≤30s  |
| Safety Level                                  | Class 4   |
| Power Supply                                  | 20-32V DC (typical: 28V)  |
| Power Consumption                             | Standby:≤5W   |
|   | Average:≤55W  |
|   | Peak:≤110W  |
| Communication Interface                       | RS422(Standard), RS232/485 is optional  |
| Baud Rate                                     | 115200 bit/s  |
| Weight  | 950g  |
| Dmension                                      | 156.5mm*107mm*62mm  |
| Axis Parallel Error to Installation Reference | ≤0.5mrad  |