

# Product Introduction



**VT-007 Smart Thermal Gun Sight**

## Brief Introduction

In the VT-007 smart thermal gun sight developed by our company, the artificial intelligent technology is applied to the field of firearms. And the global first automatic gun calibration, smart ranging and simple manipulation patent technologies are adopted. It subversively solves some problems such as difficult infrared gun calibration, low pointing accuracy, and complicated operation and application, which greatly improves the firearm combat effectiveness. In particular, the automatic gun calibration technology can be used to solve some problems about the traditional gun calibration fully, such as time waste, hard sledding and bullet waste, to realize the quick and accurate single-shot gun calibration. In the product, the lens and the connecting seat can be changed to equip with a wide range of gun families which are widely applied in the world, so as to detect, observe and aim at targets in all-weather conditions in all kinds of environments.

## Production Features

### 1. automatic gun calibration

Our product could record the aiming point before the bullet comes out of the chamber, and automatic detect the point of impact. According with the deviation value between the point of impact and the aiming point, automatic calculate and adjustment the reticle position in the sight. Achieved one-shot quickly and specific calibration, greatly reduce the difficulty of gun calibration, simple its process, and save the bullets consumption.

## Traditional calibration VS Auto calibration

NO.	Event	Traditional calibration	Auto calibration	Advantage
1	Round of calibration	Average 4 round	1 round	Save 3 round
2	Bullet for single calibration	Average 16 bullets	1 bullet	Save 15 bullets
3	Time-consuming for single calibration	About 40 min	About 1 min	Save 39 min
4	Target-scoring	manual	none	Save labor and time

5	measurement	manual	intelligent	Save labor and time
6	Shooter skill level	precise	No need	Calibration irrelevant to the skill level of the shooter
7	Site requirement	100m shooting range	25m target	Less requirement of site

## 2. Smart Ranging

The traditional ranging method is usually by artificial estimation or using some professional ranging equipment (such as: laser rangefinder) , the former one could cause relatively large error, but the latter one will increasing the cost of implementation and influencing the mobility of single soldier. Our product adopts the image processing techniques which could automatic figure the target, calculate its distance, and combine with the firing table of firearms system to automatic generate the aiming point. This method optimize its ranging process, reduce its operating costs, improve its hit efficiency and the mobility of single soldier.

## 3. Simple Manipulation

The infrared sight in the market usually use multiple functional keys or knobs to operate, requiring the shooters to make himself master of its operation process and essentials, especially in the process of aiming, visual obstacle would increases the difficulty of manipulation. Our product adopt single rotary knob operation mode with instruction, in the process of shooting, shooters only need to manipulate single knob button, cooperate with menu selection function or data, then could finish the whole process of shooting with menu's prompt. In this way, the shooters could avoid mistakes caused by complicated operations, solving the equipment's manipulation problem under the non-visual condition, and improve the ergonomics of the equipment.

## specification

<b>Detecting ability</b>	Sensor	Uncooled FPA sensor	
	Resolution	640×512	384×288
	Angle of view	15.5°×12.4°	9.3°×7.0°
	Wave length	8 μm×14 μm	
	Pixel pitch	17 μm×17 μm	
	Noise equivalent thermal difference (NETD)	50 mK	
	Lens Focal	40 mm	
	Working distance	Visibility > 15Km, relative humidity ≤ 80%, temperature+25°C, man-shaped object maximum detection distance 500m	
<b>Aiming adjust</b>	Reticle adjustment	Reticle adjustment accuracy 0.36m mil	
	Clear eye distance	35 mm	
	Oxyoptex	±4 D	
<b>Energy consumption</b>	Battery continuous working time	≥ 7 h	
<b>Accuracy</b>	Auto-sighting	Shooting deviation ≤ 5mil	
<b>Working environment</b>	Working environment	-40 °C~+50 °C	
	Storage environment	-50 °C~+60 °C	
	Rain exposure	intensity 1.7 mm/min, drop size 0.5-4.5	
<b>Physical features</b>	Size	202 mm × 81 mm × 87.5 mm	
	Weight	710 g	