

S-C02-010

Technical Specification

1. System Survey

The system comprises a beam director, laser light source, thermal control unit, battery, and a mobile cabin (radar optional). The beam director is fixed to the mobile cabin, while the laser light source and battery are housed within the sealed cabin compartment. The thermal control unit is located inside the cabin equipped with louvers.



Figure 1 Schematic Diagram of the Exterior Appearance of S-C02-010

2. Key Indicators

2.1 Functional Parameter

Table 1 Functional Indicators

Project Category	Project Technical Requirements
Function requirement	Featuring focused emission capability
	Featuring visible/infrared photoelectric target acquisition capability
	Support manual control of the turntable via the operating lever
	Features a system battery power supply function
	Features laser ranging capability
	Features laser illumination functionality
	Features manual zoom and focus adjustment in visible light/infrared mode
	Features upper-level computer status display and control functions

2.2 Performance Index

Table 2 Performance Metrics

Order number	Parameter	Numeric value
1.	System parameter	
1.1	Laser output power	≥10kW
1.2	Target Destruction Distance *	1.5km
1.3	Downtime *	≤10s

Order number	Parameter	Numeric value
1.4	Laser beam quality (M^2)	≤ 2.8
1.5	Maximum light emission duration	120 seconds (light emission: 30 seconds, interval: 10 seconds, cycles: 4 times)
1.6	Tracing accuracy	10 μ rad (RMS)
1.7	Size	$\leq 2600 \text{ mm} \times 2200 \text{ mm} \times 2400 \text{ mm}$ (length $\times$ width $\times$ height)
1.8	Weight	$\leq 2500 \text{ kg}$
1.9	External power supply requirements	Single-phase AC 220V $\pm 5\%$ @ 50Hz, peak power consumption 20 kW, rated power consumption 13 kW
2.	Environmental suitability	
2.1	Working temperature	-20 $^{\circ}\text{C}$ $\sim$ +55 $^{\circ}\text{C}$
2.2	Storage temperature	-40 $^{\circ}\text{C}$ $\sim$ +60 $^{\circ}\text{C}$
2.3	Relative humidity	20% to 80% RH (no condensation)
2.4	Working air pressure	101.3 $\pm$ 30 (kPa)
3	Beam Director (ATP)	
3.1	Work range of the turntable	Azimuth: N $\times 360^{\circ}$; Elevation angle: -5 $^{\circ}$ to +70 $^{\circ}$
3.2	180 $^{\circ}$ turn-around time	$\leq 3 \text{ s}$
3.3	Maximum visible light capture distance*	2.0 km (atmospheric visibility greater than 10 km; weather condition: clear)
3.4	Maximum infrared capture distance*	2.0 km (atmospheric visibility greater than 10 km; weather condition: clear)
3.5	Firing aperture	250mm
3.6	Focusing the range of radiation emission	0.2km $\sim \infty$
3.7	Resolution of a visible light camera	1920(H) $\times$ 1080(V)
3.8	Visible light camera pixel size	3.45 μm $\times$ 3.45 μm
3.9	Focal length of the visible light camera	$\geq 700 \text{ mm}$
3.10	Infrared locator	Medium-wave refrigeration using tellurium cadmium mercury (MCT)
3.11	Infrared Camera Resolution	640(H) $\times$ 512(V)
3.12	Infrared camera pixel size	15 μm $\times$ 15 μm
3.13	Infrared camera focal length	$\geq 450 \text{ mm}$
3.14	Laser illumination wavelength	808nm
3.15	Laser illumination range *	1.6km
3.16	Radar wavelength	1535nm
3.17	Range measurement: Effective range *	0.5km $\sim$ 1.6km
3.18	Range measurement accuracy	$\pm 3 \text{ m}$

*The metrics were measured for the DJI 4.

3. Delivery List

Table 3: Physical Inventory

Order number	Product name	Quantity
1	Technical data	1 Set
2	S-C02-010 Device	1 Set
3	Control Terminal (Custom Laptop)	1 Table

Table 4 Technical Specifications

Order number	Name	Number (copies)	Remarks
1	Use the maintenance manual	1	
2	Factory Inspection Report	1	
3	Work certificate	1	