

HUAL

UAV TECHNOLOGY

/用/智/慧/重/新/定/义/飞/行/ REDEFINING FLIGHT WITH WISDOM **UAV Product Portfolio** 无人机产品体系

FCQ-50 油动长航时 复合翼垂直起降无人机 FCQ-50 Oil-Powered Long-Endurance Composite-Wing VTOL UAV

FCQ-150 应急救援中型复合翼无人机 FCQ-150 Emergency Rescue Medium-Sized Composite-Wing UAV



KEY PRODUCT OVERVIEW 无人机重点产品介绍





XCD-160 大载重旋翼无人机 XCD-160 Heavy-Lift Rotorcraft UAV XCD-200 大载重旋翼无人机 XCD-200 Heavy-Lift Rotorcraft UAV



GHQ-400 中空长航时固定翼无人机

用智慧重新定义飞行 REDEFINING FLIGHT WITH WISDOM



FCDH-36(S)A 垂直起降固定翼蜂巢 FCDH-36(S)A VTOL Fixed-Wing Honeycomb XCD-7光纤穿越机 XCD-7 Fiber-Optic FPV Drone



FCQ-50型无人机是一款油电混动复合翼垂直起降无人机,采用固定翼结合四旋翼的复合翼总体布局。以简单可靠的方式解决了固定翼无人机垂直起降的难题,兼具了固定翼无人机航时长、速度高、航程远、动平台起降、防撞回避、精准空投等特点和旋翼无人机垂直起降的功能。

The FCQ-50 is a hybrid-powered composite-wing VTOL UAV, featuring an integrated fixed-wing and quadrotor configuration. This composite design provides a simple and reliable solution to achieve vertical take-off and landing for fixed-wing UAVs, and combines the advantages of both fixed-wing and rotorcraft platforms, offering long endurance, high speed, extended range, capability for dynamic platform take-off and landing, collision avoidance, and precise airdrop functionality, while retaining the vertical take-off and landing capabilities of multirotor systems.

特性优势 HIGHLIGHTS >>>

- 长航时、速度快、大航程、动平台起降、结构 稳定、可靠性高
- 垂直起降、无需机场、昼夜全天候作业
- 操作便捷、使用维护性好(侦察型)
- 搭载光电、雷达、喊话器等多种载荷 (侦察型)
- 效率高、精度高、实时性和安全性高(测绘型)
- 可搭载Lidar和五目相机等多种载荷 (测绘型)
- Long endurance, high speed, long range, dynamic platform takeoff and landing, stable structure, high reliability
- Vertical takeoff and landing, no airport required, day and night all-weather operation
- Easy to operate, good usability and maintainability (Reconnaissance Configuration)
- Equipped with various payloads including EO/IR, radar, and loudspeakers (Reconnaissance Configuration)
- High efficiency, high precision, high real-time performance, and high safety (Survey Configuration)
- Capable of carrying multiple payloads such as LiDAR and five-lens camera systems (Survey Configuration)

性能指标

机身长度: 2.5m实用升限: 4000m

● 翼展: 3.8m

最大续航时间: 10h最大起飞重量: 50kg满载续航时间: 3h最大有效载荷: 10kg

巡航速度: 108km/h最大航程: 800km

• 最大载油量: 12L

PERFORMANCE SPECIFICATIONS >>>

Fuselage Length: 2.5mService Ceiling: 4000m

• Wingspan: 3.8m

Maximum Endurance: 10h
Maximum Takeoff Weight: 50kg
Endurance with Full Payload: 3h

Maximum Payload: 10kgCruise Speed: 108km/h

Maximum Range: 800km

• Maximum Fuel Capacity: 12L

应用领域

APPLICATIONS >>>

由挂载光电吊舱、机载激光雷达和五目相机组成,可以被应用于地面势态实时建模和高程模型输出等任务。(测绘构型)

通过搭载的光电吊舱、喊话器和雷达,能够在复杂环境下对地面或海面目标进行搜索、识别和定位。 (侦察构型)

Equipped with an EO/IR pod, airborne LiDAR, and a five-lens camera system, it can be deployed for real-time terrain modeling and digital elevation model (DEM) generation. (Survey Configuration)

Integrated with an EO/IR pod, loudspeaker, and radar system, it enables search, identification, and localization of ground or maritime targets in complex environments. (Reconnaissance Configuration)







FCQ-150 中型复合翼无人机系统是一款工业级垂直起降复合翼无人机,具有直升机垂直起降特性和常规固定翼高效率巡航特性的新型无人机系统。因具备垂直起降特性,无人机无需起降跑道,可在较小的场地进行起飞和降落,可在荒漠、山区等复杂地形执行作业任务。

The FCQ-150 medium-sized composite-wing UAS is an industrial-grade vertical takeoff and landing composite wing UAV. It combines the vertical takeoff and landing capabilities of a helicopter with the high-efficiency cruise characteristics of a conventional fixed-wing aircraft. Due to its VTOL capability, the UAV requires no runway for takeoff or landing, enabling operations in confined spaces. It can perform operations in complex terrains such as deserts and mountainous regions.

特性优势 HIGHLIGHTS >>>

- 垂直起降、全自主飞行和遥控飞行
- 数据链路具备组网通信能力
- 具备通信中断等紧急情况下自主返航和应急降落能力
- 安全飞行: 具有在小雨天气下正常安全起降、飞行的 能力
- Vertical Takeoff and Landing (VTOL), fully autonomous flight, and remote-controlled flight
- Data link with network communication capability
- Autonomous return-to-home and emergency landing capability in case of communication loss
- Operational safety: Capable of safe takeoff, landing, and flight in light rain conditions

性能指标

- 空机重量: ≯100公斤(结构及系统重量,不含任务载荷及燃油重量)
- 最大载荷能力: 40公斤 (海平面)
- 最大起飞重量: 150公斤 (海平面)
- 续航时间/航程(低海拔, <500米): 光电侦察任务构型: 航时10小时, 航程<1000km
- 巡航速度: 150kg时, 巡航速度130km/h(海拔500米)
- 实用升限: <5000米
- 数据链范围(通视): <100km
- 抗风能力: 起降阶段抗5级, 巡航抗7级

PERFORMANCE SPECIFICATIONS >>>

- Empty Weight: >100kg (Structural and system weight, excluding mission payload and fuel weight)
- Maximum Payload Capacity: 40kg (Sea level)
- Maximum Takeoff Weight: 150kg (Sea level)
- Endurance/Range (Low altitude, <500 m):
 Electro-optical reconnaissance mission
 configuration: Endurance: 10h, Range: <1000km
- Cruise Speed: 130km/h @ 150kg (Altitude 500 m)
- Service Ceiling: <5000m
- Data Link Range (LOS): <100km
- Wind Resistance: Takeoff/landing: Level 5
 Cruise: Level 7

应用领域

APPLICATIONS >>>

可以搭载多种任务载荷,可在人员搜救、三维建模、组网通信等典型应用场景作业执行任务。 (航空应急构型)

通过搭载光电吊舱、抛投器和货运箱等,可以对货物进行运输、空投。(货运构型)

通过挂载磁探的传感器和数据采集盒,按照设定的范围、扫描航线、飞行高度和速度,对该区域进行全面的自动化作业。(勘探构型)

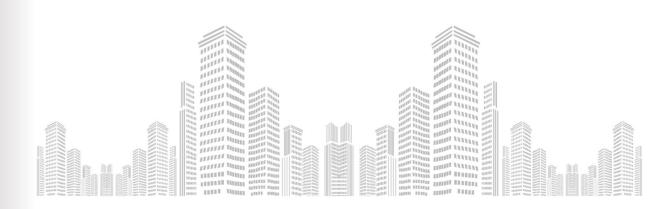
通过搭载的光电吊舱和雷达,可以对扫描区域进行全面的目标和可能威胁进行搜索、识别、定位,为采取有针对的安全防范和有效防御等提供所需信息。(侦察构型)

Supports deployment of multiple payloads for typical missions including personnel search and rescue (SAR), 3D modeling, and networked communication operations (Aerial Emergency Configuration).

Equipped with EO/IR pods, airdrop systems, and cargo containers, it enables cargo transportation and precision airdrop operations (Cargo Transport Configuration).

Equipped with magnetic survey sensors and data acquisition units, the system performs comprehensive automated operations within designated areas according to pre-defined coverage zones, scanning flight path, flight altitude, and airspeed. (Survey Configuration)

Utilizing EO/IR pods and radar systems, it conducts comprehensive search, identification, and localization of targets and potential threats within scanned areas, providing critical data for targeted security measures and effective defense responses (Reconnaissance Configuration).





应用场景

APPLICATION SCENARIOS



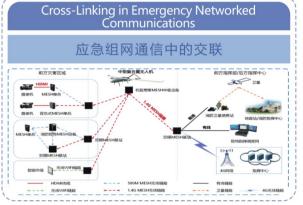








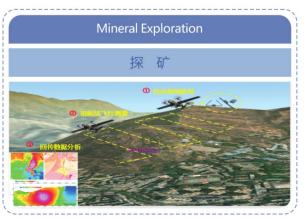














GHQ-400无人机采用常规式气动布局方案,大展弦比中单翼,V型尾翼;后推式两缸两冲程活塞发动机驱动螺旋桨产生推力。

The GHQ-400 UAV adopts a conventional aerodynamic configuration, featuring a mid-wing design with high aspect ratio and V-tail empennage. It is powered by a rear-mounted two-cylinder two-stroke piston engine driving a propeller for thrust generation.

特性优势

- 实用高效
- 操作简便
- 起降要求低
- 带载能力强
- 多机协同能力

性能指标

- 任务载重能力: 60kg起降滑跑距离: 600m最大飞行速度: 200km/h
- 实用升限 (海拔高度): 5000m
- 续航时间 (着陆余油5%): 15h, 150kg燃油 (海拔2000m, 150km/h速度下)
- 起降抗风能力:可在正侧风7m/s时起降,可抗空中15m/s连续风

HIGHLIGHTS >>>

- Practical and Efficient
- User-Friendly Operation
- Minimal Takeoff/Landing Requirements
- High Payload Capacity
- Multi-UAV Cooperative Capability

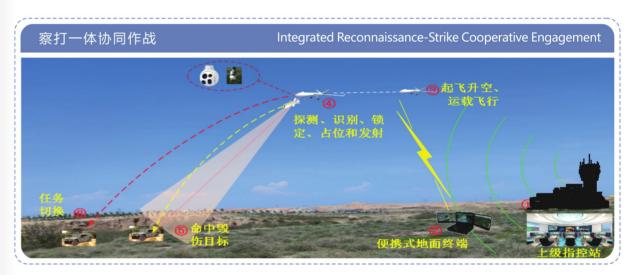
PERFORMANCE SPECIFICATIONS >>>

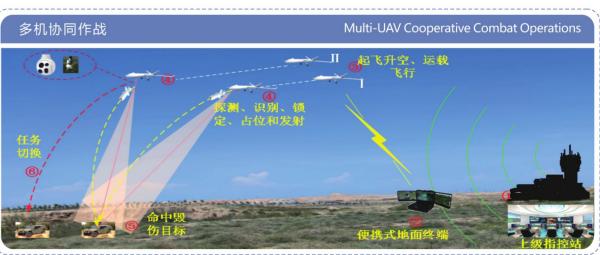
- Payload Capacity: 60kg
- Takeoff/Landing Roll Distance: 600m
- Maximum Flight Speed: 200km/h
- Service Ceiling (Altitude): 5000m
- Endurance (with 5% reserve fuel): 15h, 150kg fuel (at 2000m altitude, 150km/h speed)
- Wind Resistance for Takeoff/Landing: capable of operating in 7m/s crosswinds during takeoff/landing; sustained wind resistance of 15m/s during flight

应用领域 APPLICATIONS >>>

通过机翼挂载精确制导炸弹,通过搭载的光电吊舱搜索、识别、跟踪、瞄准目标,为武器提供目标位置信息。

Deploys precision-guided munitions via wing-mounted hardpoints, integrated EO/IR pod enables target search, identification, tracking, and laser designation, providing real-time targeting data for weapon systems.







GHQ-400无人机采用常规式气动布局方案,大展弦比中单翼,V型尾翼;后推式两缸两冲程活塞发动机驱动螺旋桨产生推力。

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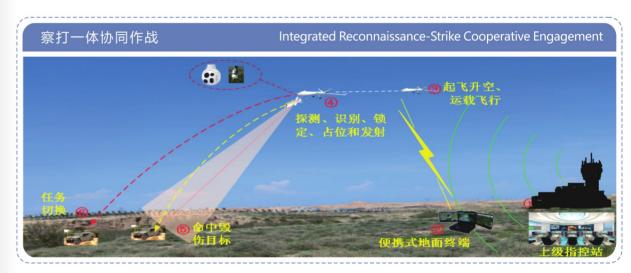
PERFORMANCE SPECIFICATIONS >>>

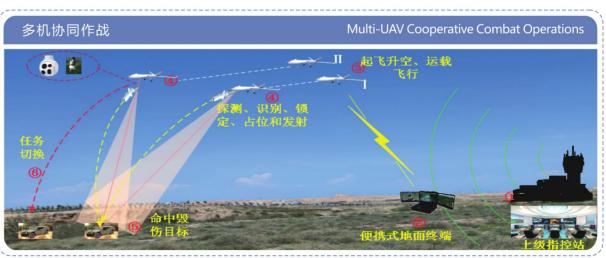
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Deploys precision-guided munitions via wing-mounted hardpoints, integrated EO/IR pod enables target search, identification, tracking, and laser designation, providing real-time targeting data for weapon systems.







XCD-7光纤穿越机将光纤通信技术与无人机技术相结合,通过光纤作为高速、低延时的数据传输媒介,实现了无人机拍摄的高清视频号实时回传至地面控制站,为飞行员提供身临其境的飞行体验,适用于高山、密林等环境应用。

The XCD-7 Fiber-Optic UAV integrates fiber-optic communication technology with UAV systems, utilizing fiber cables as a high-speed, low-latency data transmission medium. This enables real-time transmission of high-definition video footage from the drone to the ground control station, providing pilots with an immersive operational experience. It is particularly suitable for missions in challenging environments such as mountainous terrain and dense forests.

特性优势

- 高可靠抗干扰
- 多种场景应用

• 适应复杂环境

性能指标

- 轴距: 650mm标准载荷: 2.5kg
- 标准起飞重量: 7.3kg@2.5kg载重最大起飞重量: 8.3kg@3.5kg载重
- 最大飞行速度: 120km/h
- 抗风能力: 起降: 8m/s; 飞行: 12m/s
- 升限: 3300m (起飞高度2800m, 有效载荷2.5kg)

HIGHLIGHTS >>>

- High Reliability and Anti-Jamming Capability
- Multiple Senario Applications
- Adaptability to Complex Environments
- Real-Time Signal Transmission

PERFORMANCE SPECIFICATIONS >>>

- Wheelbase: 650mm
- Standard Payload: 2.5kg
- Standard Takeoff Weight: 7.3kg (with 2.5kg payload)
- Maximum Takeoff Weight: 8.3kg (with 3.5kg payload)
- Maximum Flight Speed: 120km/h
- Wind Resistance: Takeoff/landing: 8m/s;
 Flight: 12m/s
- Ceiling: 3300m (Takeoff altitude 2800m, payload 2.5kg)

应用领域

APPLICATIONS >>>

Military design (suitable for low-temperature usage)

军工设计 (满足低温使用)





First Person view (immersive control)

第一视角 (操控身临其境)





Long-Range Reconnaissance and Strike

远距离侦察打击





Key Area Swarm ISR-Strike



缆完美结合,通过系留线缆供电和通信,实现长时间、不间断空中作业和大带宽数据传输,在低空照明、信 号中继和定点监测等方面具有得天独厚的优势。

The XCD-55 tethered multirotor UAV adopts a 4-axis, 8-rotor configuration, providing enhanced lift capacity for the platform. It seamlessly integrates the UAV with a tether cable, enabling continuous power supply and data communication through the tether. This design ensures long-endurance, uninterrupted aerial operations and highbandwidth data transmission, offering unique advantages in applications such as low-altitude illumination, signal relay, and fixed-point monitoring.

特性优势

- 一键自主起飞、一键自主降落
- 定点悬停,可跟随车、船等移动平台飞行
- 双通讯链路 (光纤和无线) 热备份、热切换
- 北斗、GPS、惯导组合导航定位

HIGHLIGHTS >>>

- One-Button Autonomous Takeoff and Landing
- Fixed-Point Hovering with Mobile Platform Tracking (capable of following vehicles, vessels, and other moving platforms)
- Dual Communication Links (fiber-optic and wireless) with Hot Backup and Hot Switching
- · Beidou, GPS, and Inertial Navigation System Integrated for Navigation and Positioning

性能指标

- 最大工作海拔: 3000m ● 最大升空高度: 200m
- 最大有效任务载荷: 20kg (不含系留线缆)
- 最大连续滞空工作时间: 12h
- 抗风能力: 6级

PERFORMANCE SPECIFICATIONS >>>

- Maximum Operating Altitude: 3000m
- Maximum Hovering Height: 200m
- Maximum Effective Payload: 20kg (excluding tether cable)
- Maximum Continuous Hovering Time: 12h
- Wind Resistance: Level 6

应用领域

APPLICATIONS >>>

Emergency Illumination

应急照明





Aerial Broadcasting

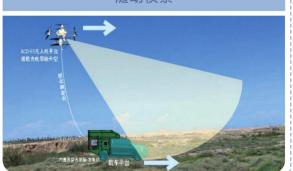
Relay Communication

中继通信



Follow-up Reconnaissance

随动侦察





XCD-160四旋翼无人机是我公司自主研发的一款无人机。该无人机采用4旋翼构型,配备有高精度的飞 控系统,可实时感知飞行姿态及环境状况,确保在复杂环境下稳定飞行。拥有超强的负载及续航能力,最大 支持70kg任务挂载,50kg负载下航时可达30min。

The XCD-160 quadrotor UAV is independently developed by our company. It features a 4-rotor configuration integrated with a high-precision flight control system that continuously monitors flight attitudes and environmental conditions, ensuring stable operation in complex environments. With exceptional payload and endurance capabilities, it supports mission payloads up to 70 kg and achieves 30 minutes of flight time under a 50 kg payload.

特性优势

• 大载重: 最大70公斤, 支持多载荷挂载

• 长续航: 空机续航超50分钟, 50公斤负载续航达30分钟

• 安全避障: 毫米波雷达避障

• 免工具折叠式设计: 徒手组装、拆卸收纳、相应快速

HIGHLIGHTS >>>

- Heavy Payload Capacity: Up to 70 kg, supporting multiple payload configurations
- Long Endurance: Over 50 minutes (unloaded) and 30 minutes with 50kg payload
- Obstacle Avoidance: Millimeter wave radar obstacle avoidance
- Tool-Free Folding Design: Hand-assembled /disassembled/stored, rapid deployment

性能指标

• 最大起飞重量: 160kg • 最大控制距离: 10km • 最大载荷重量: 70kg • 最大平飞速度: 18m/s • 空载飞行时间: 50min

• 最大相对飞行高度: 500m • 标准任务载荷重量: 50kg

• 抗风等级: 6级

● 标准任务载荷飞行时间: 30min

• 最大上升速度: 5m/s

PERFORMANCE SPECIFICATIONS >>>

 Maximum Takeoff Weight: 160kg Maximum Control Range: 10km • Maximum Payload Weight: 70kg • Maximum Level Flight Speed: 18m/s • Flight Time (No Load): 50min

• Maximum Relative Flight Altitude: 500m • Standard Mission Payload Weight: 50kg

• Wind Resistance: Level 6

• Flight Time (Standard Payload): 30min

• Maximum Ascent Speed: 5m/s

应用领域

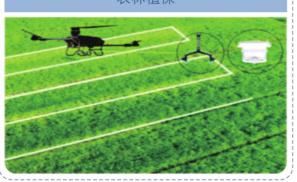
Cargo Transport

货物运输



Agricultural and Forestry Protection

农林植保



Inspection and Reconnaissance



Firefighting Operations



APPLICATIONS >>>



控系统,可实时感知飞行姿态及环境状况,确保在复杂环境下稳定飞行。拥有超强的负载及续航能力,最大 支持120kg任务挂载, 100kg负载下航时可达20min。

The XCD-200 hexacopter UAV is an independently developed product of our company. Featuring a 6-rotor configuration and integrated with a high-precision flight control system, it continuously monitors real-time flight attitudes and environmental conditions to ensure stable operation in complex environments. With exceptional payload capacity and endurance, it supports mission payloads up to 120 kg and achieves 20 minutes of flight time under a 100 kg load.

特性优势 HIGHLIGHTS >>>

• 大载重: 最大120公斤, 支持多载荷挂载

• 长续航: 空机续航超50分钟, 100公斤负载续航达20分钟

• 免工具折叠式设计: 徒手组装、拆卸收纳, 响应快速

● 安全避障: 毫米波雷达避障

- Heavy Payload Capacity: Up to 120kg, supporting multiple payload configurations
- Long Endurance: Over 50 minutes (unloaded) and 20 minutes with 100kg payload
- Tool-Free Folding Design: Hand-assembled/ disassembled/stored, rapid deployment
- Obstacle Avoidance: Millimeter wave radar obstacle avoidance

性能指标

● 最大起飞重量: 200kg ● 最大相对飞行高度: 500m • 最大载荷重量: 120kg • 最大平飞速度: 18m/s

● 标准任务载荷重量: 100kg

• 抗风等级: 6级

• 空载飞行时间: 50min ● 最大上升速度: 5m/s

• 标准任务载荷飞行时间: 20min

● 最大控制距离: 10km

PERFORMANCE SPECIFICATIONS >>>

Maximum Takeoff Weight: 200kg

Maximum Relative Flight Altitude: 500m

Maximum Payload Weight: 120kg

• Maximum Level Flight Speed: 18m/s

• Standard Mission Payload Weight: 100kg

• Wind Resistance: Level 6

• Flight Time (No Load): 50min

Maximum Ascent Speed: 5m/s

• Flight Time (Standard Payload): 20min

• Maximum Control Range: 10km

应用领域

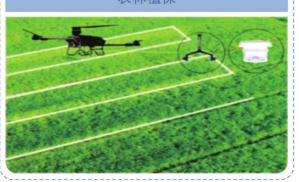
Cargo Transport

货物运输



Agricultural and Forestry Protection

农林植保



Inspection and Reconnaissance

巡检侦察





Firefighting Operations



FCDH-36(S) A 型 "哨兵 "垂直起降固定翼无人机蜂巢系统" Sentinel" VTOL Fixed-Wing UAV Honeycomb System

FCDH-36(S)A型 "哨兵"垂直起降固定翼无人机蜂巢系统是一种自动化、智能化的无人机巡逻系统。系统具备现场远程控制、智能巡检、精准回巢、自动充电、自动调温、作业实时监控、数据实时回传、云端智能分析与管理等诸多优点,能够帮助用户在无需飞手操控、无需大量繁琐准备的情况下,快速便捷的自动完成复合翼无人机从起飞、巡逻到最终回收的全流程巡检任务。

The FCDH-36(S)A "Sentinel" VTOL fixed-wing UAV honeycomb system is an automated and intelligent unmanned patrol system. It features remote on-site control, intelligent inspection, precision return to home, automatic charging, temperature regulation, real-time mission monitoring, live data transmission, and cloud-based intelligent analysis and management. This system enables fully automated operations - from takeoff and patrol to recovery- for composite-wing UAVs, requiring no pilot intervention or extensive preparatory procedures.

特性优势 HIGHLIGHTS >>>

- 无人值守,随时待命
- 自动起降,安全性高
- 动力强劲,续航持久
- 模型预测,超强抗风
- 多种模式, 灵活切换
- 一站控制,功能全面
- 多重余度,安全可靠

- Unmanned Operation, Always on Standby
- Autonomous Takeoff/Landing with High Safety
- Powerful Propulsion, Long Endurance
- Model Predictive Control, Superior Wind Resistance
- Multiple Modes, Flexible Switching
- Single-Station Control, Comprehensive Functions
- Multiple Redundancies, Safe and Reliable

性能指标 PERFORMANCE SPECIFICATIONS >>>

- 蜂巢闭合尺寸: (长x宽x高)4500mm x 2550mm x 2620mm
- 蜂巢展开尺寸: (长x宽x高)4500mm x 5900mm x 1400mm
- 通信方式: 4G/5G、光纤、数传、图传
- 充电方式: 触电充电, 充电时长1.5小时
- 防护等级: IP65

- Closed Dimensions (L×W×H): 4500mm × 2550mm × 2620mm
- Deployed Dimensions (L×W×H):
 4500mm × 5900mm × 1400mm
- Communication Methods: 4G/5G, Fiber-Optic, Data Link, Video Link
- Charging Method: Contact Charging, Charging Time: 1.5h
- Protection Rating: IP65

应用领域 APPLICATIONS >>>

森林、海域、边境、油田、电力、公路等行业进行巡检,实现目标跟踪、定位及盘旋。可应用于民用领域中,具有远距离、大范围、长航时、高频次巡航需求的场景,如能源行业、交通运输、环境气象等。

Suitable for inspection operations in forests, maritime areas, border regions, oil fields, power grids, and highways, enabling target tracking, positioning, and loitering. It can be deployed in civil domains requiring long-range, wide-area, endurance, and high-frequency patrols, including energy sector operations, transportation networks, and environmental monitoring.















