

**GDU | S400**

High-end, professional UAV Pioneer



# S400

## *Beyond Expectation*



*Relay networking, cross-barriers communication*

*AI engine, smart inspection*

*Max 80m omnidirectional obstacle avoidance distance*

*60mins max flight time*

*Customized smart UAV nest, empowering UAV function*



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# Beyond Expectation

S400 is a brand-new light-duty industrial-grade UAV launched by GDU. It integrates a number of cutting-edge technologies of UAV systems. There are major breakthroughs. The frame is made of aviation-grade magnesium alloy, and the fuselage is foldable, safe and stable, and easy to carry. Equipped with millimeter-wave radar and integrated binocular perception system, it can achieve 360° Omnidirectional obstacle avoidance. At the same time, through the airborne AI edge computing module, the whole process of the inspection business is opened up to ensure the refinement, automation and visualization of the inspection operation process, and combined with the network interconnection With the smart machine nest, it supports multi-machine collaboration, and the operation efficiency is increased by 400%.



## PRODUCT PARAMETER

Index	Content
Unfolded dimensions	905 × 836 × 400mm
Folded dimensions	310 × 200 × 178mm
Max take-off weight	4900g
Max loading	1500g
Max horizontal flight speed	20m/s (sport mode, horizontal /no wind)
Max take-off altitude	5500m
Max wind-resistance level	Level 6
Max flight time	60mins
Satellite positioning module	GPS/GLONASS dual module
Hovering accuracy (GPS)	Vertical: ±0.5m (downward vision system: ±0.1m) Horizontal: ±1.5m (downward vision system: ±0.3m)
IP level	IP45
Video transmission range	15km
Omnidirectional barrier avoidance	100m (front), 30m (left&right), electric wire detectable
AI function	Target inspection, follow, recognition
Flight safety	ADS-B function, Can sense surrounding civil aviation aircraft information for evasion



Unfolded



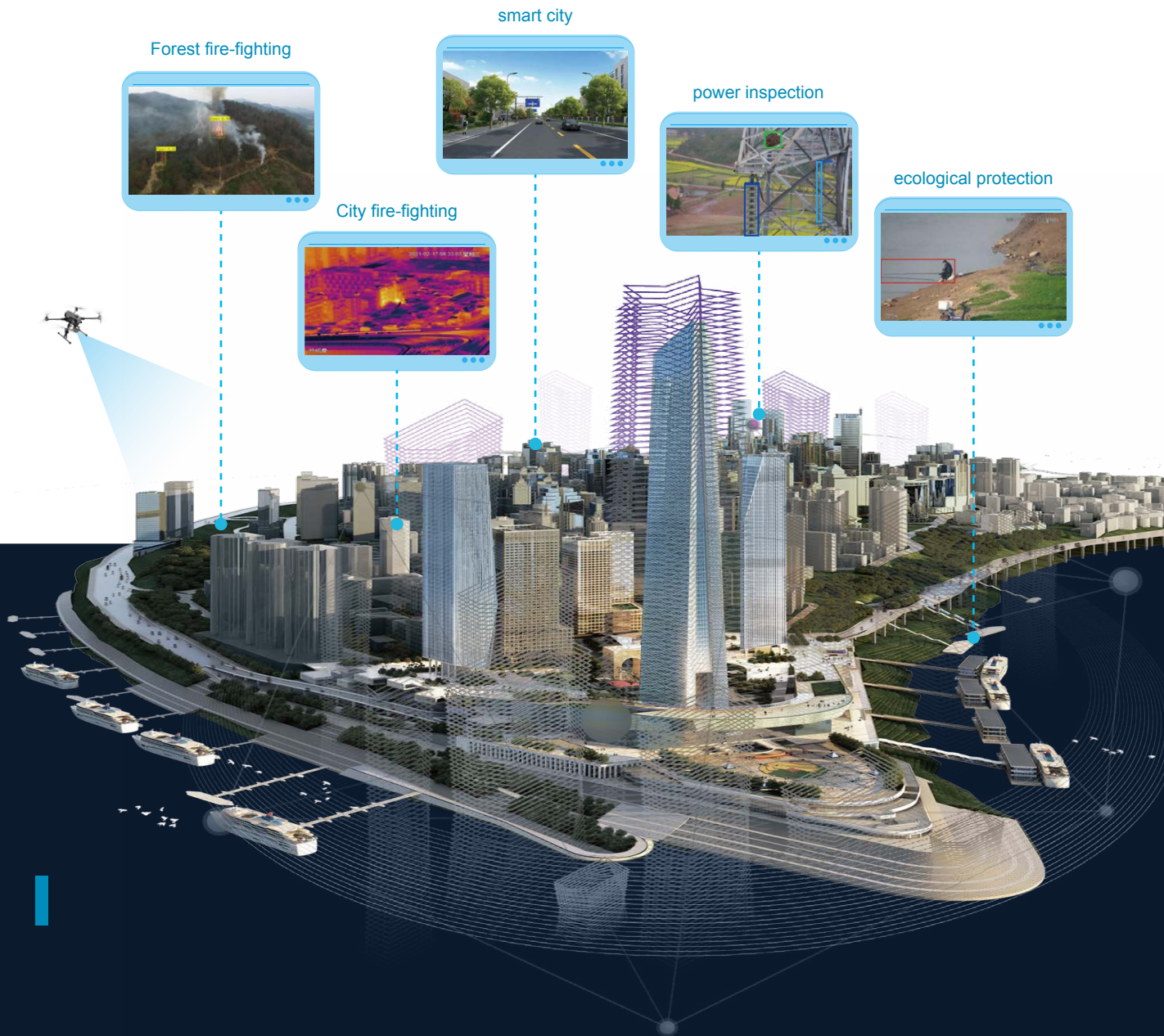
Folded



# AI new vision

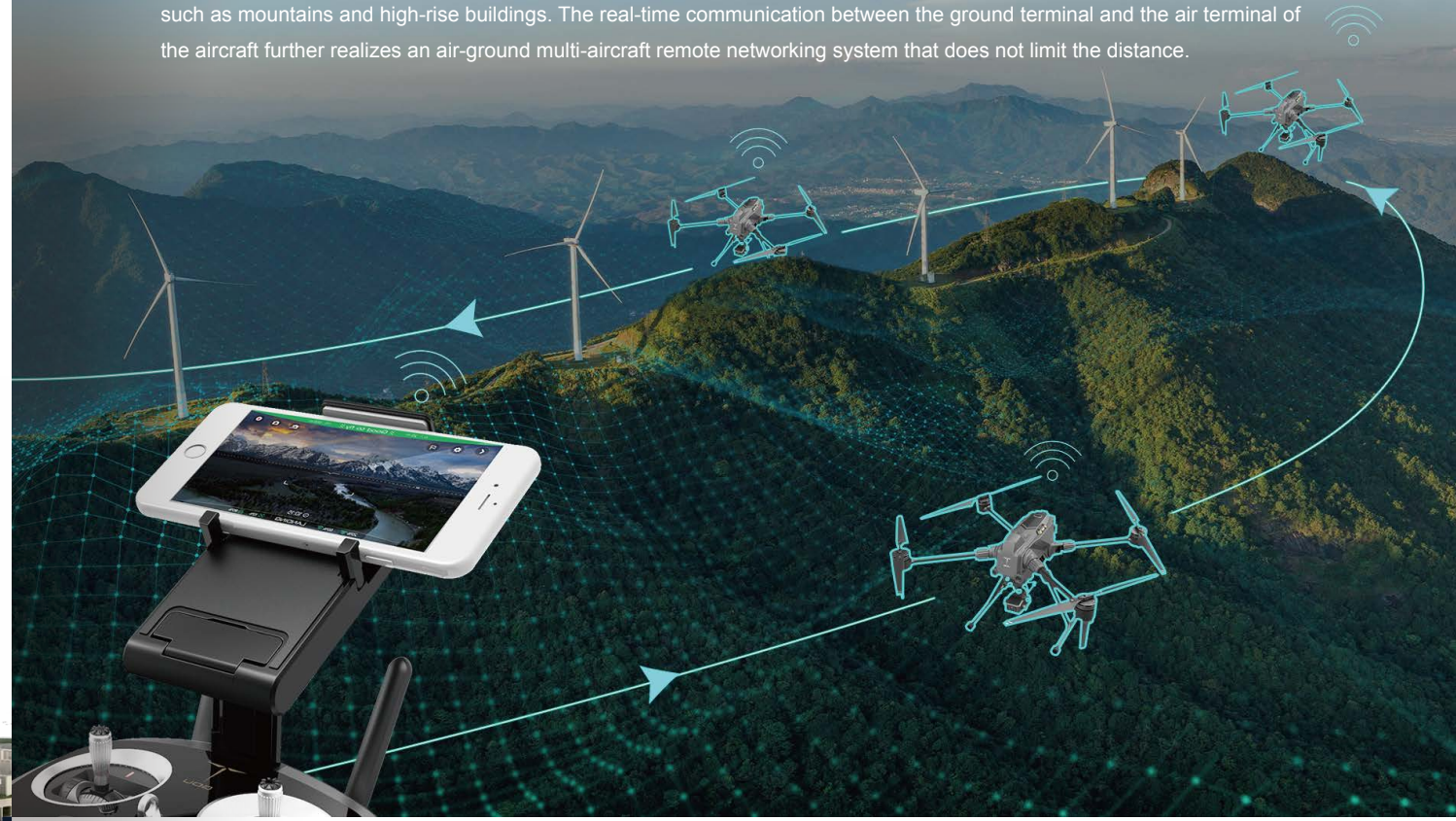
It is equipped with an airborne AI edge computing module and supports mainstream deep learning frameworks, such as Paddle Paddle, TensorFlow, etc., to achieve the goal of typical scenarios Real-time monitoring, tracking, identification and other tasks can be combined with the aircraft's autopilot function to achieve intelligent and refined inspections in industrial inspection scenarios.

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# Oustanding networking

Using relays to achieve long-distance spanning communication requirements that are completely blocked in environments such as mountains and high-rise buildings. The real-time communication between the ground terminal and the air terminal of the aircraft further realizes an air-ground multi-aircraft remote networking system that does not limit the distance.



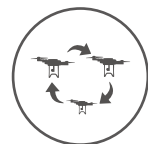
Dual control



Remote control & operation



Data relay



Multi-UAV coordination

# Clear than ever before

Integrated millimeter wave radar and binocular vision obstacle avoidance technology, omnidirectional obstacle avoidance up to 80 meters, and has industry-leading power line obstacle avoidance function, power line detection distance The distance can be up to 40 meters, providing a strong technical guarantee for operation safety.

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# 60mins max flight time

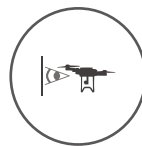
Breaking the technical bottleneck of short UAV battery life, it adopts high-power, high-performance battery, 142000mWh large capacity, supports 60min ultra-long battery life, stable and lasting power, and ensures worry-free operation.



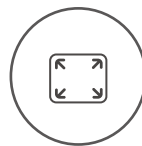
# 142000 mWh



Millimeter wave lidar



Binocular Vision Obstacle Avoidance



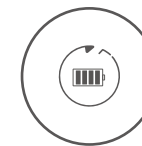
80m Omnidirectional obstacle avoidance



40m powerline obstacle avoidance



Breakthrough in flight time



High-performance battery



Endurable power



High efficiency

# Made for individual operation

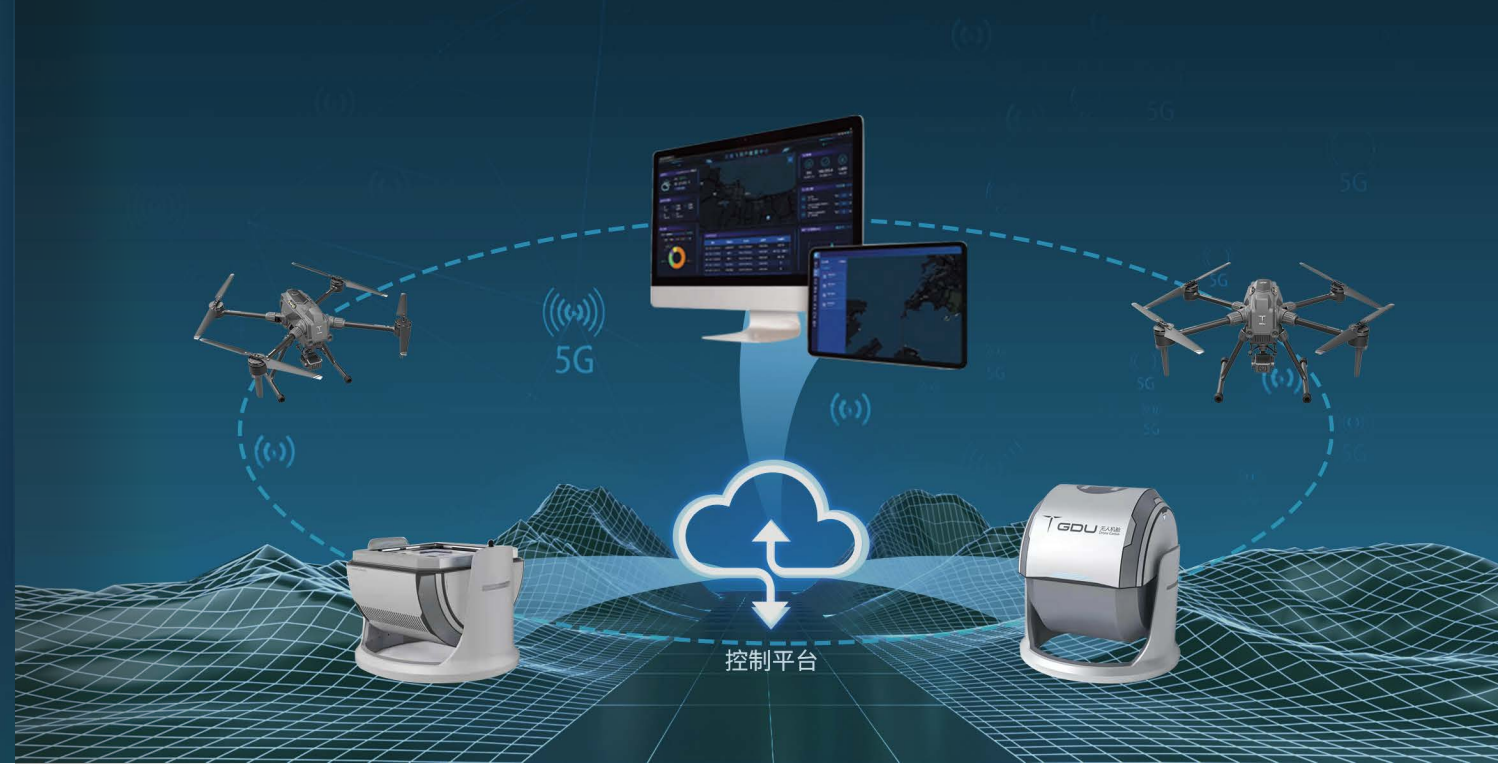
The integrated folding design of the fuselage greatly improves the portability of the product. The weight is only 3.6kg. You can travel with a bag at any time, and one person can efficiently complete the inspection operation.



- Integrated folding
- 3.6KG weight
- Portable
- Mobility

# Multi-nest coordination, make inspection more smart

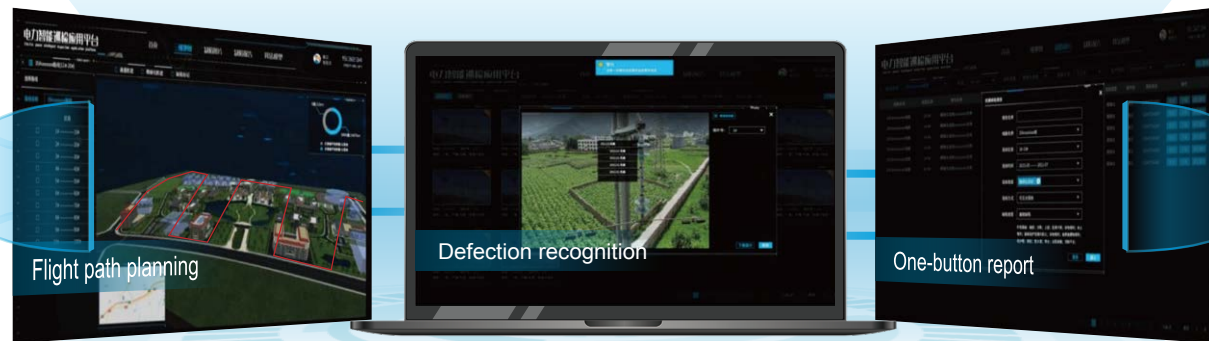
It supports multi-hangar jumping and multi-hangar splicing of drones, realizes the effect of dual-position, realizes uninterrupted relay inspection flight, and makes the operation experience in one go. At the same time, the lightweight design is convenient for entry.Row tower deployment.



- Multi-nest
- Dual
- Lightweight
- Easy dispatch

# System Software Platform

Make full use of UAV RTK technology, automatic control technology, AI intelligent identification, big data and other cutting-edge technologies to create a comprehensive system of "smart inspection", so as to achieve the purpose of "early detection, early research and judgment, and early disposal". Empower smart inspection with technology, continuously improve the modernization and automation of inspection capabilities, and ensure the stable operation of social production and life.



# Work flow

Based on AI edge computing module, highly sensitive perception system, intelligent machine nest and other leading technologies, combined with the advantages of 3D point cloud, automatic route construction, high-precision RTK, thermal imaging detection, etc. Function, the system efficiently completes the inspection needs of intelligent automatic operations in the fields of fire protection, oil pipelines, electricity, environmental protection and other fields.



# Compatible payloads

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### PDL-1K Infrared dual camera

It combines 1K ultra-high resolution infrared, 1-inch CMOS effective pixel 4800W visible light, and can be clearly observed in day or night, and is widely used.



Visible light CMOS	1 inch optical CMOS, 48million effective pixels
Visible light focal distance	12.8mm
Thermal resolution	1280×1024
Thermal focal distance	14mm
Image stabilization accuracy	≤0.01°

### PDL-300g compact dual camera

The details of the shooting target of the gimbal are clear, whether it is day or night. It can be observed clearly at night, meeting the high-quality data requirements of surveying, mapping and aerial photography, as well as the high standard of image quality in industrial applications and the demands of dual light and light weight.



Optical CMOS	1 inch optical CMOS, 48million pixels
Optical focal distance	12.8mm
Resolution	640×512
Thermal focal distance	13mm/F1.0
Image stabilization accuracy	≤0.01°

### PVL-30X zoom camera

The gimbal adopts a new attitude fusion control algorithm to create a high-precision three-axis stabilization gimbal. The amount of angular jitter is ±0.01°, even in large maneuvering flight, can shoot Capture stable images and videos.



Optical CMOS	1/1.7 inch SONY high-end CMOS
Zoom mode	One-click focus, manual focus
Stabilization platform	3-axis mechanical stabilization
Image stabilization accuracy	≤0.01°
Weight	< 780g

### PVL-8K camera

It adopts a new attitude fusion control algorithm, Create a high-precision three-axis stabilization gimbal, angle jitter ±0.01°, can shoot even in large maneuvering flight Capture stable images and videos.



Pixels	48million pixels
Focal distance	35mm equivalent focal length 34.9mm
FOV	63.4°
Image stabilization accuracy	≤0.01°
Weight	< 280g

### Megaphone



### Floodlight



### Gas detector



### 3-in-1 camera



### Laser radar camera



# COMPANY PROFILE

GDU Tech Co., Ltd is a high-tech company specializing in the design, development and sales of the entire system of UAV industrial&solutions. Founded in 2015, with a registered capital of 258 million RMB, GDU has fully mastered the core technology of high-end professional drones for military and civilian use, and it has formed a complete industrial capability and ecology of R&D, testing, production, sales, maintenance, education, big data, and leasing.

GDU has strong R&D capabilities, with 201 patents and 335 trademark authorizations. With the development of GDU, it's current products include long-endurance heavy-duty drones, unmanned vehicles, surface (underwater) ships and other military mission platforms, a full range of payloads, multi-dimensional ground stations, military data links, and unmanned device dispatch systems, and provide professional application solutions that comprehensively support various industries.

GDU has provided R&D and manufacturing of automated and unmanned products, multi-scenario digital operation and maintenance solutions and services for many customers in various industries around the world. Besides, GDU's products have been widely applied in electric power, security, emergency, agriculture, forestry, military and other fields. In the future, GDU is committed to promoting the technological revolution in the UAV industry, working with global partners to create an era of air sharing economy, creating an international leading high-end professional UAV company, and letting the power of science and technology.



S400

Beyond Expectation

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# APPLICATION

Power Inspection



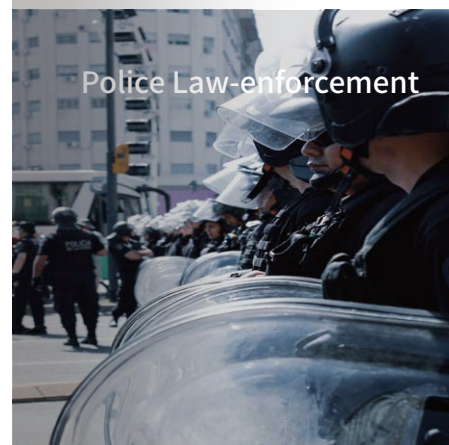
Emergency&Rescue



Smart City



Police Law-enforcement



Enviromental Detection

