

Y3A Smart Drone



System Highlight

The Y3A intelligent swarm drone system combines the power of swarm intelligence with advanced smart drones to such as divide-and-conquer swarm search, autonomous obstacle avoidance and path planning, as well as inter-device network communication use network. It could accomplish complex and dynamic mission using Coordinated drone swarm.

Advanced Coordination

Every drone unit in the Y3A swarm system can communicate and coordinate with other units while performing tasks together. They communicate through a wireless network, and share information such as target coordinates and self position, to wave together a network of highly intelligent and efficient swarm system.

Advanced On-device Intelligence

The individual drones in the Y3A system are equipped with advanced AI technology to make them very intelligent. They could accomplish tasks such as self-navigation, obstacle avoidance, path planning, target recognition and following, as well as other complex flight missions.

Flexible design

The Y3A system has a flexible and re-configurable system architecture, which could be adapted to different tasks by changing the drone node configuration, as well as adding or removing drone nodes. The drones could form different flight formations based on the application scenario, to improve the flexibility and efficiency of the system.

Self-organized swarm search

Y3A system could perform comprehensive search of an interest area automatically by assigning search sub-tasks to drone nodes. Each drone will then perform the search automatically using its onboard recognition system and sensors. Meanwhile, the drones will dynamically track and report back the coordinates or recognized targets even when they are moving.

Obstacle-avoidance and path planning

The drones in the Y3A system could plan their flight path autonomously without apriorily knowing the map of the flight path. It could avoid obstacles autonomously as well while flying. When certain nodes in the swarm system are lost due to crash or ill-communication link, the tasks of such nodes could be re-assigned dynamically based on swarm intelligence. The nodes would coordinate their tasks and plan together to optimize the mission goal, using their inter-communication network. When a node has changed its status or position, other nodes will receive that information automatically and simultaneously. they could plan and adjust their own action accordingly and re-communicate with other nodes.

Network based communication

The Y3A system uses network to communicate among the drone devices. It avoid single-node failure problems, and has strong properties or self-recovery. It could provide reliable communication even among remote and complex environments.

Product Spec

Drone

Takeoff weight: 1270g

Maximum Payload: 250g

Axial-size: 440mm

Maximum Flight Time: 35Min

Maximum Wind Resistance: Degree 5 Wind

Maximum Speed: 25m/s

Maximum Control Distance: 7km

Sensing and avoidance system:4 directional obstacle avoidance

Gimbal System: 3-axial Mechanical Gimbal

Optical zooming: 1200MP

Video Resolution: 1920×1080 @ 60 fps

Thermal Resolution: 640*512 @ 30HZ

Digital Zooming: 10x digital zooming

Maximum Nodes in a Swarm: 15 nodes

Network Structure: Network

RTK Positioning

Attack method: Humanoid recognition or Human-in-the-loop