

# Brain-Box D

Industrial Edge AI Expansion Module



# Brain-Box D – Technical Specifications

## General Information

| Specification          | Value                                                       |
|------------------------|-------------------------------------------------------------|
| Product name           | Brain-Box D                                                 |
| Product Category       | Edge AI Processing & Dock Expansion Module                  |
| Primary Application    | DJI Dock AI Expansion & Autonomous Inspection Control       |
| Protection Rating      | IP66 (Full Enclosure)                                       |
| Housing Type           | Industrial Outdoor Enclosure                                |
| Installation Type      | Fixed Outdoor Installation                                  |
| Mounting Options       | Direct Mount to DJI Dock 2 & 3 or External Mounting Bracket |
| Operating Architecture | Fully Edge-Based Processing                                 |

## Electrical Specifications

| Specification             | Value                                     |
|---------------------------|-------------------------------------------|
| Input Voltage             | 230V AC                                   |
| Internal Power Conversion | Integrated AC-DC Conversion System        |
| Power Management          | Dedicated Internal Power Management PCB   |
| Dock Power Output         | Dedicated Power Connector to DJI Dock     |
| UPS Backup                | Approx. up to 3 hours (depending on load) |
| Power Pass-Through        | Supported                                 |
| Independent Operation     | Yes                                       |



Networking & Connectivity

| Specification            | Value                                   |
|--------------------------|-----------------------------------------|
| Ethernet Port (External) | 1x Ethernet (Network Input)             |
| Dock Network Output      | Internal LAN Bridge to DJI Dock         |
| LAN Function             | External Network → Brain-Box → DJI Dock |
| Wi-Fi                    | Integrated                              |
| Cellular Module          | Integrated GSM/LTE                      |
| SIM Support              | 4G Standard / 5G Optional               |
| GNSS                     | Integrated GNSS Module                  |
| VPN Compatibility        | Tailscale, WireGuard                    |
| API Integration          | Supported                               |
| Remote Access            | Secure LAN or VPN                       |
| Offline Operation        | Fully Functional Without Internet       |

Cellular Data & Remote Server Push

| Specification           | Value                             |
|-------------------------|-----------------------------------|
| SIM-Based Internet Mode | Supported                         |
| Remote Server Push      | Supported                         |
| Data Types              | Images & Video Files              |
| Transfer Trigger        | Manual, Scheduled, or Event-Based |
| Destination             | User-Defined External Server      |
| Cloud Dependency        | Not Required (Optional Only)      |
| Transfer Security       | Secure Network-Based Transmission |



AI & Video Processing

| Specification            | Value                              |
|--------------------------|------------------------------------|
| AI Deployment Mode       | Edge-Only (On-Premises Processing) |
| Max FPS (Single Stream)  | 10–30 FPS                          |
| Max Resolution Supported | Full HD (Visual & Thermal)         |
| Multi-Camera Streams     | Up to 4 Streams                    |
| FPS (4 Streams Active)   | Approx. 9–10 FPS per Stream        |
| Object Detection         | Supported                          |
| Object Counting          | Supported                          |
| Hotspot Detection        | Supported                          |
| AI Alarm Trigger         | Real-Time Alerting                 |

Storage

| Specification    | Value                                        |
|------------------|----------------------------------------------|
| Internal         | 512 GB Internal (Non-User Accessible)        |
| External Storage | NAS via LAN Supported                        |
| Data Modes       | AI Enabled / AI Disabled / No Recording Mode |
| Privacy Mode     | Live Monitoring Without Recording Supported  |



## Software Platform

| Specification             | Value                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------|
| Software Name             | SAI-HUB DD                                                                                            |
| Deployment Mode           | On-Premises or Online                                                                                 |
| Access Type               | Web-Based Interface                                                                                   |
| Localization              | Supported                                                                                             |
| Night Mode                | Supported                                                                                             |
| Night Vision Optimization | Supported                                                                                             |
| Role-Based Access         | User / Admin                                                                                          |
| Mission Templates         | Point of Interest<br>360 Waypoints<br>Area Scanning<br>Patrol Scanning<br>Linear Inspection<br>Custom |
| Manual Cockpit Mode       | Supported                                                                                             |
| Annotation Tool           | Click-to-Mark & Geolocation Copy                                                                      |
| Flight Scheduler          | Supported                                                                                             |
| Flight Logbook            | Pilot, Duration, Start Time, Route Recorded                                                           |
| GeoTIFF Upload            | Supported                                                                                             |
| GeoJSON Layer Upload      | Supported                                                                                             |
| Dock Remote Calibration   | Supported (Dock 3)                                                                                    |
| Firmware Updates          | Remote & Manual File Update                                                                           |
| AI Model Updates          | Remote & Manual File Update                                                                           |



## Cybersecurity & Deployment

| Specification       | Value                             |
|---------------------|-----------------------------------|
| Processing Location | Fully Local (Edge)                |
| Cloud Requirement   | None (Optional Only)              |
| Network Isolation   | Supported                         |
| VPN Integration     | Tailscale / WireGuard             |
| API Access          | Supported                         |
| User Authentication | Role-Based Access Control         |
| Data Control        | User-Controlled Infrastructure    |
| Transfer Security   | Secure Network-Based Transmission |

## Environmental & Mechanical

| Specification              | Value                       |
|----------------------------|-----------------------------|
| Protection Class           | IP66                        |
| Outdoor Rated              | Yes                         |
| Dock Integration           | Direct LAN & Power Bridging |
| Independent Edge Operation | Yes                         |

