

Brain-Box M

SPECTRO AI

Industrial Edge AI Expansion Module



Brain-Box M – Technical Specifications

General Information

Specification	Value
Product name	Brain-Box M
Product Category	Edge AI Processing
Primary Application	AI Processing & Autonomous Inspection Control
Installation Type	Freestanding unit
Operating Architecture	Fully Edge-Based Processing

Electrical Specifications

Specification	Value
External Power Adapter	230V AC to 19V DC adapter included
Adapter Input Voltage	230V AC (50/60 Hz)
Adapter Output Voltage	19V DC
Adapter Power Rating	45W
Brain-Box Input Voltage	19V DC
Power Management	Supported
UPS Backup	Up to approx. 3 hours (depending on system load)
Independent Operation	Supported (via internal UPS during outage)



Networking & Connectivity

Specification	Value
Ethernet Port (External)	1x Ethernet (Network Input)
LAN Function	External Network connectivity
Wi-Fi	Integrated
Cellular Module	Integrated GSM/LTE
SIM Support	4G Standard / 5G Optional
GNSS Module	Integrated GNSS receiver
VPN Compatibility	Tailscale, WireGuard supported
Remote Access	Secure LAN or VPN access
Offline Operation	Fully functional without internet connection
Video Processing API	Accepts raw video stream URL input
Detection Output API	Returns detection metadata and annotated detection stream URL

Cellular Data & Remote Server Push

Specification	Value
SIM-Based Internet Mode	Supported
Remote Server Push	Supported
Data Types	Video streams, image data, CSV detection logs
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	Fully Edge-Based (On-Premises Processing)
Max FPS (Single Stream)	10–60 FPS (model and configuration dependent)
Max Resolution Supported	Full HD (Visual & Thermal)
Multi-Camera Streams	Up to 4 simultaneous streams (FPS influenced by number of active streams)
Object Detection	Supported
Object Counting	Supported
AI Alarm Trigger	Real-time alerting supported

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
Deployment Mode	On-Premises or Online (optional subscription)
Access Type	Web-Based Interface
Localization	Supported

Cybersecurity & Deployment

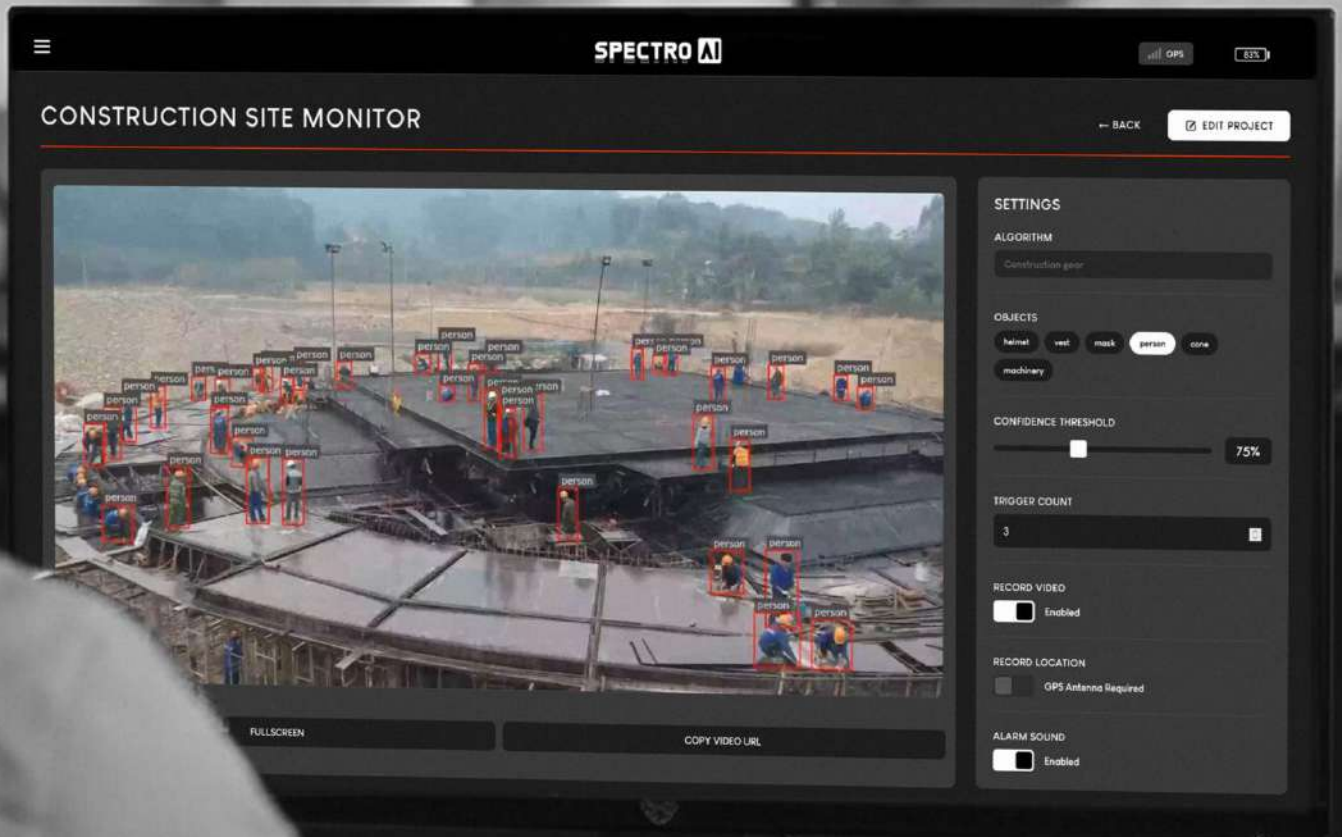
Specification	Value
Processing Location	Fully Local (Edge)
Cloud Requirement	None (Optional Only)
Network Isolation	Supported
VPN Integration	Tailscale / WireGuard
API Access	Video Processing & Detection API supported
User Authentication	Role-Based Access Control
Data Control	User-Controlled Infrastructure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



SAI-HUB VID



On-Premise AI Video Intelligence Platform



SAI-HUB VID

Running on Brain-Box M Edge Server

Product Overview

Specification	Value
Product name	SAI-HUB VID
Deployment Type	Fully On-Premise (H-Only Architecture)
Host Platform	Brain-Box M Edge Server
Access Type	Browser-Based (HTML Interface)
Primary Function	AI Video Processing, Detection & Analytics
Data Sovereignty	100% Local Processing by Default
Target Users	Government, Security, Industrial & Infrastructure Operators

System Architecture

Specification	Value
Server Model	Brain-Box M
Network Connectivity	LAN or Wi-Fi
Internet Requirement	Optional (SIM or LAN)
Edge AI Processing	Yes (Local GPU-Based Inference)
Multi-Stream Processing	Up to 4 Concurrent Streams (Standard)
Higher Stream Capacity	Available Upon Custom Configuration



Video Input & Streaming

Specification	Value
Supported Input Protocols	RTSP, RTMP, SRT
Supported File Input	MP4
Supported Input Resolution	Flexible (Higher or Lower than Full HD)
Inference Output Resolution	Full HD (1080p)
Standard Processing Rate	Up to 30 FPS
Multi-Stream FPS (4 Streams)	~9–10 FPS per Stream

Mission & Project Management

Specification	Value
Operational Unit	Mission (AI Processing Project)
Algorithm Selection	Preloaded & Pre-Packaged Models
Data Types	Images & Video Files
Object Class Selection	User Selectable (Per Algorithm)
Confidence Threshold Control	Adjustable
Multi-Mission Support	Yes



Monitoring & Analytics Interface

Specification	Value
AI Deployment Mode	Yes
Live Inference Overlay	Yes
Real-Time Class Counter	Yes
Time-Based Detection Graph	Yes
Click-to-Inspect Function	Yes

Alerting & Notifications

Specification	Value
Browser Alarm Sound	Yes
Visual Alert	Yes
JSON Message Output	Yes
SMS Alerts	Yes (If SIM Installed)
Email Alerts	Configurable

Stream Sharing & Remote Access

Specification	Value
Encrypted Inference Stream	Yes
Token-Based Sharing	Yes
VPN Support	Tailscale, WireGuard
SIM-Based Remote Access	Supported

AI Model Flexibility

Specification	Value
Custom AI Model Upload	Supported
Customer-Owned Models	Yes
Vendor Lock-In	No Mandatory Dependency
Integration Support	Contact Required for Validation



SAI-HUB RC

Enterprise Remote Control Drone Mission & AI Management Software



SAI-HUB RC- Technical specifications

Product Overview

Specification	Value
Product name	SAI-HUB RC
Host Infrastructure	Brain-Box M
Primary Function	Remote-control-based drone mission management with embedded AI
Deployment type	On-Premise
Cloud Dependency	None required
AI Processing	Local processing on Brain-Box M
Pre-Loaded AI Algorithm	Included
Operation Mode	Manual and Autonomous with AI support

Drone Compatibility

Specification	Value
DJI Mavic 3 Enterprise (E)	Supported
DJI Mavic 3 Thermal (T)	Supported
DJI Mavic 3 Multispectral (M)	Supported
DJI Matrice 4 / 4T / 4DT / 4D	Supported
DJI Matrice 300 (M300)	Supported
DJI Matrice 350 (M350)	Supported
Other DJI Enterprise Drones	Supported (SDK dependent)



Mission Planning & Flight Configuration

Specification	Value
Patrol Route Missions	Supported
Autonomous Mission Execution	Supported
Manual Flight Mode	Supported
Hybrid Mode (Manual + AI)	Supported
Custom Waypoint Creation	Supported
Grid-Based Mapping	Supported

Real-Time AI Detection & Mapping

Specification	Value
Real-Time AI Detection	Supported
On-Screen Detection Display	Supported
AI in Manual Mode	Supported
AI in Autonomous Mode	Supported
Detection Event Logging	Supported
Object Localization / Coordinates	Supported
Object Speed Estimation	Supported
Detection Mapping Overlay	Supported
AI-Based Geo-Tagging	Supported



Data Capture & Recording

Specification	Value
Image Capture	Supported
Video Recording	Supported
Automatic Capture on Detection	Supported
Detection Snapshot Capture	Supported

Live View Mirroring / Stream Relay

Specification	Value
Live View Mirroring	Supported (optional)
Connectivity Requirement	Brain-Box M with SIM/mobile data
Mirror Target	Control room server or third-party server
Use Case	Remote monitoring and command center visualization
Data Path	Stream relay of operator remote control view



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 360 Waypoints Area Scanning Patrol Scanning Linear Inspection 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

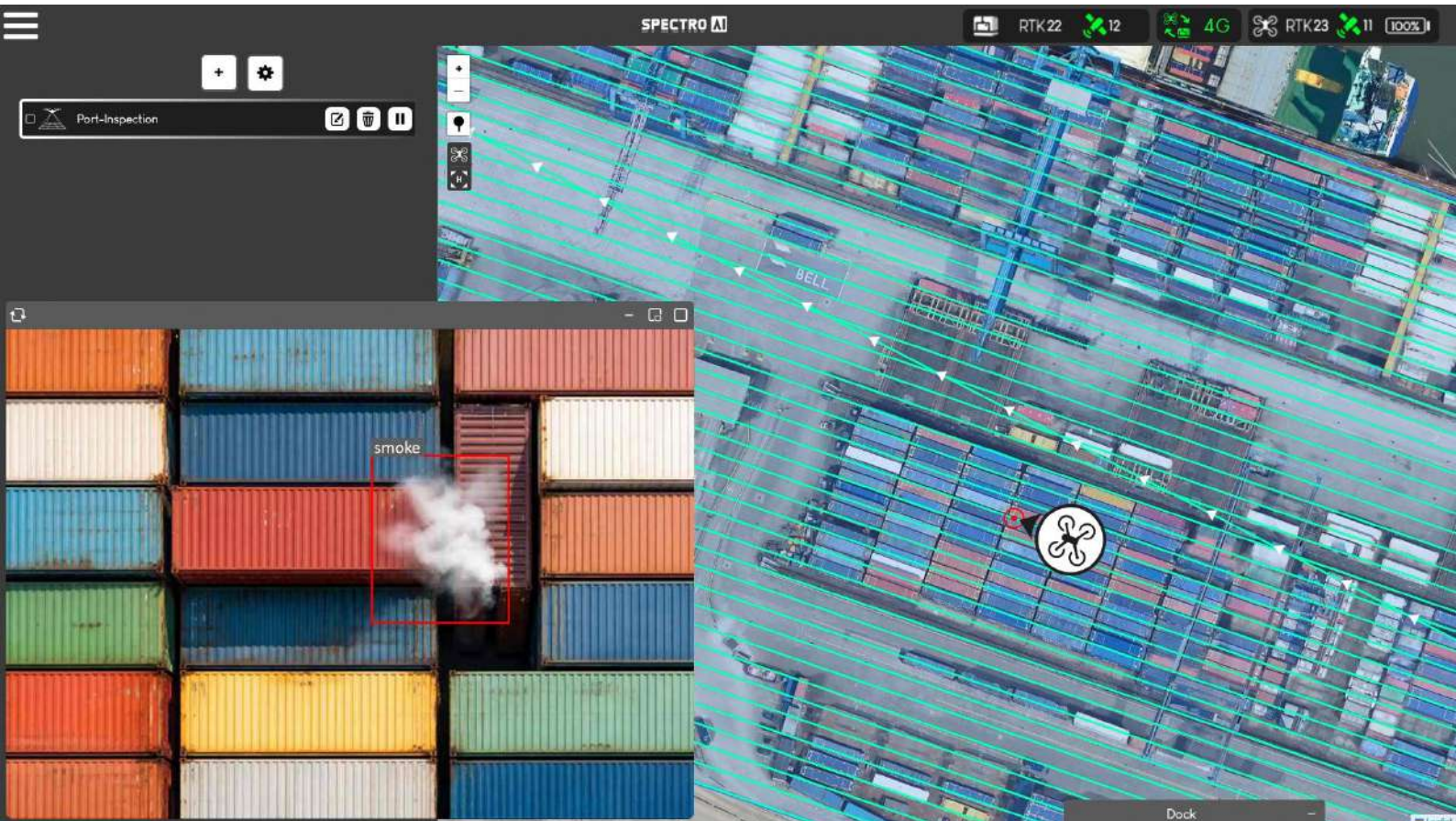


Cybersecurity & Deployment

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



SAI-HUB DD

Autonomous Drone Mission Management Software



SAI-HUB DD – Technical Specifications

Product Overview

Specification	Value
Host Infrastructure	Brain-Box D
Primary Function	Autonomous drone mission management with embedded AI
Deployment Model	On-premises
Internet Requirement	Not required
Online Accessibility	Optional via SAI-HUB Online subscription
Cloud Dependency	None
VPN Support	Supported

System Compatibility

Specification	Value
Dock Compatibility	DJI Dock 2, DJI Dock 3
Drone Compatibility	DJI Matrice 4DT, 3DT, 3D
Camera Support	IR, Visible, Wide-angle
Operating Modes	Offline, Online, Hybrid
Multi-Sensor Data Collection	Simultaneous data collection from visible, IR, and wide-angle cameras



Mission Planning

Specification	Value
Point of Interest	Supported
360° Inspection	Supported
Area Scanning	Supported
Patrol Route	Supported
Linear Inspection	Supported
Custom Missions	Supported

Geofencing & Airspace Control

Specification	Value
Geofencing	Supported
Multi No-Fly Zones	Supported
Vector & Raster Map Upload	Supported
GeoTIFF & Offline Maps	Supported

Mapping & Location

Specification	Value
GPS Positioning	Supported
Latitude & Longitude Estimation	Supported
Real-Time Localization	Supported
Geo-Referenced Data Output	Supported

Mission Scheduling

Specification	Value
Time & Date-Based Scheduling	Supported
Manual Override	Supported
Offline Scheduling	Supported
Recurring Missions	Supported

Flight Logging

Specification	Value
Pilot Name Logging	Supported
Flight Duration Logging	Supported
Annotations	Supported



AI Processing

Specification	Value
Processing Location	Brain-Box D (Local)
Performance	Approx. 30–60 FPS
AI-Assisted Missions	Supported
Privacy Mode	Supported
Multi-Zoom Detection Support	Simultaneous data collection from visible, IR, and wide-angle cameras
Cross-Sensor AI Processing	AI detection supported across multiple zoom levels and sensor types

Data Management

Specification	Value
Local Library	Included
NAS Integration	Supported
FTP Integration	Supported
Annotation Sharing	Copy, export, or forward annotations to other teams/users
Annotation Collaboration	Team-based sharing of detection annotations
Internal Media Gallery	Built-in local gallery for images, videos, and detection results
Direct Download Capability	Direct download of media and detection data from local system

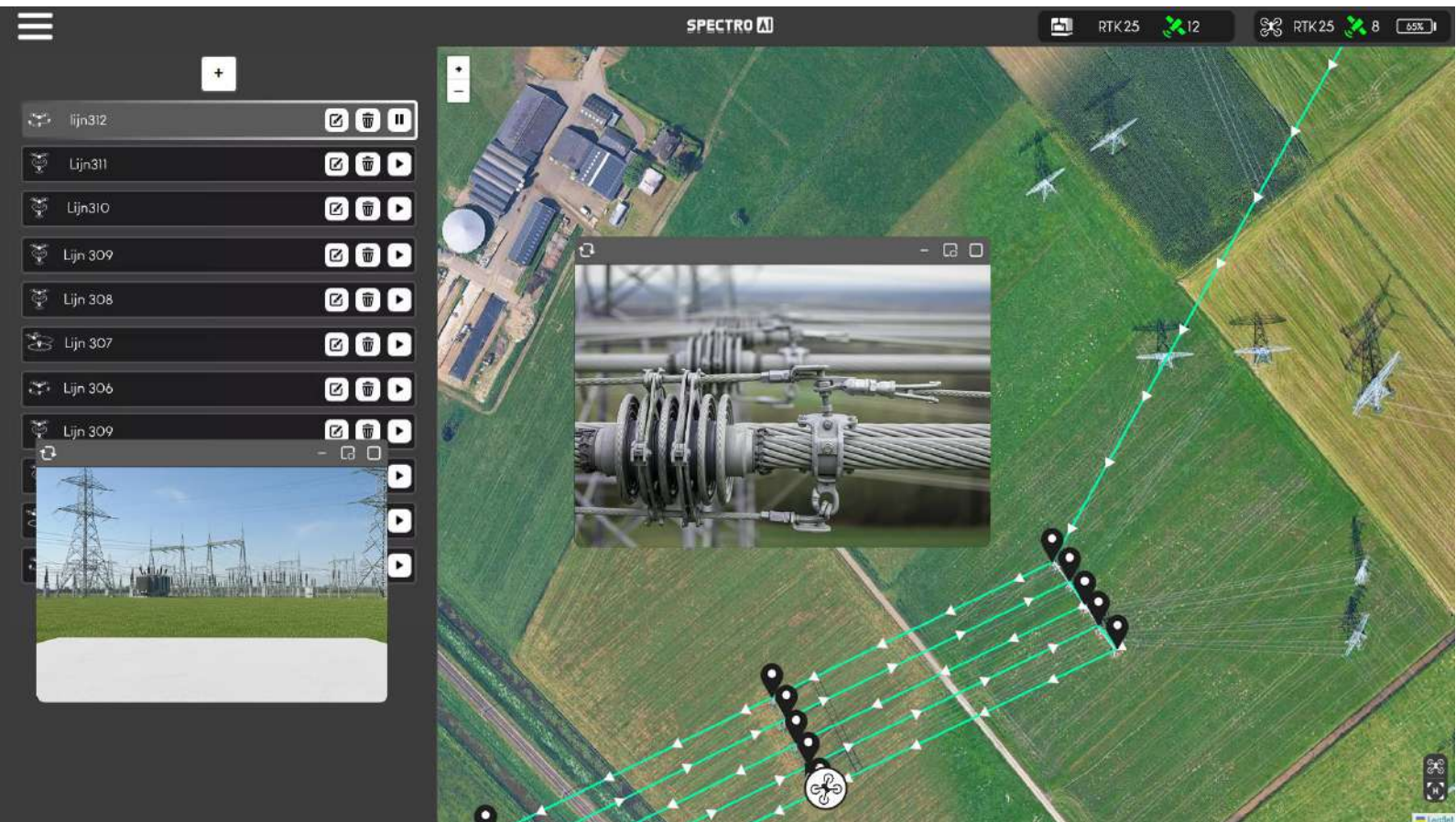
Sensor & Trigger Integration

Specification	Value
JSON Trigger Support	Supported
LoRa Trigger	Available (Upgraded Brain-Box)
Hardware/Jack Trigger	Supported



Firmware & System Management

Specification	Value
Firmware Updates	Supported
Offline Updates	Supported
System Monitoring	Included
Multi-Dock Management (Online Mode)	Centralized monitoring of multiple Dock + Brain-Box D systems via SAI-HUB Online
Per-Dock Brain-Box Requirement	Each DJI Dock requires a dedicated Brain-Box D
External Hardware Trigger Configuration	Configure control of external ports (jacks, doors, actuators) via Brain-Box D
Hardware Integration Licensing	External trigger configuration available as optional feature (extra cost)



DockWatch Trailer

Mobile Drone Autonomy



DockWatch Trailer – Technical Specifications

System Overview

AC Unit	1x
Waveshare Router	1x
Tplink Router	1x
Brain-Box	1x
Relay Box	1x
UI Control Box	1x
Aviation Receiver	1x
Solar Panel	3x
Camera	2x

Trailer Data

Specification	Value
Weight (With DJI Dock 3)	~365 kg
Tire Size	145/80 R13
Internal Length	211 cm
Internal Width	126 cm
Floor Height	49 cm
Drawbar Length	96 cm
Length	319 cm
Width	171 cm
Height (Closed)	136 cm
Height (Open)	329 cm



Construction

Item	Specification
Frame	Hot-dip galvanized steel chassis
Body	Lightweight aluminum enclosure panels
Lid	Hinged top with integrated lift-assist gas struts
Floor	Anti-slip reinforced plywood
Wheel Arches	Heavy-duty polymer type
Drawbar	V-shaped design for optimal towing stability

Axle and Suspension

Item	Specification
Configuration	Single torsion axle
Suspension	Independent, low-maintenance design
Wheel Size	13-inch
Tires	Standard road-rated, 145/80 R13

Coupling and Support

Item	Specification
Coupling Type	50 mm ball-type hitch
Support Wheel	Adjustable jockey wheel with clamp
Support Leg	1x Standard, 4x Optional (Expansion)
Parking Brake	Mechanical braking system

Lighting and Safety

Item	Specification
Lighting System	12 V integrated LED lighting
Safety Cable	Emergency breakaway system
Reflectors	Front, side, and rear compliant reflectors

Integrated Solar Energy System

Specification	Value
Rated Power Output	160 W
Cell Type	Monocrystalline
Nominal Voltage	12 V
Dimensions (L x W)	3 x 117 x 68 cm
Weight	3 x 3 kg
Mounting	Adhesive or modular bracket mount
Integration	Direct coupling to onboard power controller



Integrated Wireless Network System

Specification	Value
Wireless Standard	WiFi 6 (IEEE 802.11ax)
Frequency Bands	2.4 GHz / 5 GHz
Maximum Throughput	1.75 Gbit/s
Operating Modes	Access Point / Repeater / Router / Bridge
Power Input	PoE
Antenna Setup	4 external omnidirectional antennas
Interface	1 × RJ45 LAN (10/100/1000 Mbit/s)
Number of LAN Ports	1 × Gigabit LAN
Enclosure Size (W × H × D)	240 × 240 × 72 mm
Weight	~2.5 kg
Region Version	EU-compliant network module

Aviation Receiver

Specification	Value
Protocols	ADS-B, FLARM, OGN, Drone Remote ID
ADS-B Range	Up to 500km (Line-of-Sight dependent)
FLARM / OGN / ADS-L Range	Up to 50km (Line-of-Sight dependent)
Drone Remote ID Range	Up to 3km (Line-of-Sight dependent)
RF Sensitivity	-93 to 0 dBm
Timing Accuracy	<50 ns (GNSS Locked)

Camera System

Specification	Value
Display Resolution	4MP (2560x1440)
Frame Rate	20
Optical Zoom	4x
Field of View	Diagonal: 42.6° ~ 90.5° Horizontal: 37.5° ~ 77.7° Vertical: 21.2° ~ 43.4°
Night Vision	IR range up to 20 m, 2 IR LEDs
Weather Resistance	IP66
Dimensions	108 x 108 x 102 mm



Cellular Standards & Bands

Specification	Value
LTE (TDD/FDD)	Bands 1–28, 34–41, 66
3G / UMTS / HSPA+	Bands 1, 2, 4, 5, 6, 8, 19
2G / GSM / EDGE	850 / 900 / 1800 / 1900 MHz

Data Performance

Specification	Value
LTE CAT 4	Uplink ≤ 50 Mbps Downlink ≤ 150 Mbps
HSPA+	Uplink ≤ 5.76 Mbps Downlink ≤ 42 Mbps
UMTS	Uplink ≤ 384 Kbps Downlink ≤ 384 Kbps
EDGE	Uplink ≤ 236.8 Kbps Downlink ≤ 236.8 Kbps
GPRS	Uplink ≤ 85.6 Kbps Downlink ≤ 85.6 Kbps

GNSS (Positioning)

Specification	Value
Receiver Type	16-channel
Tracking Sensitivity	-159 dBm
Cold Start Sensitivity	-148 dBm
TTF (Cold Start)	< 35 s
TTF (Hot Start)	< 1 s
Position Accuracy	< 2.5 m CEP



Software

Specification	Value
Dock Compatibility	DJI Dock 2 & 3
System Access	Local Network or Web-Based
Platform	Desktop, Tablet
Autonomous Flight Modes	Point of Interest 360 Waypoints Area Scanning Patrol Scanning Linear Inspection Custom
Manual Flight mode	Keyboard Command Interface
Mission Management	Mission Planner & Scheduler
Navigation Security	Geofencing, No-Fly Zones, Obstacle Avoidance
Visual Monitoring System	Low-latency Live Streaming
Algorithms	20+ Algorithms for People, Vehicles, and Other Relevant Objects
Data Management	Local, External Drive or Cloud Based Storage
Maintenance	Remote Firmware Updates, Trailer/ Dock Diagnostics



DockWatch Trailer Dual

Mobile Drone
Autonomy



DockWatch Trailer – Technical Specifications

System Overview

AC Unit	1x
Waveshare Router	1x
Tplink Router	1x
Brain-Box	1x
Relay Box	1x
UI Control Box	1x
Aviation Receiver	1x
Solar Panel	4x
Camera	2x

Trailer Data

Specification	Value
Weight (With DJI Dock 3)	~570 kg
Tire Size	145/80 R13
Floor Height	49 cm
Drawbar Length	96 cm
Length	415 cm
Width	126 cm
Height (Closed)	167 cm
Height (Open)	582 cm



Construction

Item	Specification
Frame	Hot-dip galvanized steel chassis
Body	Lightweight aluminum enclosure panels
Lid	Hinged top with integrated lift-assist gas struts
Floor	Anti-slip reinforced plywood
Wheel Arches	Heavy-duty polymer type
Drawbar	V-shaped design for optimal towing stability

Axle and Suspension

Item	Specification
Configuration	Single torsion axle
Suspension	Independent, low-maintenance design
Wheel Size	13-inch
Tires	Standard road-rated, 145/80 R13

Coupling and Support

Item	Specification
Coupling Type	50 mm ball-type hitch
Support Wheel	Adjustable jockey wheel with clamp
Support Legs	1x Standard, 4x Optional (Expansion)
Parking Brake	Mechanical braking system

Lighting and Safety

Item	Specification
Lighting System	12 V integrated LED lighting
Safety Cable	Emergency breakaway system
Reflectors	Front, side, and rear compliant reflectors

Integrated Solar Energy System

Specification	Value
Rated Power Output	160 W
Cell Type	Monocrystalline
Nominal Voltage	20.7 V
Dimensions (L × W)	4 x 117 × 68 cm
Weight	4 x 3 kg
Mounting	Adhesive or modular bracket mount
Integration	Direct coupling to onboard power controller



Integrated Wireless Network System

Specification	Value
Wireless Standard	WiFi 6 (IEEE 802.11ax)
Frequency Bands	2.4 GHz / 5 GHz
Maximum Throughput	1.75 Gbit/s
Operating Modes	Access Point / Repeater / Router / Bridge
Power Input	PoE
Antenna Setup	4 external omnidirectional antennas
Interface	1 × RJ45 LAN (10/100/1000 Mbit/s)
Number of LAN Ports	1 × Gigabit LAN
Enclosure Size (W × H × D)	240 × 240 × 72 mm
Weight	~2.5 kg
Region Version	EU-compliant network module

Aviation Receiver

Specification	Value
Protocols	ADS-B, FLARM, OGN, Drone Remote ID
ADS-B Range	Up to 500km (Line-of-Sight dependent)
FLARM / OGN / ADS-L Range	Up to 50km (Line-of-Sight dependent)
Drone Remote ID Range	Up to 3km (Line-of-Sight dependent)
RF Sensitivity	-93 to 0 dBm
Timing Accuracy	<50 ns (GNSS Locked)

Camera System

Specification	Value
Display Resolution	4MP (2560x1440)
Frame Rate	20
Optical Zoom	4x
Field of View	Diagonal: 42.6° ~ 90.5° Horizontal: 37.5° ~ 77.7° Vertical: 21.2° ~ 43.4°
Night Vision	IR range up to 20 m, 2 IR LEDs
Weather Resistance	IP66
Dimensions	108 x 108 x 102 mm



Cellular Standards & Bands

Specification	Value
LTE (TDD/FDD)	Bands 1–28, 34–41, 66
3G / UMTS / HSPA+	Bands 1, 2, 4, 5, 6, 8, 19
2G / GSM / EDGE	850 / 900 / 1800 / 1900 MHz

Data Performance

Specification	Value
LTE CAT 4	Uplink ≤ 50 Mbps Downlink ≤ 150 Mbps
HSPA+	Uplink ≤ 5.76 Mbps Downlink ≤ 42 Mbps
UMTS	Uplink ≤ 384 Kbps Downlink ≤ 384 Kbps
EDGE	Uplink ≤ 236.8 Kbps Downlink ≤ 236.8 Kbps
GPRS	Uplink ≤ 85.6 Kbps Downlink ≤ 85.6 Kbps

GNSS (Positioning)

Specification	Value
Receiver Type	16-channel
Tracking Sensitivity	-159 dBm
Cold Start Sensitivity	-148 dBm
TTF (Cold Start)	< 35 s
TTF (Hot Start)	< 1 s
Position Accuracy	< 2.5 m CEP



Software

Specification	Value
Dock Compatibility	DJI Dock 2 & 3
System Access	Local Network or Web-Based
Platform	Desktop, Tablet
Autonomous Flight Modes	Point of Interest 360 Waypoints Area Scanning Patrol Scanning Linear Inspection Custom
Manual Flight mode	Keyboard Command Interface
Mission Management	Mission Planner & Scheduler
Navigation Security	Geofencing, No-Fly Zones, Obstacle Avoidance
Visual Monitoring System	Low-latency Live Streaming
Algorithms	20+ Algorithms for People, Vehicles, and Other Relevant Objects
Data Management	Local, External Drive or Cloud Based Storage
Maintenance	Remote Firmware Updates, Trailer/ Dock Diagnostics

