

Manufacturer: DFS (DataFromSky)

Product Model: TrafficXRoads

TrafficXRoads I131-O-NX8-1TB is an embedded video analytics computer designed for real-time traffic detection, dynamic control of traffic light signaling, and collection of traffic data from IP cameras. Powered by a robust NVIDIA Jetson Orin NX processor, it runs an AI-based detection and tracking algorithm that transforms any video stream into high-quality trajectory data about road users.

The system can analyze data from up to 6 connected cameras in real time, with an operating range of more than 80 meters. Its highly optimized and fully configurable trajectory processing engine can evaluate dozens of detection tasks per camera view in parallel.

Core Capabilities

- Real-time AI-powered analysis for up to 6 video streams
- Fully configurable trajectory processing engine for parallel detection tasks
- Cabinet-friendly compact form factor for easy installation
- Remote access for configuration and firmware updates
- Operating temperature: -40°C to 75°C

Smart Detection with FLOW Framework

- Flexible detection setup using spatial, temporal, or attribution filters
- Rapid configuration for complex scenarios:
 - U-turn detection
 - Queue detection
 - Blocking vehicle detection
 - Average speed measurement
- Inductive loop emulation anywhere in the camera view
- Instant response to configuration changes in real time

Data Handling & Visualization

- Multiple aggregation modes: whole history, time blocks, floating window, or defined intervals
- Custom dashboards with:
 - Heatmaps
 - Tables
 - Trajectories
 - Statistical values
- Historical and real-time data access via open APIs for third-party integration
- Export in a variety of formats

Connectivity & Integration

- Supports multiple communication protocols: NTCIP, J2735, UDP, SDLC
- Scriptable actions and outputs based on detection events or performance metrics
- Two GigE PoE ports for IP cameras or network devices

Application Areas

Dynamic Traffic Control

- Vehicle presence detection
- Speed monitoring and service level analysis
- Queue length & lane occupancy tracking
- Gap time and space estimation with ETA prediction

Traffic Violation Monitoring

- U-turn detection
- Wrong-way driving detection
- Illegal lane change detection
- Red-light violation detection

Vulnerable Road User Protection

- Pedestrian and cyclist presence detection
- Vehicle-pedestrian conflict detection
- Jaywalking detection
- Personal safety messages (J2735 compliant)