

AI PERCEPTION AND CONNECTIVITY ROADSIDE EDGE UNIT

Real-Time Predictive Analytics for Advanced Connected Vehicle and ITS Applications



FUNCTIONALITY*	
Computer Vision & Machine Learning	High Accuracy Low Latency Multi-Modal Road User Detection, Localization & Classification
Roadside Sensor Fusion	Real-Time Multi-Sensor Fusion for Granular Road User Tracking & Path Prediction
V2X Message Generation	SAE J2735 / SAE J2945/x (incl. Proxy Messages from Roadside Sensors)
Supported V2X Messages	MAP, SPaT, BSM, ICA, PSM, RSA, TIM, SSM, SRM, EVA
Traffic Sign Actuation	Wired / Wireless (900 MHz – Radio not included)
Traffic Light Controller Actuation	NTCIP 1202 / NTCIP 1211
Real-Time Insights: Safety	Traffic Violations, Pedestrian Compliance, Near-Miss Identification
Real-Time Insights: Traffic	Counts and Classification, Turning Movements, Performance Metrics
Real-Time Insights Output Types	Individual Event Recordings, Metadata, Heatmap Data
Storage	Up to 1M Events / Up to 620 Hours of HD Video Recordings – Expandable (Optional)
Configuration & Maintenance	Web-Based Interface, Over-The-Air Updates
SUPPORTED DATA INPUTS & INTERFACES	
Camera Raw Feed Formats	H.264 / MJPEG / MPEG-4
Camera Raw Feed Protocols	RTSP / HTTP
Sensor Metadata Formats	All Common Formats (incl. JSON / C-struct)
V2X Roadside Unit Interface	USDOT RSU v4.1a Specifications
Communication	SNMP / IP / NTCIP
POWER, CONNECTIVITY & MECHANICAL	
Input Power	280W 85V to 264V AC / 280W 8V to 35V DC
Network	RJ45, 6x Gbit/s (2 + 4 x IEEE 802.3at PoE+) – Expandable (Optional)
Connectivity	WIFI / LTE / Bluetooth (Optional)
I/O Ports	Remote Power Control, RS-232/422/485 ports (Optional), SDLC Expansion (Optional)
Digital I/O	16 x Channel Digital I/O (Optional)
Dimensions	9.5" (W) x 9" (D) x 4.5" (H)
Weight	4.5 kg / 10 lbs
ENVIRONMENTAL	
Operating Temperature Range	-25°C to 60°C / -10°F to 140°F (Dedicated Heat Dissipation)
Humidity	10% to 90% (Relative)
Shock & Vibration	Military Standards (MIL-STD-810G)
EMC	FCC Part 15 Class A
ACCESSORIES	
Power Supply (AC)	280W AC/DC Power Supply Unit 24V/11.67A Cord End Terminals for Terminal Block
Mounting	Wall- / Plate-Mounting with Damping Bracket Assembly DIN-Rail Mounting Brackets (Optional)

*Additional software licenses required to enable functionalities

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