



PRODUCT DATA SHEET

AVALON S

SINGLE-LANE INTELLIGENCE AND CONTROL, INTEGRATED IN 1U



AVALON S is a complete single-lane intelligence and control platform designed for modern tolling, enforcement and ITS applications. It brings vehicle classification, sensor processing, lane control, equipment connectivity, digital I/O and industrial networking together in one compact 1U, 19-inch rack-mount system.

Designed as the core processing and control unit of a SLFF toll lane, AVALON S can connect directly to lane equipment such as ANPR cameras, a 2D LiDAR, RFID reader and axle sensors. The integrated Lane Controller coordinates the complete vehicle passage sequence, including vehicle detection, camera triggering, RFID data acquisition, equipment control and communication with central systems.

The integrated classification system processes axle-sensor and LiDAR information to determine vehicle class and vehicle characteristics including axle information, vehicle length and height. Data collected from the connected lane equipment can be associated with each detected vehicle and assembled into a unified vehicle data package for transmission to central servers and tolling systems.

AVALON S combines this intelligence with an integrated 8-port industrial Gigabit Ethernet switch, Linux-based Lane Controller, classification processor, sensor signal conditioning, digital I/O and local LCD controls. The result is a purpose-built and repeatable lane platform that reduces the need for multiple standalone processors, controllers, interfaces and network devices.

AVALON S - One lane. One integrated platform.

KEY SPECIFICATIONS

- Complete Single-Lane Intelligence & Control Platform
- Compact 1U, 19-inch Rack-Mount Industrial Design
- Integrated Linux-Based Lane Controller
- Integrated Vehicle Classification Processor
- Axle Sensor + 2D LiDAR Classification Architecture
- Vehicle Class, Axle, Length & Height Data
- Signal Conditioning for up to 6 Piezo or 4 SensorLine Sensors
- ANPR Camera Triggering & Coordination
- RFID Reader Integration & Data Acquisition
- Unified Per-Vehicle Data Association & Packaging
- Central Server / Tolling System Communication
- Integrated 8-Port Industrial Gigabit Ethernet Switch
- Digital I/O for Lane Equipment Control
- Local LCD & Control Keys
- 24 VDC Power Input / Approx. 40 W Power Consumption

INVIS

GET IN TOUCH

+90-262 999 18 19
info@invisplus.com

OUR OFFICE

GTÜ TEKNOPARK ,Cumhuriyet Mah.
ŞişecamYolu Sk. Arge 12 No: 54 İç Kapı No: 8

AVALON S SPECIFICATION

SINGLE-LANE INTELLIGENCE AND CONTROL, INTEGRATED IN 1U



Product Type	Integrated single-lane intelligence, classification and control platform
Mechanical Format	1U, -19inch rack-mount industrial system
Lane Architecture	One integrated AVALON S platform per lane
Operating System	Linux
Lane Controller	Integrated Linux-based Lane Controller
Lane Equipment Management	Management and coordination of connected lane equipment
Classification Processor	Integrated processor for axle-sensor and LiDAR-based vehicle classification
Classification Inputs	Axle sensor information and 2D LiDAR vehicle-shape / dimensional information
Vehicle Classification	Vehicle classification based on axle information and vehicle shape
Vehicle Class Output	Vehicle class associated with each detected vehicle
Axle Information	Axle detection and axle-related vehicle data
Vehicle Length	Vehicle length measurement / output
Vehicle Height	Vehicle height measurement / output
Sensor Signal Conditioning	Integrated signal conditioning for lane classification sensors
Piezo Sensor Support	Up to 6 piezoelectric sensors
SensorLine Support	Up to 4 SensorLine sensors
2D LiDAR Integration	Supported as part of the vehicle classification architecture
ANPR Camera Integration	Connection and coordination of lane ANPR cameras
Camera Triggering	Lane-event based camera triggering and coordination
Typical Camera Configuration	Supports integration of front/rear or other project-defined ANPR camera configurations
RFID Reader Integration	RFID reader communication and tag-data acquisition
Vehicle Detection Sequence	Coordinates detection, classification and connected equipment actions for each vehicle passage
Per-Vehicle Data Association	Associates classification, camera/ANPR, RFID and related lane data with the detected vehicle
Vehicle Data Package	Creates a unified vehicle-related data package for transmission to central systems
Typical Vehicle Package Data	Vehicle class, axle information, length, height, camera/ANPR information, RFID data and passage-related data
Central System Communication	Communication with central servers and tolling systems for vehicle-data transmission

Network Switch	Integrated -8port industrial Gigabit Ethernet switch
Ethernet	Gigabit Ethernet connectivity for lane equipment and upstream communication
Digital I/O	Integrated digital I/O for lane-device interfacing and control
Local User Interface	Integrated LCD and control keys for local status visibility and basic operation
System Integration	Designed to integrate classification, lane control, I/O and network connectivity within one platform
Typical Connected Equipment	ANPR cameras, 2D LiDAR, RFID reader, axle sensors and other project-defined lane equipment
Deployment Model	Standalone core intelligence and control platform for a single toll lane
Multi-Lane Deployment	Repeatable lane-by-lane architecture using one AVALON S per lane
Application Areas	ETC toll lanes, toll-plaza modernization, lane-based free-flow, bridge and tunnel toll lanes
Secondary Applications	Vehicle-classification stations, traffic data collection and controlled-access applications
Power Supply	24 VDC
Power Consumption	Approx. 40 W



INVIS

GET IN TOUCH

+90-262 999 18 19
info@invisplus.com

OUR OFFICE

GTÜ TEKNOPARK ,Cumhuriyet Mah.
ŞişecamYolu Sk. Arge 12 No: 54 İç Kapı No: 8