

RISE Video Analytics with Command Core+™

Optimized Video Analytics for ITS Data Collection and Incident Detection



Advanced Video Analytics

- Embedded Video Analytics Technology
- Expand RISE capabilities for Surveillance and Traffic Flow Analytics
- Process Multiple Traffic Lanes Simultaneously
- Capture Vehicle Count, Speed and Classification Statistics
- Vehicle Detection, Motorcycle Detection
- Multiple PTZ Preset Views with Analytics
- Detect Traffic Incidents
- Stopped/Parked Vehicle Detection
- Wrong Way Direction Alerts
- Five Point Scene Calibration for Accurate Processing
- Built-In Command Core Web Server Reporting and Display
- ONVIF Events and Extensions, SNMP Traps, Command Core+ Notifications and Integration Flexibility



INCIDENT DETECTION



TRAFFIC FLOW STATISTICS



WRONG WAY DETECTION



STOPPED VEHICLE DETECTION



Management of today's urban traffic has become increasingly complex as traffic rates and congestion continues to grow worldwide.

In order to improve traffic conditions, reliable data is needed in order to gather statistics, create road studies, provide congestion management as well as future roadway planning.

CostarHD now offers powerful traffic flow data collection as an option in all RISE II family cameras, increasing your video systems value, while eliminating unneeded hardware and installation costs associated with conventional traffic data collection methods.

RISE Video Analytics also provides real time detection of incidents quickly after they occur. Fast detection enables a proactive response to incidents or accidents and limits the risks

of secondary events, minimizing human casualties and infrastructure damage.

With RISE cameras expanded capability for both incident detection and visual surveillance, precise visual assessment of a detected incident allows Traffic Control Centers to track events in real time, anticipate congestion and respond with appropriate services needed.

RISE uses an embedded Linux application to expand its capabilities into a multi-purpose, precise and reliable traffic sensor, accurately measuring traffic speed and flow without additional roadway equipment.

CostarHD RISE analytics solution can easily integrate into your Traffic Management Centers environment by transferring traffic data collected over specified time intervals over an IP connection.

Additionally, your RISE camera can simultaneously stream real-time video for normal surveillance operations.

Full configuration and calibration of the RISE analytics is accomplished through your RISE cameras web server. A simple five point calibration process allows quick setup of the RISE camera video analytics.

RISE Video Analytics is available at time of order, or you can order separately at a later date and activate the analytics by use of valid license key entry.

Contact your local CostarHD Sales Engineer for additional details.



youtube.com/CostarHD
linkedin.com/company/CostarHD
twitter.com/CostarHD
facebook.com/CostarHD
CostarHD.com



PRODUCTS SUPPORTED

CostarHD's embedded ITS video analytics are supported on the following RISE Series products.

- 4220HD Series Domes*
- 4260HD Series Positioners*

*RISE Series models ending in -02

AVAILABLE DETECTION FILTERS

RISE video analytics are embedded LINUX applications hosted on select CostarHD RISE family of products. There are two ITS analytic offerings available referred to as ITS Statistics and ITS Advanced packages.

ITS Statistics Package (Included at time of Camera Purchase)

- Vehicle Detection
- Vehicle Count
- Vehicle Speed
- Speed Change
- PTZ Presets + Analytics

ITS Advanced Package

- Includes the ITS Statistics Package plus
 - Traffic Incident Detection
 - Stopped/Parked Vehicle
 - Wrong way direction
 - Motorcycle Detection

RISE ANALYTICS OVERVIEW

DETECTION ZONES

RISE video analytics operates from user defined detection zones (region of interest area(s) or line(s)) within the cameras field of view for analytic processing. Up to a maximum of 32 individual detection zones can be programmed dependent on detection filters used.

TRAFFIC FLOW STATISTICS

RISE video analytics collects traffic flow statistics from each detection zone including vehicle counts, vehicle speeds and vehicle size when enabled. The statistical data is collected and stored over user defined time periods. The results can be displayed using the RISE web server interface or can be retrieved from the camera over a network connection.

DETECTION ZONE PROPERTIES

Calibration	Camera Height - defines camera height from ground. Detection Zone size - defines actual measurements of the detection zone area [sides AB, BC, CD, DA and diagonal AC] for analytic measurement analysis.
Zone Enable	Enables/disables detection zone analytic processing
Angle	Defines a vehicle's motion vector thru the detection zone. Motion vectors outside of the angle property are ignored.
Direction	Specifies an objects direction of movement through the detection zone that triggers detection. None: Disables direction check Soft: Provides a lower tolerance enforcement of the direction of motion through the detection zone. Hard: Provides a higher tolerance enforcement of the direction of motion through the detection zone.
Shadow Supprsn.	Enables/disables suppression of shadows for the zone.
Incident Det. Time	User defined property which defines the amount of time that an absence of traffic movement through a detection zone is considered an incident.
Statistic Settings	Enables/disables the following filters for the selected detection zone <ul style="list-style-type: none"> • Vehicle Counting • Speed Measure • Length Measure • Incident Detection
Lane Type	Defines a detection zone lane type as Straight, Left or Right turn

Process Mode	Sets a detection zones accuracy optimization to one of three options <ul style="list-style-type: none"> • Balanced Detection (default) • Minimize False Detections (minFD) • Maximize True Detections (maxTD)
Sensitivity Setting	Optimizes detection accuracy based scene conditions. Setting provides a minimum to maximum sensitivity setting.
Zone Label	User defined text field to label the detection zone. The zone label can be enabled or disabled for display.

DATA COLLECTION OUTPUT FORMATS

The RISE ITS video analytics statistical data is available for viewing using the RISE web interface or can be retrieved from the camera as a CSV file. CSV format can be imported to programs that use data in tables and can be processed using your favorite spreadsheet application. The cameras web interface provides a page for displaying the traffic data collected. RISE traffic flow statistical data structure includes the following fields

- Zone # - The detection zone the statistics were collected from
- Time Period - The amount of time the data was collected
- Vehicle Count - The number of cars counted over the time period
- Speed - A histogram of the counted cars speeds during the time period. The histogram uses speed increments of 10 mph up to >=100mph
- Length - A histogram of the counted cars lengths during the time period. The histogram uses length increments of 10 ft. up to >= 40ft

NOTIFICATION METHODS

RISE ITS video analytics support a variety of methods of communication/integration/notification for 3rd party applications consumption which are;

- **ONVIF Events**
A standardized ONVIF protocol method for communicating events. A VMS system with ONVIF support subscribes to the RISE ITS events. Upon an ITS analytic event being reported by RISE, the VMS system can process this based on the specific VMS capabilities.
- **ONVIF Extensions**
A documented suite of ONVIF extension messages (<http://costarhd.com/ver10/riseanalytics/wsd/riseanalytics.wsd/>) providing advanced integration capability of RISE video analytics with ONVIF based VMS systems quickly.
- **SNMP Traps**
Allows an SNMP manager application to receive alerts based on RISE analytics reporting Vehicle Detected, Wrong Way Vehicle, Traffic Incident, Stopped Vehicle, and an abnormal Speed Change
- **Command Core+ Action Engine**
RISE's built-in automated response capability, where RISE's action engine can be triggered to perform the following camera actions;
 - Activate a digital output
 - FTP a snapshot
 - Send an Email or Text message with Image
 - Start a Preset or Tour
 - Display OSD message

Refer to the specific CostarHD RISE camera system ordering information to include an activated license when purchasing. If upgrading existing RISE camera system, contact your local CostarHD RSM for assistance.

ORDERING INFORMATION

ITS Advanced

- ITS Standard Features PLUS
- Vehicle Size [Classification]
- Incident Detection
- Stopped Vehicle
- Wrong Way Direction
R-ITS-ADV-03
(add-on license)

Pedestrian Detection

- ITS Standard Features PLUS
- Pedestrian Detection
R-ITS-PED-03
(add-on license)

ITS Advanced

+

Pedestrian Detection

- ITS Standard Features PLUS
- ITS Advanced Features
- Pedestrian Detection
R-ITS-ADP-03
(add-on license)



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