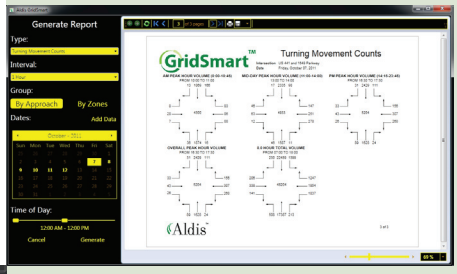
GridSmart *Vehicle Tracking, Detection, and Data Collection*

Description

GridSmart is a best-in-class video detection solution with unique and novel features enabled by GridSmart's 3-D omni-directional tracking technology. Using a single camera, the GridSmart approach reduces hardware in the intersection and offers the lowest total cost of ownership on the market today. GridSmart is a practical, cost-effective alternative to traditional detection technologies such as inductive loops, multi-camera video, or hybrid sensor solutions.



Platform and Design

GridSmart uses advanced omni-directional vehicle tracking algorithms along with three-dimensional vehicle modeling to provide accurate and reliable stop-bar detection while also enabling advanced features such as vehicle counts, length-based classification, and more. Providing interfaces to almost all types of controllers, and making traffic data available in a few simple clicks, GridSmart is easily interfaced to other 3rd party products and peripherals. The GridSmart software is designed to be user friendly and allow access both locally and remotely through a secure network connection.

Software Features

- **Point and click zone drawing** to emulate loop placement
- **Real time plan adjustments** for lane shifts or other anomalies
- **Digital flattening of image** for user-friendly viewing of the native "fisheye" image
- **Virtual pan-tilt-zoom** for viewing of entire intersection and incident management
- **Local or remote monitoring and management** to accommodate different environments and customer needs
- **Occlusion management** provides improved tracking performance as objects that enter a zone are tracked "through" occlusions
- **Omni-directional vehicle tracking** to allow for vehicles to be tracked throughout the intersection
- **Integrated data collection and reporting** with optional GridSmart data module
- **Four-panel Virtual TMC view** for easy viewing of entire intersection
- **Three-dimensional vehicle modeling** to allow for perspective to be applied within the algorithms for improved performance
- **Visual presence and light state indicators** for intuitive real-time understanding of the intersection
- **Zone level visibility monitoring** to ensure proper intersection operation during heavy fog, snow, sand storm, or other low visibility conditions

APPLICATIONS

- Stop-bar detection
- Advance detection
- Traffic counts, and Turn movement counts
- Vehicle classification
- Situational awareness and incident management
- Ramp metering
- Remote surveillance
- Pedestrian detection

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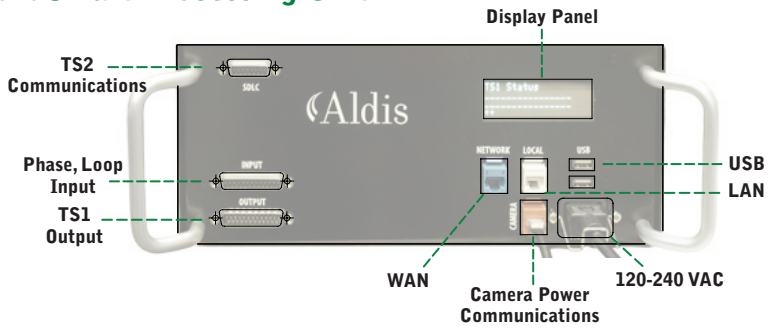
Hardware Features

- **No-aim, no-focus camera** for simplified camera installation
- **Single Power over Ethernet connection** to camera to reduce installation time
- **TS1, TS2, Type 170 and 2070 controller interfaces** for universal coverage
- **USB port** for local software updates and data collection
- **IP addressable** for remote monitoring and management
- **IP66-rated camera housing** for durability in adverse weather
- **Heated camera and processor** for extreme environments
- **Downward facing lens and camera shroud** practically eliminates the need for periodic lens cleaning due to weather and road spray
- **Fail-Safe controller outputs with self diagnostic** keeps the system up and running

GridSmart Processing Unit



Technical Specifications

	Control Unit	Camera
Connectivity	LAN interface, Camera interface, WAN interface	IP addressable, Digital camera (single or dual)
Output Interface	NEMA TS1/TS2, Type 170 and 2070 ATC	--
Outputs	24 Optically isolated outputs, SDLC interface w/ TS2, Responds to addressses 8-11	--
Additional Features	Monitors phases and loops, Generates calls to controllers	Color imager, 2560 x 1920 effective pixels, 2.0 lux, Dynamic range 55 dB, 360-degree FOV
Dimension and Weight	12.25" x 11.25" x 5" (w x d x h) 12 lbs.	10" diameter x 9" 9 lbs.
Environmental	-29ºF to +165ºF (-34ºC to +74ºC) 0 - 95% non-condensing	-29ºF to +165ºF (-34ºC to +74ºC) 0 - 100%
Power/Communications	30W, 120-240 VAC, 50 to 60 Hz	48 VDC, Single burial grade CAT5e cable

BENEFITS

Cost Effective - Single camera solution, and related installation time, makes GridSmart cost effective when compared to any detection technology.

Fast Installation - Single camera reduces or eliminates need for lane closures, reducing likelihood of traffic delays or incidents. Ease of installation minimizes time for workers to be in the traffic lanes, and reduces installation costs. A complete system is typically installed within 3 hours.

Full Field of View - GridSmart monitors the middle of the intersection providing better situational awareness, more accurate and complete traffic data, and enhanced incident management capabilities.

Easy to Use - The GridSmart user interface with point-and-click, user-defined detection zones make system training and set-up fast and easy.

Low Maintenance - With no moving parts, an IP66 sealed camera enclosure, downward facing lens, and built-in-heating system, GridSmart is virtually maintenance free in all conditions.

Proven Technology - Fully tested in all climates and conditions.

Made in USA

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