K&K Systems, inc.
Traffic Safety Products Manufacturer

WRONG WAY SYSTEMS

THERMAL | IR | RADAR | 24/7

DETECT & ALERT

WRONG WAY DONE THE RIGHT WAY

Smart systems that detect, warn, and alert.

In response to the increased frequency of wrong way related accidents, K&K Systems has developed a Wrong Way framework of components that function together or independently to make our highways safer.

We utilize Thermal Imaging cameras, Optical IR cameras, and Radar Sensors integrated with our Sign Alert System/CrossTalk Controller to detect a violator, to alert the driver, and to report the incident to the proper authorities.

Our Thermal and IR imaging cameras are proudly made in the USA. They utilize sophisticated AI software that allows visual clarity to determine a violation. While thermal and IR cameras operate in the same manner, thermal imaging allows detection through dense fog, heavy rain, smoke, and other conditions that hinder sight.

Every part of K&K Wrong Way Systems has been rigorously tested and has met the requirements set forth by NEMA and the FCC for temperature, moisture, shock, static, and more. Furthermore, our systems have also passed the Florida Department of Transportation Traffic Engineering Research Laboratory testing reporting 200 accurate alerts with no misses and no false positives.

K&K Systems is driving the standard for Solar and AC powered Wrong Way Systems. Contact us today for Wrong Way Systems that are done right.

Our Wrong Way Detection System has been tested to the extremes by third party labs to make sure that it can and will perform properly in any condition. Some of these test include:

TEMPERATURE
VIBRATION
MOISTURE
STATIC
SALT
WIND
SOLAR
BATTERY

- **NEMA TS2 / TS4:**
  - Temperature Testing -34c to +74c
  - Vibration and Drop Testing
- **FCC Part 15 subpart B, Class B**
- **ESD IEC 6100-4-2-B & TS-4**
- **NEMA 3R Cabinet**
- **High Humidity Environment Survival (+53c, 95%RH)**
- **Salt Environment ASTM B-117**
- **150 MPH Wind Load Survival**
- **FDOT Traffic Engineering Research Lab Test:**
  - 200 Accurate Alerts
  - 0 Misses
  - 0 False Positives
- **Solar System Tested to 10 Days Without Sunlight**
- **Built in Battery Backup with AC Systems**

IMAGING THERMAL CAMERA

OUR THERMAL IMAGING CAMERA is embedded with self-learning video analytics to provide long-range perimeter protection and leverages thermal technology to operate under challenging conditions while minimizing false alarms. It is designed to detect the presence and movement of people and vehicles in areas with poor visibility, including partly camouflaged scenes, low lighting and even absolute darkness, without the need for additional light sources.

IMAGING OPTICAL IR CAMERA

THE OPTICAL IR CAMERA tracks and monitors vehicles while stationary or moving and determines directions and violations. It combines high-definition imaging, self-learning video analytics, network video recorder functionality and embedded Avigilon Control Center™ video management software to create an all-in-one video security solution. The cameras record video directly to an on-board solid-state drive, eliminate the need for a separate NVR, and reduce installation and system costs.

COMPUTING KK-700PC

THE KK-700PC is a robust computer built to withstand the elements while processing large amounts of data from multiple cameras. It has a built in cell modem which can be used to monitor, alert, and send images or video of monitored areas. Additional software can monitor the location health and allow complete control of the system.

CONTROLLER CROSSTALK-IO

The CrossTalk is a rugged, integrated, compact, all-in-one advanced, lighting controller, flasher, auto-dimmer and scheduler. The CrossTalk can be accessed with any cellular connected device with on-board cellular technology over a secure cloud server connection. Multiple Sign Alerts across an entire detection zone can be accessed for real-time access for low battery, status monitoring, and diagnostics.

RADAR SENSOR SYSTEM

RADAR is our most cost effective way to detect motion and activate signage. It can be used alone to activate signs or in a system with other types of detectors. Our Radar Sensor is durable and built to withstand the elements with a heavy duty weatherproof enclosure that installs easily. It detects moving objects in an area 12° wide by 14° high.

SIGN ALERT SYSTEM

K&K SIGN ALERT SYSTEM is designed to increase road safety by increasing motorist visibility by embedding ultra-bright LEDs into an MUTCD regulatory sign that can be activated using cameras or sensors. Our proprietary process assures the is durable and weathertight. Each ultra-bright LED is embedded into the sign and sealed. K&K's smart controller preserves energy and/or battery life with its auto-dimming feature while maintaining brightness through all weather conditions.

- Embedded LED
- Sign Alert Back with Z-Frame

HOW IT WORKS

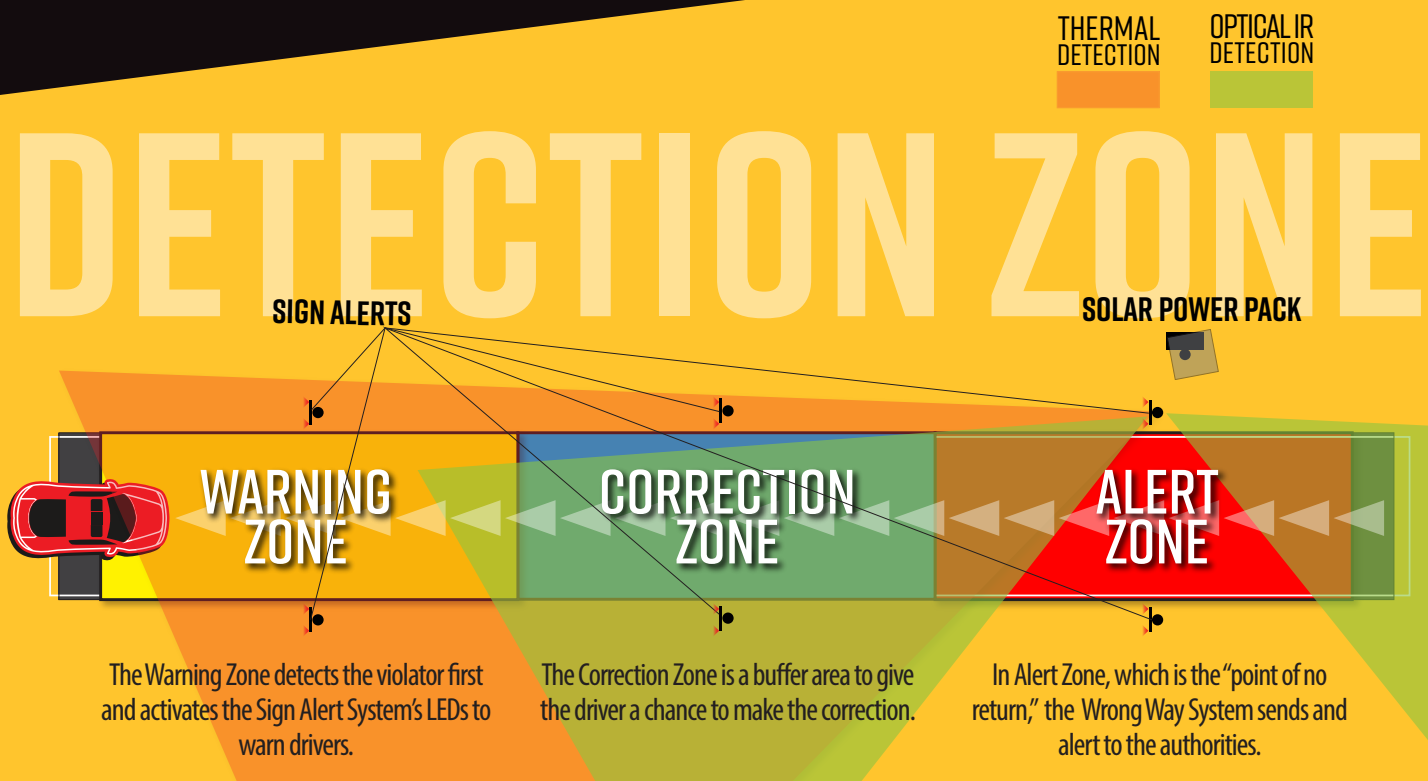
The K&K Solar Powered Wrong Way Systems diagram below divides the roadway or ramp into 3 zones of detection - The Warning Zone, the Correction Zone, and the Alert Zone. The Warning and Correction Zones are equipped with Sign Alert Systems that are controlled by the Thermal and IR cameras via the CrossTalk Controller. The Thermal camera monitors the entire detection zone. The IR cameras monitor the Correction Zone and the rear area of the Alert Zones. The Thermal and IR Camera System powered by the Power Pack is located in the Alert Zone.

W R O N G W A Y
DETECTION ZONE ANATOMY

WARNING — When a vehicle enters the Warning Zone the cameras and/or radar detect its presence and the direction it is traveling. If the system determines the vehicle is traveling the wrong direction, the Sign Alerts are activated causing the LEDs to flash to warn the driver.

CORRECTION — The cameras monitor the vehicle's activity. If the vehicle corrects its path, no more action is taken.

ALERT — If the vehicle continues in the wrong direction in the Alert Zone, the cameras flag the video and sends an alert to the proper authorities.



The Warning Zone detects the violator first and activates the Sign Alert System's LEDs to warn drivers.

The Correction Zone is a buffer area to give the driver a chance to make the correction.

In Alert Zone, which is the "point of no return," the Wrong Way System sends and alert to the authorities.

WRONG WAY MODEL SELECTION

CAPABILITY	WWS-1	WWS-2	WWS-3	WWS-4	WWS-5	WWS-6
AC or Solar Powered	■	■	■	■	■	■
Remote Connection	■	■	■	■	■	■
Sign Activation	■	■	■	■	■	■
Signal Lane	■	■	■	■	■	
Multiple Lanes	■	■	■	■		
Alert Notification	■	■	■	■		
Thermal Detection	■	■				
Forward Facing IR Detection	■		■	■		
Rear Facing IR Detection	■		■			

WRONG WAY DETECT & ALERT SYSTEM

MODEL# WWS-AC/SP-1

POST & COMPONENTS

- Thermal Imaging Camera
- (2) IR Optical Cameras
- Wrong Way Sign Alert Diamond Grade Material
- (8) Sign Alert LEDs Available in Red or White
- Drop Down Aluminum Control Box
- Spun Aluminum Post with Pole Collar
- Drive Base or other Anchoring Option

CONTROL BOX & COMPONENTS

- Weathertight Aluminum Cabinet
- KK-700PC
- Advanced Controller
- Photocell with Solar Panel
- Battery for Backup Power
- Power Source
- Battery Charger

Beacon options available

BUILD YOUR SYSTEM

K&K Wrong Way System's Solar Power Pack provides energy for systems using Thermal and Optical IR Cameras. It can be located in the clear zone away from traffic.

Radar Sensor and 24/7 Wrong Way System's Eco Solar Panel and Control Box.

K&K Wrong Way Systems include options to best monitor your roadway's Detection Zones. Below are some key features that will help determine the proper components for your Wrong Way System.

POWER SOURCE:
- ☐ SOLAR POWERED SYSTEM
- ☐ WIRED AC SYSTEM

K&K Wrong Way Systems can be powered with Solar or AC. Solar has the benefit of allowing Wrong Way Systems to be located virtually anywhere. No wiring or boring needed.

NUMBER OF LANES MONITORED:
- ☐ ONE LANE
- ☐ MULTIPLE LANES

Multiple lanes are monitored by Thermal and Optical IR cameras. A single lane can be monitored with a Radar Sensor.

ROADWAY SHAPE:
- ☐ STRAIGHT
- ☐ CURVED

Thermal and Optical IR Cameras placed in the Alert Zone are capable of monitoring an entire access ramp with a straight line of sight. Radar Sensor Systems can be placed in the Warning and Correction Zones in curved roadways.

THERMAL DETECTION:
- ☐ YES
- ☐ NO

Thermal Imaging Cameras utilize sophisticated AI software that allows visual clarity through dense fog, heavy rain, smoke, and other conditions.

ALERT NOTIFICATIONS:
- ☐ YES
- ☐ NO

Cameras (Thermal and/or IR) flag the video and send images to the proper authorities if a vehicle continues in the wrong direction in the Alert Zone. K&K systems provide data plans or can connect to an existing alert systems.

SIGN ALERT QUANTITY:

☐

The monitoring equipment on each Sign Alert is dictated by the length and shape of the Detection Zone. Longer and curved detection zones may require more Sign Alerts.

LED COLOR:
- ☐ RED
- ☐ WHITE

Check your state's requirements for Sign Alert LED colors.

CALL FOR A QUOTE

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