

WRONG WAY INTELLIGENT DETECTOR

Vehicles going on wrong way represent a major danger. To prevent this kind of situation, Sernis has developed the SR-WWID. A solar powered system that supervises in real time and detects immediately vehicles driving in wrong way.



(QR Code | Scan to more information)

PRODUCT IDENTIFICATION

Product	SR-WWID
Functional Characteristics	Wrong Way Intelligent Detector

PRODUCT SPECIFICATIONS

Advantages	<ul style="list-style-type: none"> ▶ Solar powered system; ▶ System can be remotely monitored: <ul style="list-style-type: none"> ▪ Viewing images online; ▪ Visualization of number of wrong way detections; ▪ Visualization of image by wrong way detection; ▪ Visualization of current date and hour; ▶ Send a wrong way alert (by SMS or other kind of warning); ▶ Control dynamics signs to alert the wrong way driving vehicle; ▶ Configurable for different speeds; ▶ Operation time 24/7; ▶ Works with different types of road pavement; ▶ Stand-Alone system. Doesn't need physical connections to other devices to operate; ▶ Can be remotely configured via a mobile broadband connection: <ul style="list-style-type: none"> ▪ Configuration of ROIs; ▪ Direction of movement; ▪ Speed parameters; ▶ Configuration interface independent of the system; ▶ Possibility of defining different processing regions (ROI) ▶ Setting the correct direction of movement by ROI. ▶ Ability to query images whenever a confirmation is needed; ▶ Low power consumption; ▶ Correct detection: <ul style="list-style-type: none"> ▪ In transition between day/night; ▪ In transition between night/day; ▪ Sudden variations in lighting conditions caused by: <ul style="list-style-type: none"> - Natural light (Shadows made by cloud, etc); - Artificial light (Cars lights, Street lights, etc); ▪ In the presence of other elements: <ul style="list-style-type: none"> - Trees, etc;
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OPTICAL CHARACTERISTICS

Camera	<ul style="list-style-type: none"> ▶ CCD Camera: <ul style="list-style-type: none"> ▪ 640x480 pixels; ▪ RGB color; ▶ Focal distance: 6mm; ▶ Maximum detection distance: dependent of camera positioning;
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HARDWARE TECHNICAL SPECIFICATIONS**Hardware***(general hardware)*

- ▶ Operating time: 24/7;
- ▶ Housing
 - Material: Aluminum
 - Dimensions: 105 x 115 x 410mm
 - Frontal protection: Glass;
 - Covering: Anti-Corrosion treatment;
 - Protection class: IP66

Processing unit

- ▶ ARM Processor:
 - ARM Cortex-A8 720 MHz CPU
 - TMS320C64x DSP
 - PowerVR SGX530 GPU

Communication

- ▶ TCP/IP:
 - Protocol TCP/IP for system configuration and acquisition of alarms that have occurred.
- ▶ GSM:
 - The system sends real time alarms through GMS.

SOFTWARE TECHNICAL SPECIFICATIONS**Software***(general details)*

- ▶ Configuration tool:
 - Windows platform
 - Configuration of regions of interests (ROIs)
 - Vehicles direction;
 - Speed of parameters;
- ▶ Detection software:
 - Detection of vehicles driving in wrong way;
 - Correct detection:
 - In transition between day/night;
 - In transition between night/day;
 - In sudden variations in lighting conditions caused by natural or artificial light;
 - In the presence of other elements (trees for example) ;

POWER SPECIFICATIONS**Solar Kit**

- ▶ The solar kit comprises:
 - Solar panel;
 - Batteries;
 - Charge Regulator;All this items are defined depending the installation site!

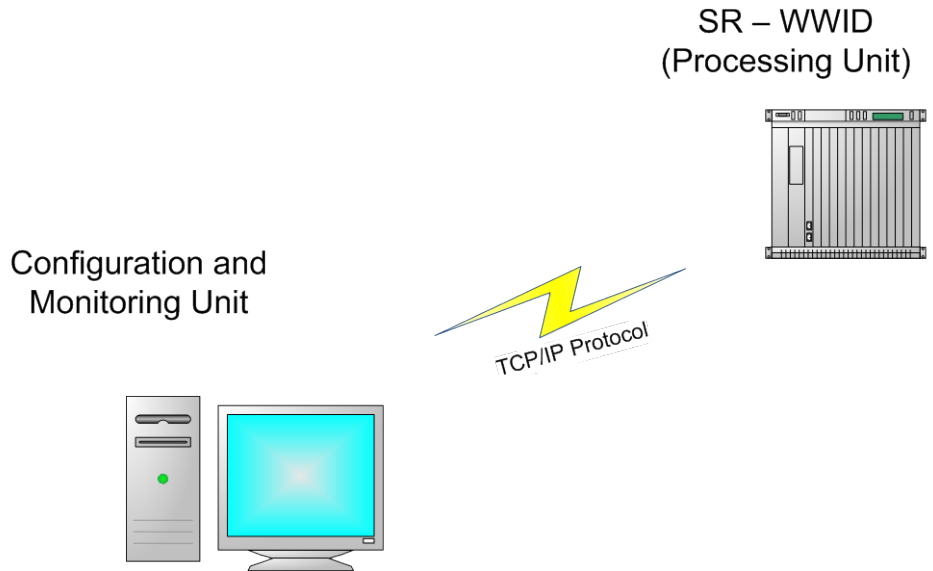
Power**Consumption**

- ▶ Minimum: 0.2 A / 12V DC;
- ▶ Maximum: 1 A/ 12V DC

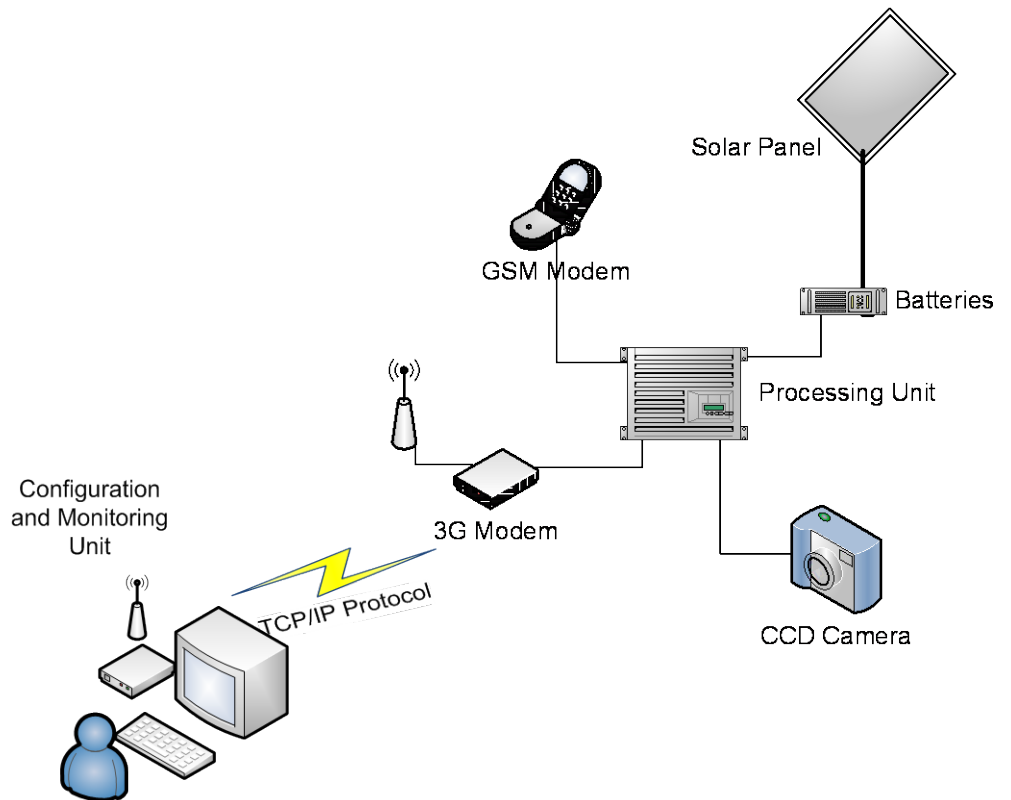
SYSTEM ARCHITECTURE

General Architecture

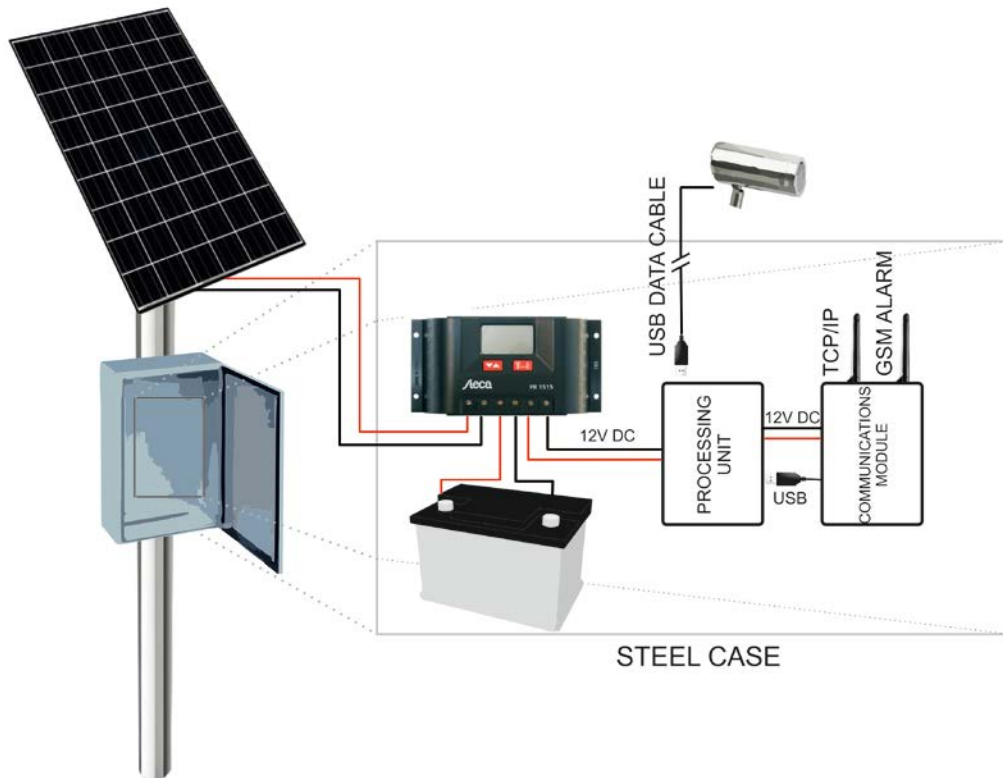
- Architecture of communication between the configuration unit and the SR-WWID system.



Architecture of SR-WWID



Detailed Diagram of Steel Enclosure



TYPICAL INSTALLATION

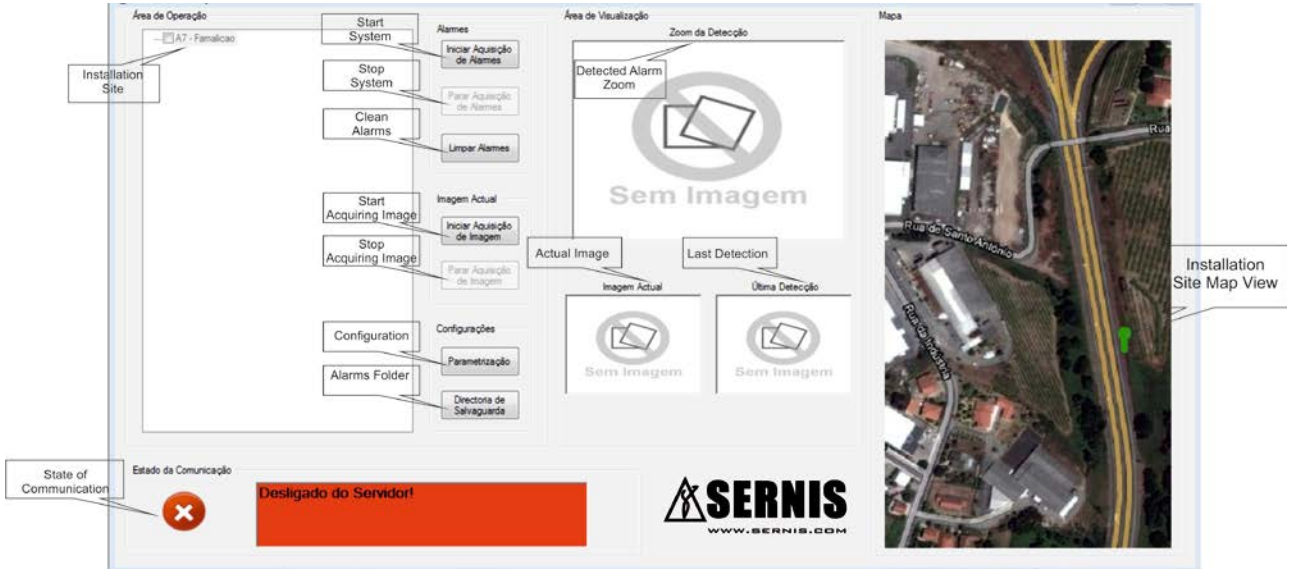
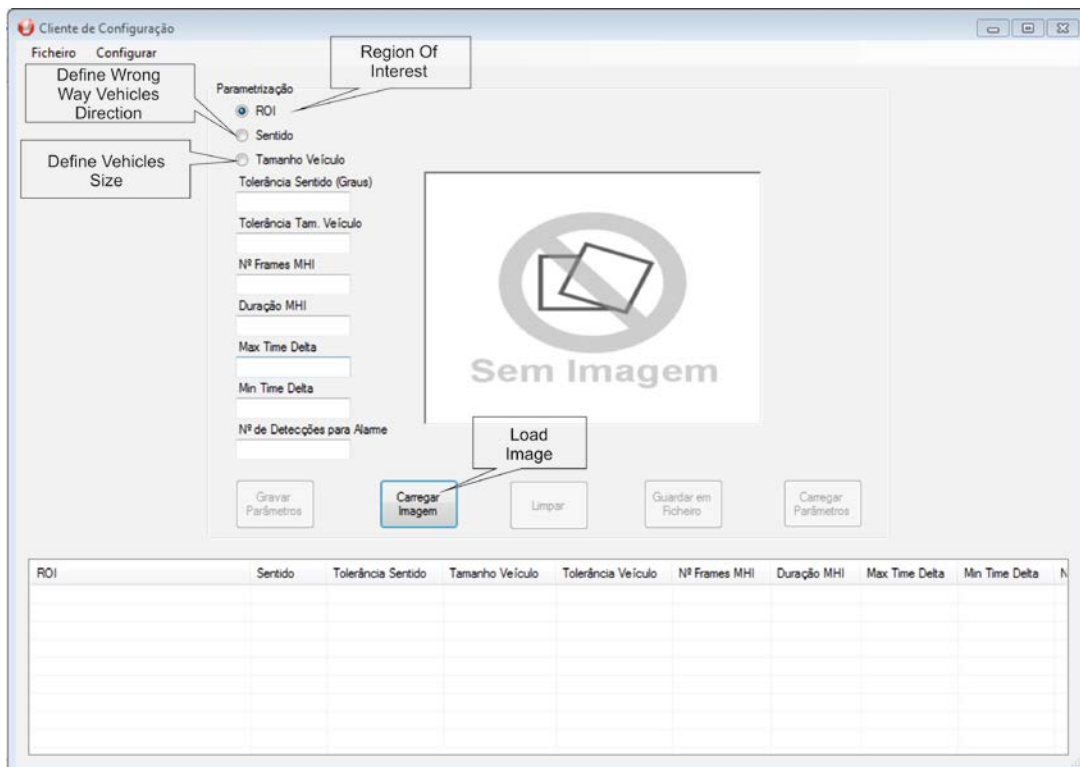
SR-WWID

Typical Installation

- ▶ A typical installation of this system consist in:
 - Solar Kit;
 - SR-WWID camera installed at minimum **7m** of height;
 - Dynamic signage to alert the wrong way driving vehicle of the infraction. Every time that is detected a vehicle by the system, the dynamic signs give a visual alert to the wrong way driving vehicle warning him of his infraction.



Illustrative image of a typical installation of SR-WWID system

CONFIGURATION SOFTWARE
Initial Screen

Configuration Screen


To configure an installation site press the **“Configuration”** button at the initial screen to access the configuration menu.

Under the configuration menu press **“Load Image”** button to load the photo of the installation site and configure the next tree parameters: **“Region of Interest”**, **“Wrong Way Vehicles Direction”** and **“Vehicles Size”**