

# Instruction Manual

*Waterproof Backup Sensor Reversing System*

RVS-112-W





System Description. . . . . 03

Safety Information. . . . . 04

Before Beginning Installation. . . . . 05

Setup. . . . . 06

Specifications. . . . . 07

Installation. . . . . 08-09

Alternate Mounting. . . . . 10-11

Detection. . . . . 12

Wiring Diagram. . . . . 13-14

Features. . . . . 15

Warranty & Disclaimer. . . . . 16-17



**SENSORS INTEGRATE  
RIGHT INTO  
OUR CAMERA SYSTEMS.**



The RVS-112-W Vehicle Reversing Aid is an automatic back up alert system that warns drivers of potential obstacles while backing up their vehicle. Using ultrasonic echo location sonar technology the system is activated when the driver engages reverse gear. A 4 zone variable audio pulse alerts the driver of potential obstacles. The audio pulse intensity increases and the audio frequency changes as the vehicle backs closer to the obstacle. As with all sensing systems there are blind areas in the sensing patterns due to the cone or triangular nature in the way the sonar pulse is emitted. Whenever an object moves from a covered area and into one of these blind areas a special warning alert message and a very loud tone will be transmitted twice or until the operator takes the vehicle out of reverse. This is especially helpful for detecting moving objects such as a pedestrian, an animal, a forklift or other moving vehicles that may be behind your vehicle and in harms way.



*If you have questions about this product, contact:*

***Rear View Safety***  
***1797 Atlantic Avenue***  
***Brooklyn, NY 11233***  
***Tel: 1.800.764.1028***

IN NO EVENT SHALL SELLER OR MANUFACTURER BE  
LIABLE FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES OF  
ANY NATURE, OR LOSSES OR EXPENSES RESULTING FROM  
ANY DEFECTIVE PRODUCT OR THE USE OF ANY PRODUCT.

Before drilling please check that no cable or wiring is on the other side of the wall. Please clamp all wires securely to reduce the possibility of them being damaged while vehicle is in use. Keep all cables away from hot or moving parts and electrical noisy components.

***We recommend doing a benchmark test before installation to insure that all components are working properly.***

PLEASE READ THE ENTIRE MANUAL AND FOLLOW THE INSTRUCTIONS AND WARNINGS CAREFULLY. FAILURE TO DO SO CAN CAUSE SERIOUS DAMAGE AND/OR INJURY, INCLUDING LOSS OF LIFE. BE SURE TO OBEY ALL APPLICABLE LOCAL TRAFFIC AND MOTOR VEHICLE REGULATIONS AS IT PERTAINS TO THIS PRODUCT. IMPROPER INSTALLATION WILL VOID MANUFACTURER'S WARRANTY.

## *Sensors*

Drill four holes at equal distance in the rear bumper and mount the sensors using the included grommets. Run each cable to the sensor box and plug each into its corresponding port.

## *Power*

Connect Y-adapter to the waterproof control module. Connect the RED wire to a 12V constant power and the GREEN wire to a 12V reverse power. Connect the BLACK wire to a chassis ground.

## *Sensor Cable*

The sensor cable attaches to the waterproof control module on one end and the 4 sensors on the other.

## *The Multiplexer*

The cable that runs through the vehicle now carries signals both from the backup camera and the sensors. Plug this cable into port #3 in the Multiplexer. In order to hear the sensor audio alerts, connect the blue trigger wire (coming off the multiplexer) to 12V reverse power.

### *Sensor Specs*

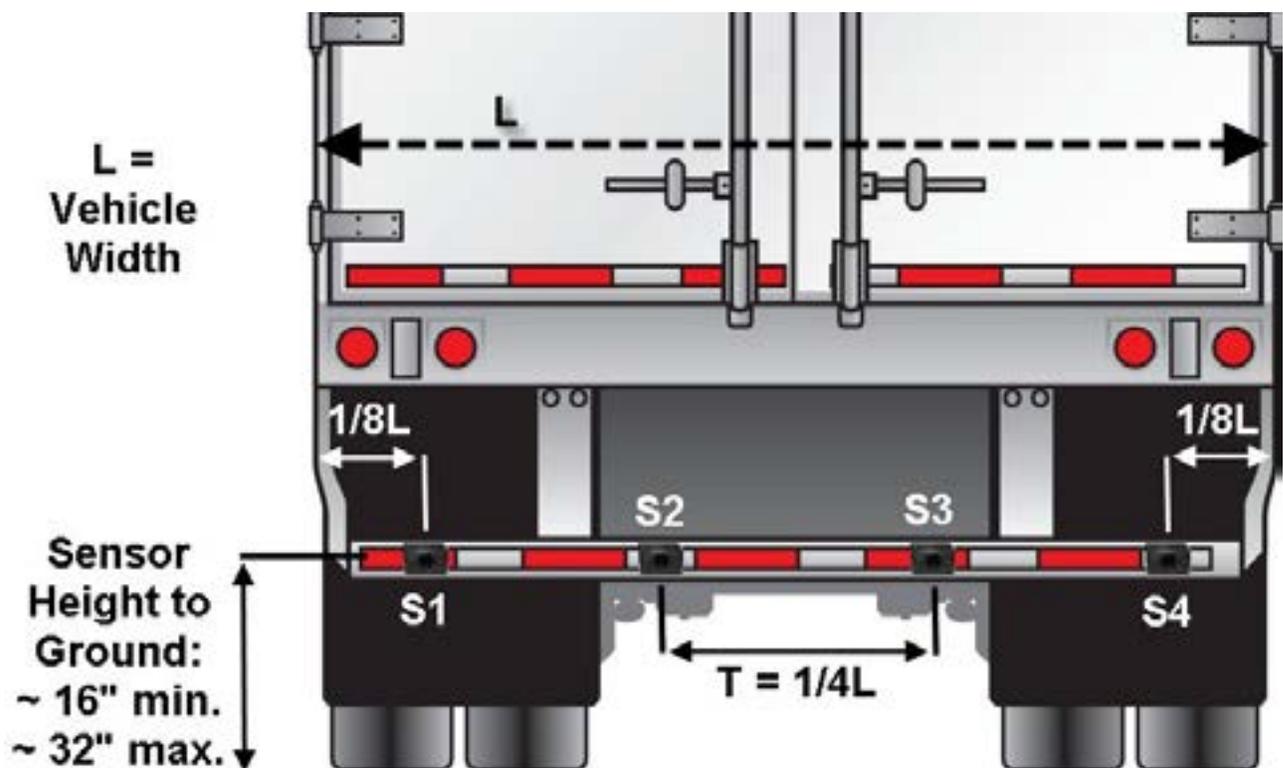
Sensor Type:	Analog Sensor
Sensor Quantity:	4 Sensors
Sensor Frequency:	40kHz +/- kHz
Static Capacitance:	2000± 15%pF
Input Voltage max.:	140 Vp-p {at 40KHz}
Decay Time:	<1.2ms
Decay Parameter :	20±3 (Admissible parameter)
Echo Sensitivity:	>200mV
Horizontal Angle:	51° min.
Vertical Angle:	62° min.
Detection Range:	0.22mm (0.08ft) to 2.5m (8ft)
Working Voltage:	10.0 ~ 28.0 VDC
Rated Current (ECU):	60mA max
Wiring Harness:	Vehicle Spec. T-Piece
Working Temperature:	-40°C ~ +75°C
Storage Temperature:	-40°C ~ +90°C

### *Waterproof Control Module Specs*

Normal Voltage:	12 VDC
Operating Voltage:	1.0 ~ 28 VDC
Rated Current:	60 mA
Operating Frequency:	40 +/- 1 kHz
Housing Material:	ABS
Housing Color:	Black
Working Temperature:	-40°C ~ 75°C
Storage Temperature:	-40°C ~ 90°C
Waterproof Rating:	IP65

1) The width of vehicles vary. It is important to install the Sensors at the appropriate distance and location along the rear bumper or equivalent Assuming that the width of vehicle is  $L$ , then the space between Sensors is  $1/4L$  (Sensors must be mounted S1, S2, S3, S4, from left to right).

- Sensors S1 and S4 should be located approximately  $1/8L$  from either side of the vehicle. S2 and S3 will be located  $1/4L$  from S1 and S4. If the Sensors are mounted on a DOT type bumper, the Sensor locations are determined by the vehicle width ( $L$ ), not the width of the bumper. 2) Sensors should be mounted at an absolute minimum of 16 inches (40cm) to 32 inches (80cm) from the ground (20 inches (50cm) is a good choice, if available). See Alternate Sensors Mounting Locations, for other options.



## *Sensor Installation (In-Bumper Flush Mount)*

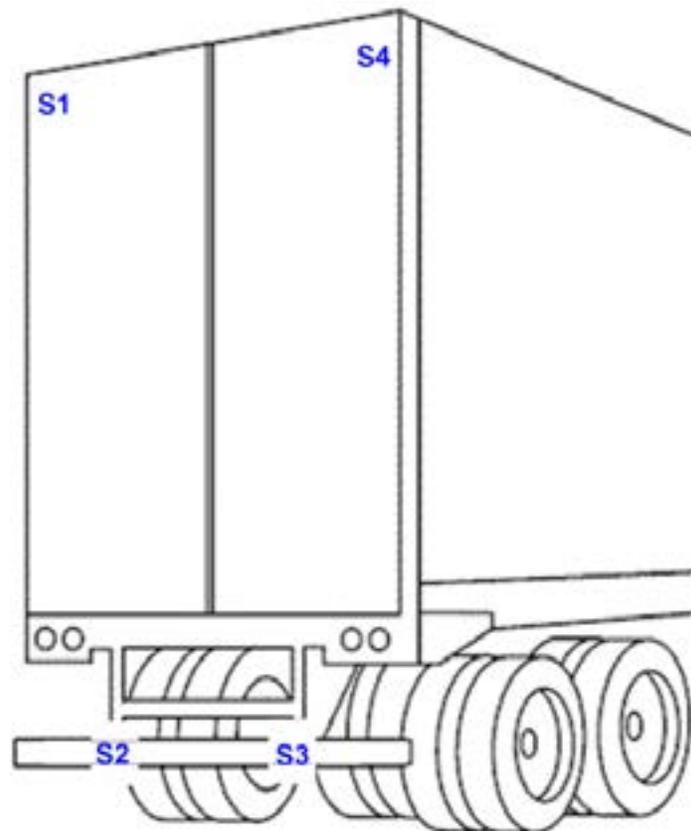
For vehicles equipped with a bumper that can accommodate the Sensors, carefully drill a 25mm hole and insert the Rubber Jacket, properly orientated “UP”, in the hole first. Then insert the Sensor, again properly orientated “UP” Depending on the thickness and construction of the bumper, the hole diameter may need to be varied. The Rubber Jacket is designed to seat properly into a 25mm hole with a 1/8 inch (3.2mm) thick metal bumper. If this is not the case, the flanges on the Rubber Jacket must be taken into consideration. It is suggested that a test hole be utilized to confirm a proper fit.

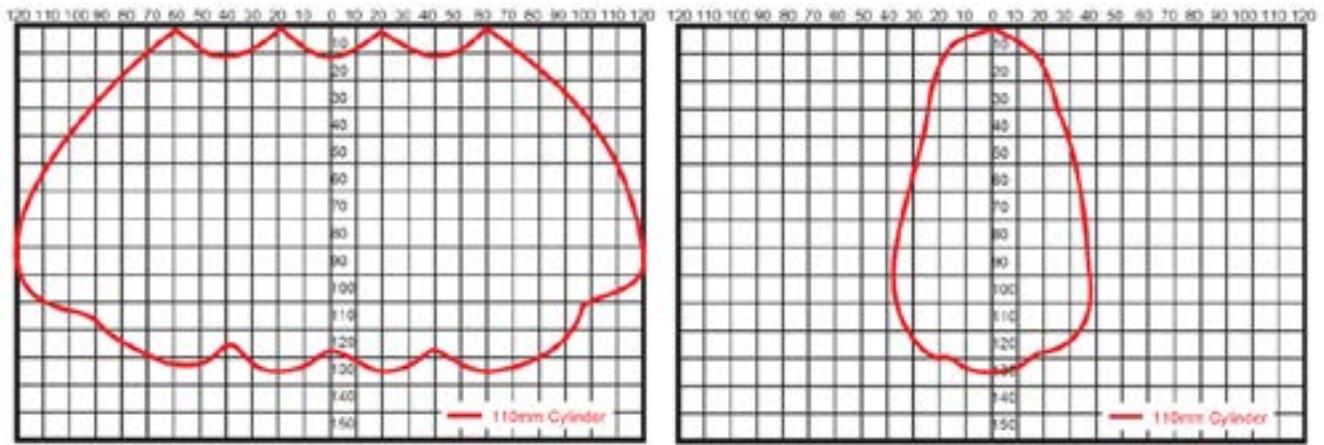


## *Alternate Sensor Mounting Locations*

The system is designed to be installed with all 4 (four) Sensors aligned across the rear of the vehicle, preferably at a height ranging from 16" to 32" from the ground. When the Sensors are installed in a different layout (for example to detect a building overhang as shown below), please consider the following:

- Each Sensor detects objects in a circular area approximately 20" in diameter.
- It is recommended that the face of all Sensors should be on the same plane to ensure the accuracy of the system.
- When the Sensors are placed on two different levels (per the example below) install S1 and S4 on the top and S2 and S3 on the bottom of the vehicle.





4 Sensor Horizontal Field: M14, M15 or M16 Sensors

Single Sensor Vertical Field: M14, M15 or M16 Sensors

Sensors can also be mounted across the front of the vehicle to detect building overhangs or to detect objects out of view.

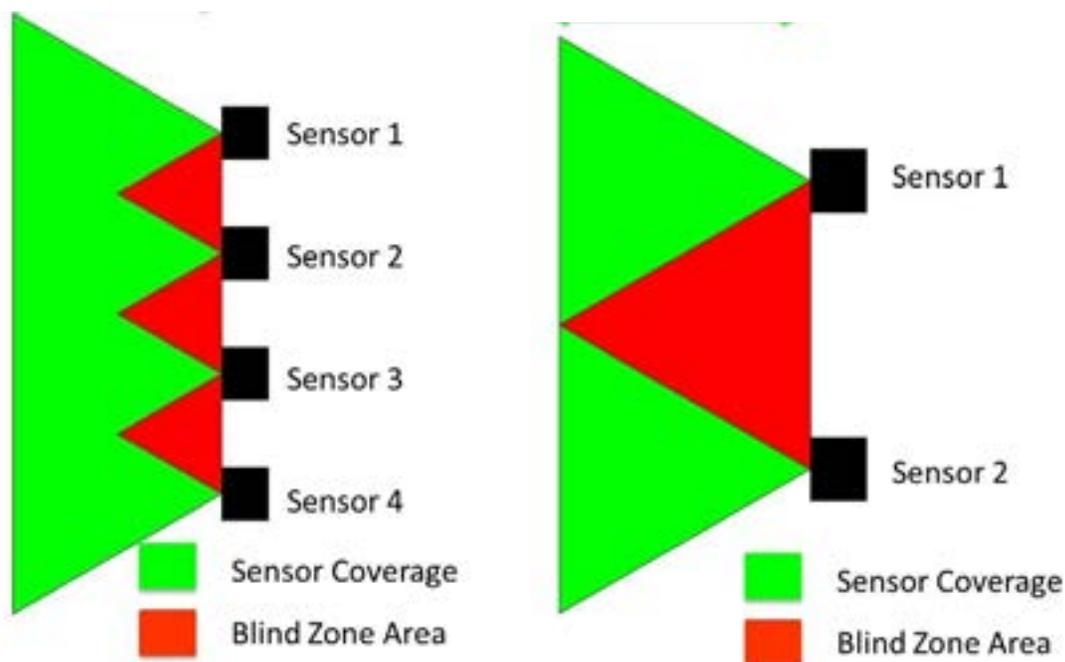
NOTE: These sensors are a tool to help the driver. The driver should always know what is in front of or behind them and physically check the area themselves.



### Alternate Sensor Mounting Locations

CAUTION: Using less than 4 (four) Sensors across the width of a bumper will create limited coverage resulting in blind zones! It is strongly suggested that these blind zones are mapped out to educate the driver regarding the system limitations.

Having all four Sensors in line, on the same plane, provides the best result. If you break the Sensor configuration up, for example two on top and two on bottom, you create a bigger gap between the Sensors, causing a large blind zone area. This blind zone area can lead to objects or people being undetected by the Sensors.

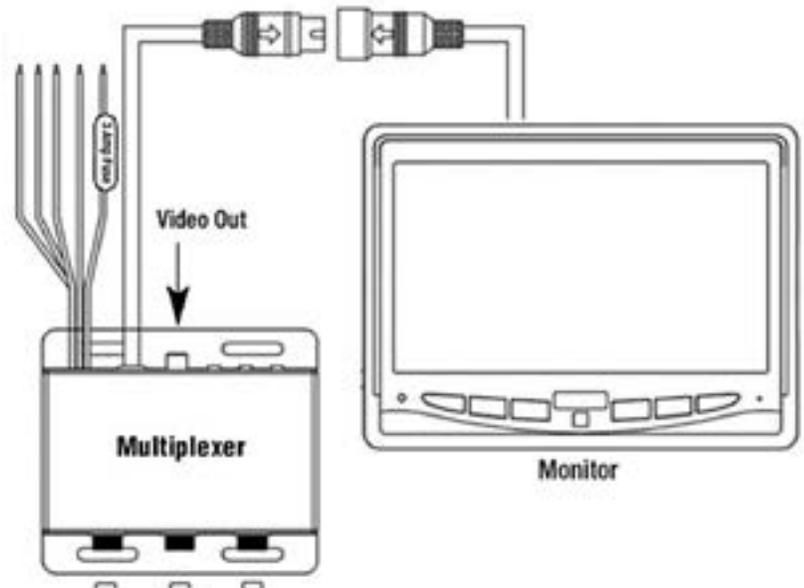


### *Control Module Installation*

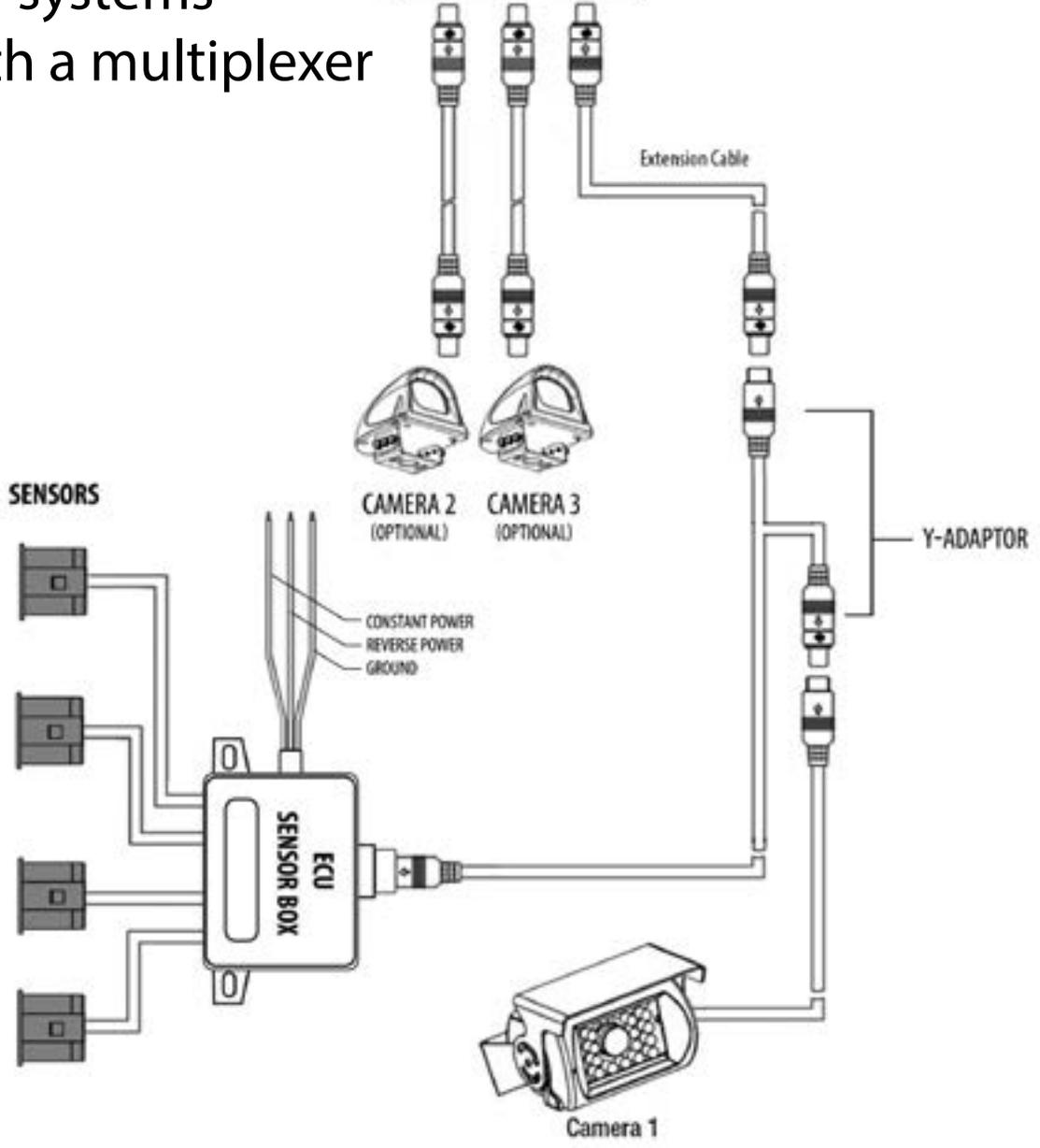
1) Depending on the vehicle type, select an appropriate location to mount the water-tight control module on the rear undercarriage of the truck chassis.



- 1. DC 9-32V (red)
- 2. Ground (black)
- 3. Port #3 (blue)
- 4. Port #2 (white)
- 5. Port #1 (yellow)



For systems with a multiplexer





## Features



- Completely waterproof system - Install all components outside
- Four sensors mount to vehicle's bumper
- Intelligent sensors - Ignore stationary, permanent objects
- Alerts you with distance to obstacles behind you
- Perfect for assisting in parking and tight driving situations

## **ONE YEAR WARRANTY**

REAR VIEW SAFETY, INC. WARRANTS THIS PRODUCT AGAINST MATERIAL DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF PURCHASE. WE RESERVE THE RIGHT TO REPAIR OR REPLACE ANY SUCH DEFECTIVE UNIT AT OUR SOLE DISCRETION. REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR A DEFECT IN THE SYSTEM AS A RESULT OF MISUSE, IMPROPER INSTALLATION, DAMAGE OR MISHANDLING OF THE ELECTRONIC COMPONENTS. REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND.

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A Safe Fleet Brand

If you have any questions  
about this product, contact:

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***Better Cameras. Better Service.  
IT'S OUR GUARANTEE.***

