

How to Decide Which Propane Detector Is Right For Your RV

Propane: Keeping it Safe!

Propane is, by far, the fuel of choice for today's RV - powering everything from fridges and hot water heaters to your stove and barbecue - sometimes even your vehicle.

With some basic precautions, regular inspections and maintenance your propane system will deliver many years of safe, reliable service.

One of the simplest safety measures is the installation of a propane detector. These devices will detect a propane leak and warn you long before the propane reaches a dangerous level. More elaborate systems will even shut-off your propane supply until you have corrected the problem.



Most RV designs tend to cluster the propane appliances in one area. If this sounds like your floor plan, you can probably get all the protection you need with a simple, self contained alarm style detector, like our model GS3. These detectors constantly monitor the atmosphere and, if propane is detected, sound a very loud alarm and flash a red LED warning light.

With this style detector, it's up to you to shut off the propane supply, ventilate the area and correct the problem while avoiding any sources of ignition such as electrical switches. The step-up design of most RVs makes ventilation as simple as opening the door, since the step well is usually the lowest point on your floor plan.

If you're looking for additional protection, our model GS6 will automatically shut-off your propane supply and require you to manually reset the propane before resuming normal operation. This extra level of protection means you don't need to be there to turn off your propane supply. However, you still need to ventilate the area, before considering it safe.

Our models GS5 and GS6 can both monitor different areas at the same time using remote sensors attached to cables. With this style, you have the option of checking for leaks in different compartments, or at different appliances, where a leak is likely to occur.

How They Work

At the heart of every propane detector is the sensor which uses the difference between the electrical properties of oxygen and propane to trigger an alarm.

The miniature sensor (about the size of the eraser on the end of a pencil) contains 2 main components. One is a layer of metal oxide semiconductor material - usually tin dioxide. The second is a miniature heater, which keeps the semiconductor at a constant high temperature - around 400° C - which it needs to function properly.



The metal oxide's ability to conduct an electrical current (its resistance) is affected by gasses which are attracted to its surface.

Oxygen has the ability to trap electrons, which increases the resistance of the metal oxide. Propane, on the other hand, improves the flow of an electric current through the metal oxide and lowers its resistance.

Depending on the concentration or absence of propane in the air around the sensor the current through the metal oxide will increase or decrease - the higher the level of propane the greater the current. When propane reaches a dangerous level - usually set at 25% of the lower explosive level, or LEL - the detector begins to sound an alarm. In other words, the alarm starts while you still have a 75% margin of safety. This safety margin decreases as the propane concentration rises.



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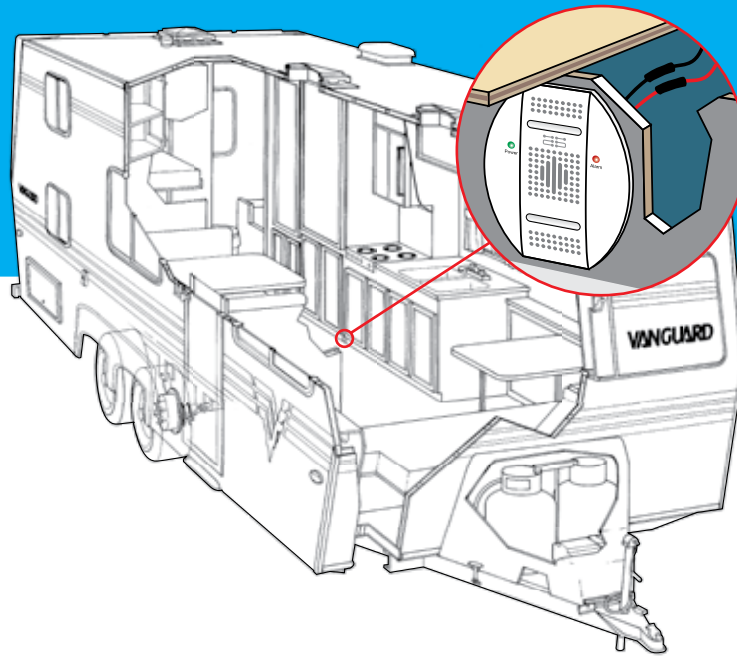
Installation & Operation

Electro Systems has made boats and recreational vehicles safer for over 25 years. We have a complete line of propane detectors for you to choose from.

To find out more about our products, ask your local dealer, or contact us. We'll be glad to send you our current information.

Where to Install

Since propane is heavier than air, the detector or sensors should be installed within 6" of the floor. Any leak that may occur will usually fall immediately to the floor and gather in the lowest area of your RV. The exception occurs when propane is discharged from cooking appliances. These usually mix the propane with air to facilitate combustion and this mixture can remain airborne for some time before sinking. Simply opening the door is often the best way to ventilate.



Choose Your Location

A good spot to install your detector is in the kick plate under your propane stove. This keeps it close to the floor, under an appliance, where a propane leak is likely to accumulate. Try to place it between appliances, where it's less likely to be kicked when you're cooking.

Connect the detector to your 12 volt power supply. Solder or crimp the connections and insulate.

Vacuum the grill monthly to ensure a free air flow.

Avoiding False Alarms

Because of the way the sensor works, propane detectors can also be triggered by almost any flammable vapour. These would include paints, solvents, hair spray and fuels to name a few. Keeping these substances away from your detector can minimize false alarms. For instance, if you enjoy painting your favourite wilderness scenic in oils, don't clean your brushes in the kitchen sink, where turpentine vapours could trigger a false alarm.

It's obvious when this occurs. Ventilating the area will usually correct the problem.

Legal Requirements

The USA now has mandatory legislation requiring every RV manufacturer to install propane detectors as original equipment and any used RV sold on a dealer's lot to be retrofitted with a detector if it doesn't already have one.

For more complete information on each of our propane detectors, including detailed operation and installation instructions, please see the product specification sheet for each model.



ELECTRO SYSTEMS

Electro Systems Inc.

#8-415 Dunedin St.

Victoria, BC

Canada V8T 5G8

T: 250.385.0911

toll free: 1.800.668.2254

F: 250.385.0733

toll free: 1.800.661.4977

E: info@es-web.com

www.es-web.com