



## Ever Wonder Why You Smell Gas But Your Gas Detector Doesn't?

It's very common for First Responders to encounter situations during a gas call where they smell explosive gas, but their gas detectors do not respond. The odor could be in the street or yard or inside the house. Both the homeowner and firefighter smell gas, but the detector does not pick it up. Why does this happen?

The short answer is that the level of odorant injected into the natural gas by the utility is at a level that is lower than the minimum detection range of the standard and most widely used four-gas meters. Most four-gas meters (MSA, SENSIT P400, Draeger, Scott, RAE, etc.) use a catalytic bead sensor to detect combustible gases. These are very good sensors for many applications, but they have a "blind spot for explosive gases." At low parts per million, catalytic bead sensors cannot distinguish between sensor "noise" and actual gas detection. To eliminate erroneous readings, software has been incorporated to prevent the meter from responding until concentrations reach about 2,000 to 4,000 parts per million. This causes the "blind spot" at low concentrations and is why the smell of gas may be evident before the detector responds.

This "blind spot" can be eliminated with the use of a detector with a metal oxide sensor, known as an explosive-gas detector. Good examples of this kind of detector are the SENSIT TKX, HXG-2d or HXG-3. Most gas utilities use an explosive-gas detector to find the smallest concentrations of natural gas, propane or other combustibles. Explosive-gas detectors react to combustibles about 10 times faster than typical four-gas meters with catalytic sensors. They react nearly instantaneously to combustibles in concentrations as low as 10 or 20 parts per million.

A better solution for the First Responder is to use both detectors in tandem on a gas call. The four-gas meter provides reliable readings for CO, O<sub>2</sub>, H<sub>2</sub>S, HCN and the higher concentrations of explosive gases, while the explosive-gas detector provides an instantaneous response to those low-level leaks.

In conclusion, 40% of gas calls are due to explosive gases, so the use of a standard four-gas meter combined with an explosive-gas detector will give a First Responder the most complete data to make the best and safest decision.