

Pro's & Con's of owning a Gas Detector

I have owned a multi gas detector for a few years now and have been asked many times over that time what are the pro's & con's to the amateur explorer of owning such a device. There is lots to take into consideration before you go out and spend your hard earned cash. Firstly you need a basic understanding of what a gas detector does and what you are getting for your money.

Basic understanding



Gas detectors come in all shapes and sizes from single gas to multi gas. But as a mine explorer you will need at least a 4 gas type for it to be any good and give you a good level of protection.

I'm going to base this understanding on one certain model that I have owned for several years, but bare in mind that all the big makes that you will see on the market today all work on the same principle and share the same basic functions. The BW Gas Alert Micro 4 gas model. Simultaneously displaying oxygen (O₂), Hydrogen Sulphide (H₂S), Carbon monoxide (CO) and combustibles present (methane etc). It also has a data logging function that logs the levels over time the unit is on. This is useful if you wish to produce graphs and tables of what your unit detected while it was on.

You will find that nearly all modern units have a self test. Verifying sensor circuitry battery integrity and audible/visual alarms. The other main functions you will commonly find on all units are LOW, HIGH, TWA and STEL alarms. TWA means time weighted average. And STEL, short-term exposure limit. In English TWA translates into how many parts per million or percent by volume it is reading. You have TWA alarms to tell you when you have hit a dangerously high or low level of gas or oxygen. The STEL alarm is there to tell you when you have hit the preset level of exposure over time. This will protect you from low level long term exposure to such gases as H₂S. High-output audible/visual alarm is also a feature that all detectors have. The BW units come with a tough rubber case (as most other makes do) protecting it from the elements. And all have at least a run time of 12 hours to cover a commercial shift.

Pro's & Con's

Now you understand what a gas detector is and what it does we can now look at the pro's and con's of owning one. The first thing I will say is that these are not toys but an expensive piece of measuring equipment, and you should think long and hard whether you want to pay the price for a piece of fancy bit of kit to hang on your belt. But also as you can imagine there is a lot of con's to owning one.

Pro's

- Will keep you informed of presence of gas or low oxygen levels. Noticed I have not said it will keep you alive, that is up to you! A good knowledge of the types of gases and what there effects are is essential. (Please refer to my article on mines gases).
- Calibrating can with a little technical knowledge be done by yourself if you obtain the correct equipment.
- Newer models are small and light you will not even know you are carrying one.
- Models that take AA batteries (or similar) are a god send and you not have to worry about recharging the unit.
- The only other pros are that you will look real cool but I'm not sure that's a pro!

Con's

- Units need calibrating on average every 6 months but some are 12 months
- Calibrating costs from £65 +vat and that will go up to around £100+v at if you have to send the unit by post.
- Calibrating equipment (if you choose to do it yourself) will cost you around £270 depending on make and model.
- New units cost anything from £500-£800 depending on spec and make
- Second hand units can be bought cheap but usually need calibrating or need new parts. And parts are not cheap and you may end up with a money pit or not even being able to get hold of the parts.
- Not as tough as they appear, even though most have a tough rubber case this will not protect it from mud and water (splash proof only)
- The new smaller units are easy to loose, and the older units are heavy, bulky, and clumsy to carry.
- Rechargeable units will need there docking station to charge, and this will be a problem for the average explorer who goes away for weekends or longer that do not have easy access to a power socket.

Hopefully this brief article has provided a basic understanding of what a gas detector can do, the benefits of owning one and some of the considerations you need to think of when planning on buying one.

A Gas detector will alert you to potential hazards be this low or high levels of gases. However a gas detector is no substitute for a good understanding of gases and their effects, and how you should act when encountering any of them.

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