USING THE AIRWATCH FOR CONTROLLING MACHINES

Application Note: 501-1

INTRODUCTION

How often do you need a manhole watch or a person just to watch over a machine with a portable gas detector in his hand, no matter if it is a generator, a welding machine or a compressor, just to shut it down in case of an emergency? How reliable is this person? Does he know how to react in case of an emergency and initiates the correct actions or is it more the type of worker, who becomes annoyed as soon as the alarm goes off and turns the device off? It happens due to human nature that sudden absence from their chores can take place, the AirWatch continues to work 24/7.

There are several applications with a demand for continuous machinery monitoring according to the EU directive and lone workers. Most important ones are propulsion machinery (steam turbines and diesel engines), auxiliary engines, compressors, pumps, heaters, generators and refrigeration systems. Also there are a few applications, which become easily a two-man-job just because someone has to ensure safety, for example watching a manhole.

ADDITIONAL SAFEGUARDING

The EU-OSHA (Occupational safety and health association) published an article which deals with the topic of “Safety of machinery and work equipment”. This article describes how machinery and work equipment exposes workers to multiple risks and how to minimize them as effective as possible. While obligations, formulated in Directive 2009/104/EC, consist just of taking necessary measures, the article advises using devices to take necessary actions. Therefore, it mainly refers to fixed detectors. But how to monitor during installing those fixed devices or if the application itself is just for a couple of days or months?

THE MACHINERY AIRWATCH

The AirWatch is a semi-fixed gas detector with the main purpose to monitor machines, to use in safe area zones. As soon as the AirWatch detects a hazardous concentration of gas, it will immediately take the first necessary action, whether it should get the man at the winch out of the confined space area or shut down the breathing air compressor or generator, due to inappropriate input. You decide.

Figure1: Generator

According to the article of the EU-OSHA the AirWatch provides a function, which makes it impossible to fail: As soon as a machine is turned off, because of a hazardous gas concentration, the AirWatch continues to monitor the area at a pre-programmed interval and will not let you turn on the corresponding machine, unless it is safe again. Where diffusion gas detectors are clearly handicapped, because their filters get dirty, the AirWatch brings valuable advantages due to its pumped design: Although the AirWatch uses filters itself, you can exchange it within minutes, while diffusion models have to be unscrewed. Besides that, there are some environments which are toxic for catalytic sensors, for example at welding areas. The AirWatch is a pumped model, which gives the opportunity to place it outside

of the toxic area and measure at the risk spot with a special filter. Also if you are concerned about the lifetime of the pump, don't worry, because it comes with a 2-year warranty.

There is a wide variety of sensors available for the AirWatch, including O2, LEL, CO, H2S and CO2 and you can even request special sensors for your specific demand and we will find the best suitable version for it.

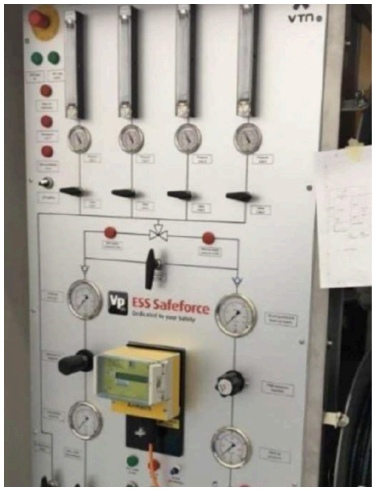


Figure 2: The AirWatch in action

OPTIONAL EXTRAS FOR THE AIRWATCH

If those arguments have not convinced you by now, maybe the optional extras for the AirWatch will: The optional data logger can be set to store all measurement data between one and 600 seconds.

The optional AirWatch Beacon Sounder has 38 multi- colour LEDs, showing green when on, orange when there is a technical issue (e.g. pump blocked), and in case of an alarm the BeaconSounder will turn into a flashing red with a penetrating sound, so that it is not able to not notice the alarm. Also the Beacon Sounder is fully programmable, so that you can configurate it for your demands.

The optional Wireless function allows the AirWatch to communicate to another AirWatch within a 300m distance and as soon as one AirWatch detects an alarm, the beacon sounders of the other AirWatches light up blue. This ensures that no one is getting into the danger zone, when there is an alarm.

The AirWatch offers even two solutions for monitoring a whole machinery area, If you choose the Wireless function:

You can either put a single AirWatch onto every machine and connect them with those machines to shut them off in emergency case or you can build up a fenceline within the production hall or even outside, if your application requires that. For this scenario, where a power supply from the monitored machinery is not possible or wanted, the AirWatch offers a 8-day- battery-trolley, called GasPod or a solar panel solution, which runs for weeks or months.

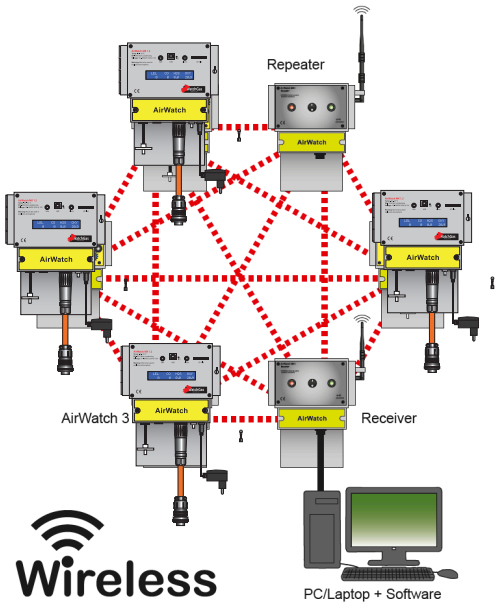
Optional there is an AirWatch Repeater available, which allows to bypass a higher distance without an AirWatch itself. Also, the AirWatch Receiver allows the man-in- charge to monitor every AirWatch on one personal computer with the monitoring Software, which is provided for free with the Receiver.

Figure 2: The AirWatch in action

USING THE AIRWATCH FOR CONTROLLING MACHINES

ADVANTAGES OF THE AIRWATCH

- Semi-fixed Multi-Gas Detector
- Pump comes with 2 year-warranty
- Easy to install with magnets
- No need of additional power supply
- Fail-safe design
- Turns off machines before an incident happens
- DataLog available
- BeaconSounder available
- Wide variety of sensors available
- Wireless function available
- Suitable for Fenceline-monitoring
- GasPod or Solar-Panel version for optional Power supply available



AirWatch mesh network with one receiver, one repeater and four AirWatches.