

Accurately measuring Hydrogen levels during Power Station generator purging

Overview :

All Generators in power stations over 200mW are filled with hydrogen to improve the efficiency. The Hydrogen reduces friction losses by lowering the drag of the rotor inside the generator. An additional benefit is that hydrogen has an extremely good thermal conductivity which assists in the cooling of the alternator.

When maintenance and inspection of the generator is required the hydrogen is purged using an inert gas, Usually Carbon Dioxide or Nitrogen. Due to its extremely flammable nature however it is important to measure the amount of hydrogen present during purging to ensure the system is safe before inspection and maintenance can begin.

It is important therefore to use a Gas detector that can accurately measure Hydrogen down to low % volume levels in an inert environment

Solution :

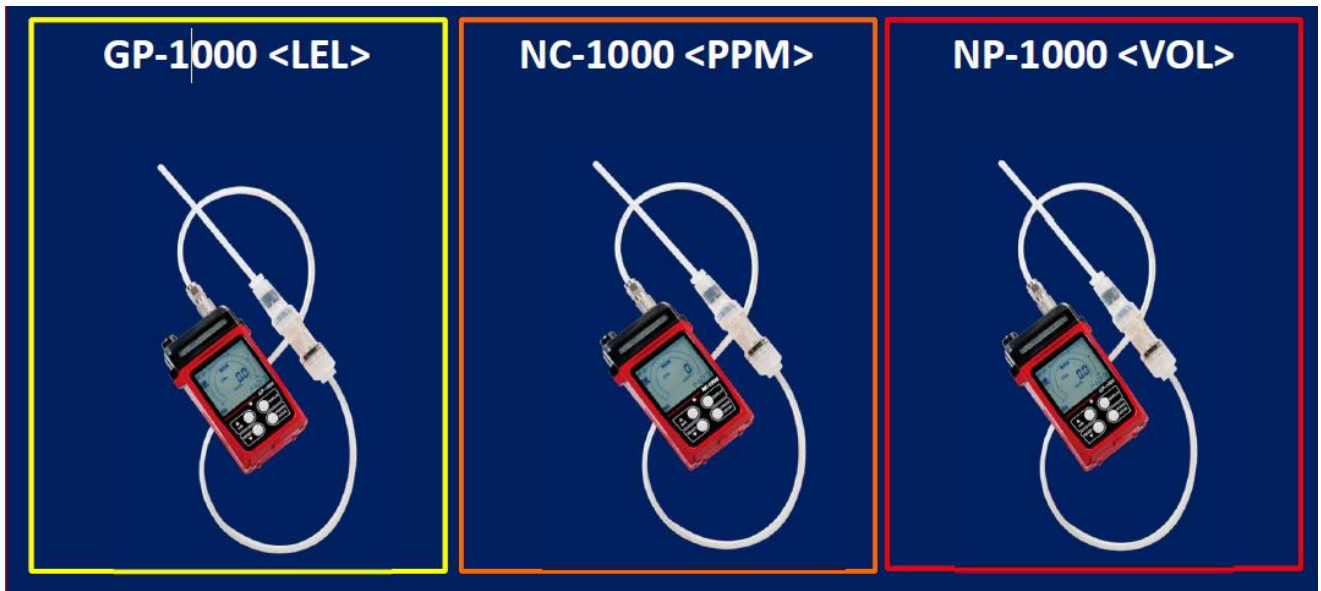
The NP-1000-H2 from Riken Keiki is a Portable single gas detector Calibrated specifically for Hydrogen It features datalogging, pump boost, ingress proof rating IP67 and is Intrinsically safe with ATEX approval for Hazardous Areas. Ideal for monitoring the presence of Hydrogen, in the range of 0-10% Volume or 0-100% Volume , during generator purging.



Key Features :

- Base Gas is Selectable (N2, CO2 or Air)
- Calibrated to Hydrogen for increased accuracy
- Pump Boost (Normal 300ml/min Boost 600ml/min) for use with long sample lines.
- Auto range switching (Automatically switch over from “Low-range” to “High-range” and “High-range” to “Low-range”
- Continuous operation for 30 hours

The Riken Keiki 1000 series for combustible gases



Portable single gas detectors for combustibles with attractive features including: direct reading of 25 target gases (5 for NP-1000) , datalogging, pump boost, ingress proof rating IP67, Intrinsically safe with ATEX approval for Hazardous Areas.

A safety rating of Exia II CT4 allows users to detect a gas at hazardous area Zone 0 where an explosion hazard always exists. Calibration is to one gas only (Methane or ISO-Butane), then any one of 25 target gases can be selected by a simple button operation. Optional filters can be used with the standard gas sampling probe to remove Hydrogen sulphide (H₂S), or Silicone that would normally damage this type of catalytic sensor.

Key Features :

- Target Gas can be selected from a list of 25 Combustible gases (5 for NP-1000)
- Pump Boost (Normal 300ml/min Boost 600ml/min)
for use with long sample lines
- Probe and Teflon tube come as standard
- Continuous operation for 20-30 hours
- 2 way gas concentration display (Value & level indication)
- Intrinsic safety ex-proof
- IP 67 rating
- Data logger available
- 1st & 2nd gas alarm points
- Dual range (0-10%LEL / 0-100%LEL) (0-1000ppm / 0-10000ppm) (0-10% Vol / 0-100% Vol)