

K6050AP

Hydrogen Purity and Purge Gas Analyser

Designed for hydrogen cooled turbines in power stations.

- Proven sensor technology
- Measures all gas purge stages
- Weatherproof to IP65
- Reliable, simple to use
- Data logger output
- Ideal backup for fixed analysers

Applications

- Hydrogen cooled turbo-generators
- Hydrogen cooled synchronous compensators
- Analysers available for CO₂ or N₂ purging



The K6050AP analyser has been designed specifically for use in power stations. Modern turbo-generators produce a great amount of heat and the most efficient way of removing this heat is by enveloping the parts in hydrogen, because hydrogen has seven times the cooling capacity of air. It is possible for air to leak into the system, so it is essential to monitor the hydrogen purity for both efficiency and safety- as a hydrogen/air mixture will produce a potentially explosive atmosphere. When maintenance needs to be carried out, the atmosphere inside the turbo-generator has to be replaced with air. This cannot be a direct replacement because of the explosive mixture that would be produced in the process. Instead, an inert gas, usually carbon dioxide, is used to purge the hydrogen, then air is introduced to purge the carbon dioxide. The same procedure must be followed in reverse when replacing the hydrogen atmosphere.

The K6050AP analyser has three ranges to monitor the hydrogen purity and the two stage gas-purge cycles. A single katharometer sensor, based on Hitech's proven thermal

conductivity technology, is calibrated over the three ranges. The inherent stability of this system means infrequent calibration and a low cost of ownership. There are no consumables and no spares are required for the first two years of operation.

The K6050AP portable analyser is a complete instrument in a rugged case. It is the portable equivalent of our fixed version K1650AP analyser, having rechargeable batteries (supplied) capable of lasting for a full purge cycle. A sample pump, 0 to 1V recording output, a flowmeter and needle valve are all included as standard.

Sample conditioning filters are available, if required, to remove potential oil mist and water vapour from the sample prior to analysis.

For sites using nitrogen as the purge gas (instead of CO₂) please contact Hitech for an alternative solution.

All your turbine gas analysis requirements in one package from the katharometer experts.

K650AP Hydrogen purity and purge gas analyser

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SPECIFICATION

Display

Dot-matrix LCD showing two or four lines of alphanumeric characters

Ranges

80 to 100% H₂ in Air

0 to 100% H₂ in CO₂

0 to 100% CO₂ in Air

Accuracy

±1% of span (typically)

Stability

Better than 1% fsd/month

Resolution

0.1% Hydrogen ranges

0.5% CO₂ in Air

Speed of response (typical)

T90 < 5secs.

Sample connections

Compression fitting suitable for 0.25 inch (6mm) OD tubing

Sample pressure

Pump off: +6 barg maximum

Pump on: -100 mbarg minimum

Sample flow

100 to 300ml/min for optimum performance

Sample temperature

-5°C to +40°C (non-condensing)

Outputs

0 to 1V analogue

Ambient temperature

-5°C to +40°C

Battery capacity

6 hours

Battery chargers (supplied)

Mains: 110/240V ac

Vehicle cigarette lighter: 12V DC @ 1.25A max.

Case

Tough IP65 co-polymer resin case with carrying handle

Dimensions

338mm wide x 295mm deep x 162mm high with handle parked in forward position

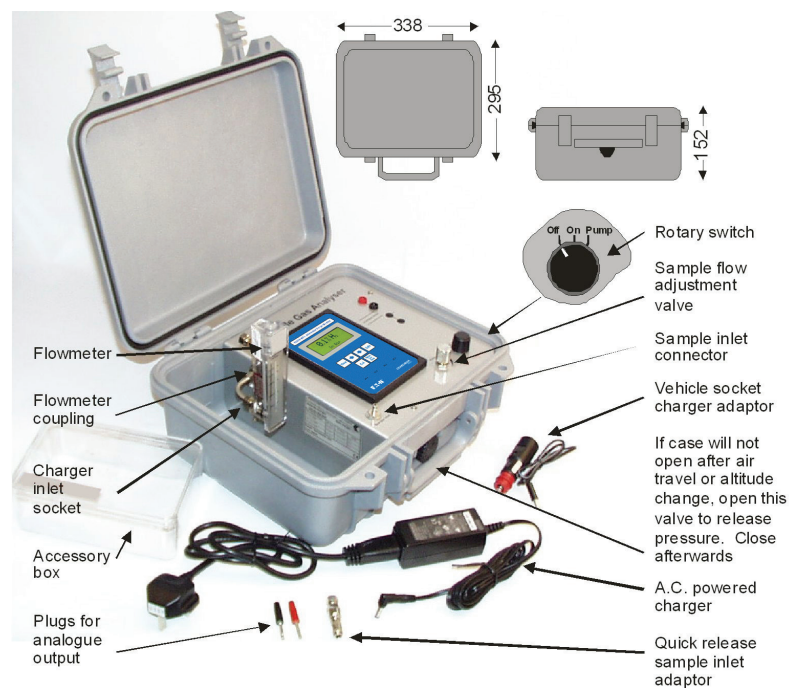
Weight

5.2kg approximately

ORDERING INFORMATION

Part no.	Cell Type	Measurement range
819-9001	K6050AP	Hydrogen-purity and purge gas analyser
Options		
850-0011		Oil-mist coalescing filter - complete with tube fittings

Accessories and dimensions



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