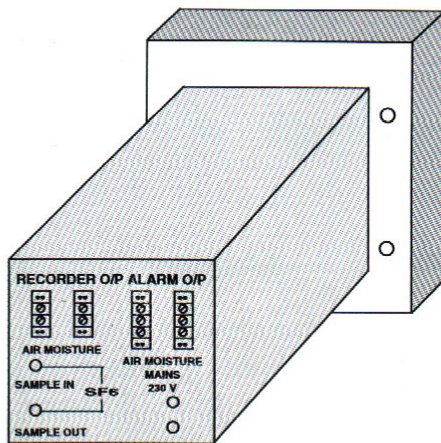
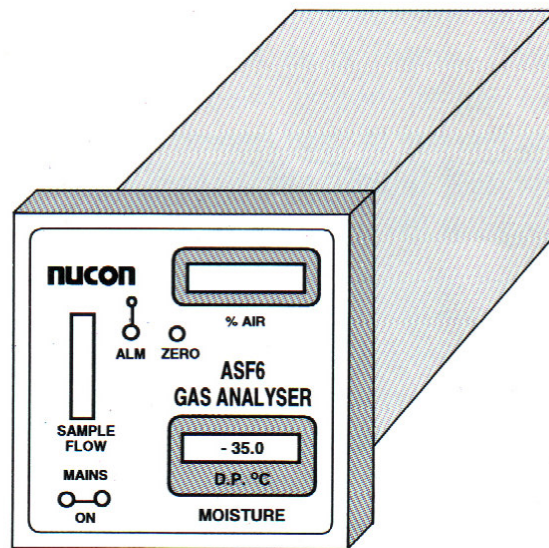


## GAS ANALYSER FOR AIR AND MOISTURE

SF<sub>6</sub> is extensively used in Circuit Breakers for its quenching property. Ingress of Atmospheric Air and Moisture can lead to deterioration of performance and can also be dangerous at certain levels. Nucon ASF6 Analyser is designed to detect Air% and Moisture Dew Point of SF<sub>6</sub> gas by taking a tapping of pressurised gas from circuit breaker and running through the analyser, passing in the moisture and air detectors in series. The instrument can be used for both Online and Portable applications and is supplied complete with leather case.

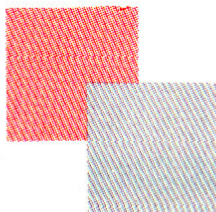
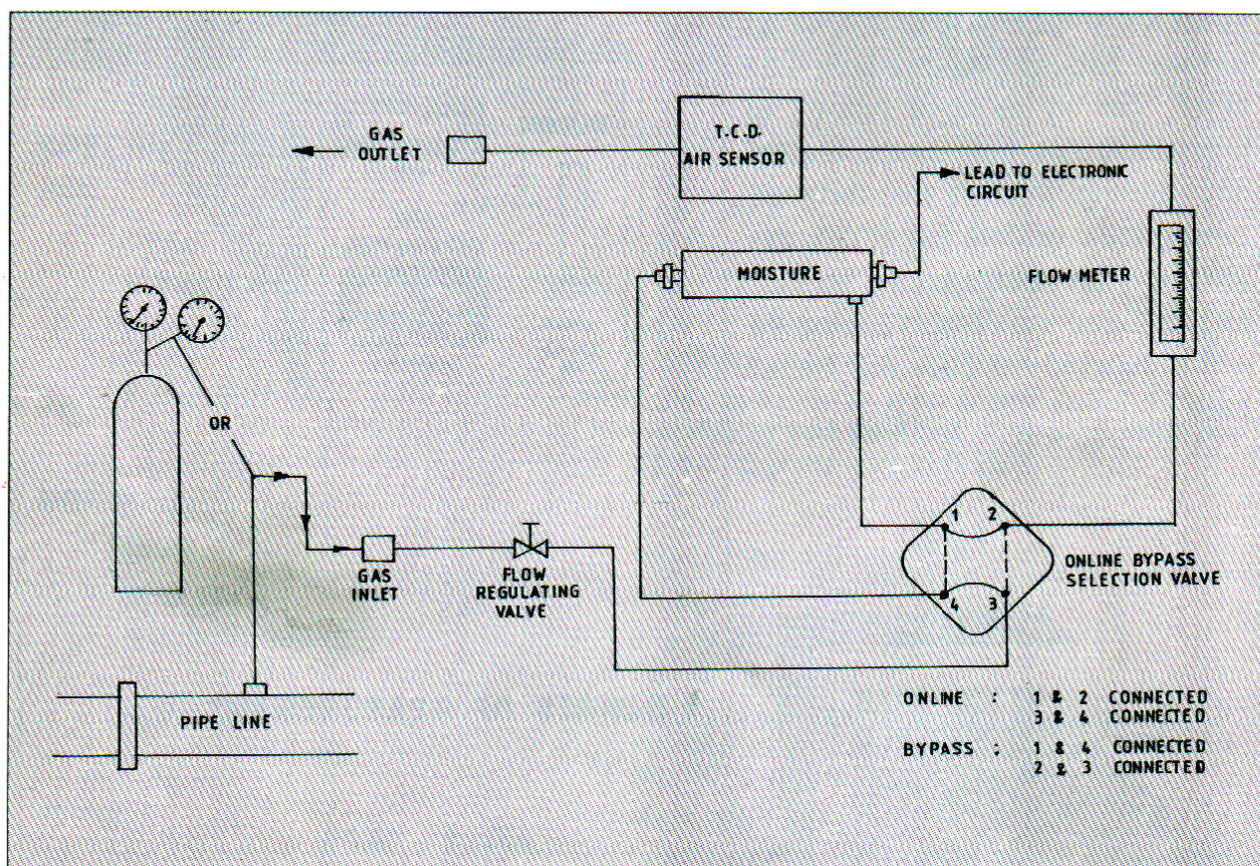
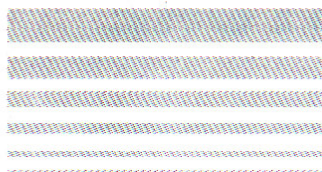


### RANGES OF MEASUREMENT

AIR: 0 - 10.0%

MOISTURE: - 40 to 0 degree C

The Analyser monitors on individual Digital Displays Air and Moisture content in SF<sub>6</sub> in single pass. The back of the instrument has one eighth inch Swagelok 'Gas In' and 'Gas Out' Ports. The instrument has a bottom hinged front plate with lockable Top Screw. When the front plate falls, the inside is exposed. It has a Flow Control Valve to adjust flow to about 450 ml/min as indicated on Flow Meter (Rotameter). There is a by-pass Valve which can be placed in PULL or PUSH condition. In Pull condition the gas goes around the Moisture Sensor (Bypass) while the Sensor is locked in its own pocket and the gas quality does not affect it. In PUSH condition

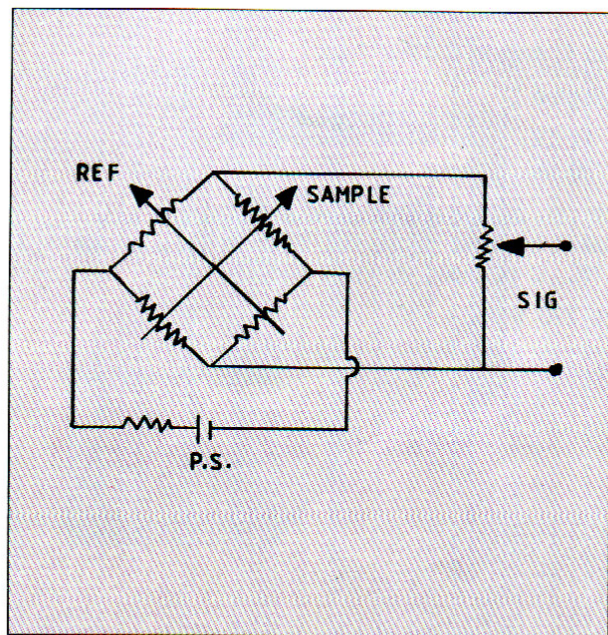
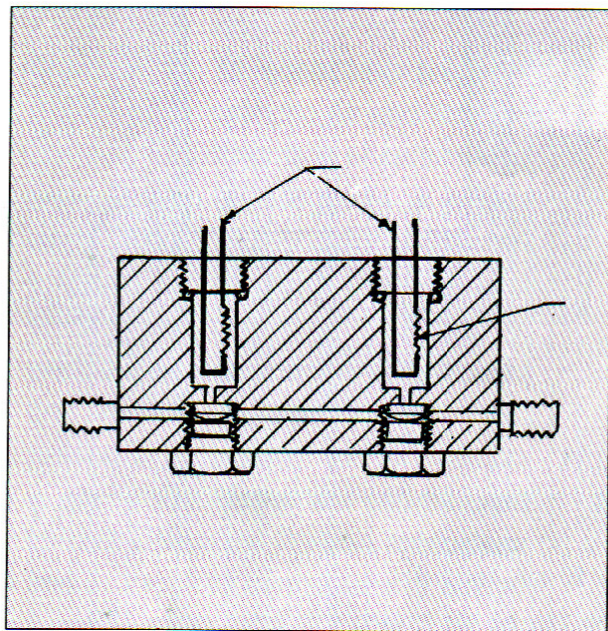


(Online) the gas goes over the Moisture Sensor and its Dew Point is measured. This Valve has been provided to avoid exposure of the sensor to changeover gases/air which may contain sensor housing, sensor body and takes very long time to dry (sometimes days). The Air Sensor is placed after the Moisture Sensor (in Series) and gas always passes over it on its way to GAS outlet. RECORDER OUTPUT and RELAY OUTPUT (NO, C, NC contacts) are provided on the back of the instrument.

## BACKGROUND AND PRINCIPLE

Nucon is a speciality Analytical Instruments company with very wide experience in the field of Analysis. Model ASF6 monitors % Air and D.P. degree C. The principle of measurement of Air is Thermal Conductivity which is a basic property of gas related to ability to conduct heat. At one end are gases like Hydrogen and Helium that are good conductors; at other end are Nitrogen, Argon and Carbon Dioxide that do not conduct well. In the Reference Channel a pure gas is introduced while the sample Channel carries the Sample. The signal produced is proportional to the difference in Thermal Conductivity between the two Channels. It is possible to carry out Gas purity Checks, Mixtures composition and also safety monitoring. These analysers use this basic property of gases and measure the concentration of air in  $SF_6$  by comparing the sample to reference in a sealed air reference. Stainless Steel Detector Block and Gow Mac, U.S.A. TCD Filaments are used in a high sensitivity Four Filament Wheatstone Bridge configuration followed by Precision High Gain Amplifier. An advanced design ensures virtually no effect of flow rate changes. State-of-the-art technology is used to achieve Ease of operation, Accuracy and Reliability.

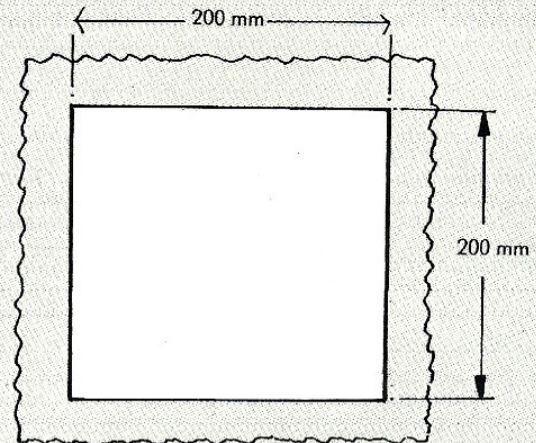
The principle of measurement of Dew Point is a Hygroscopic Sensor whose impedance varies with Dew Point which is monitored on a Digital Display in - degree C. Recorder output and Setable Alarm output is provided.



## FEATURES

- ◆ Reliable TCD Design for Air
- ◆ Fixed Reference.
- ◆ Use leads to Safe circuit breaker operation.
- ◆ Can be used as Panel Mounting instrument or Portable.
- ◆ No consumables used.
- ◆ Monitors Air and Moisture on two digital displays in single pass

## SUGGESTED PANEL CUTOUT



## SPECIFICATIONS

### AIR

RANGE	: 0-10.0%
RESOLUTION	: 0.1%
RECORDER OUTPUT	: 0-1 V DC Standard; 4 to 20 mA optional
ALARM OUTPUT	: Alarm can be set anywhere in entire range. LED indication on front panel and 1P2W Relay terminals NO, NC, C provided on back panel.

### MOISTURE

RANGE	: -40 to 0 degree C Dew Point
RESOLUTION	: 0.1 degree C
RECORDER OUTPUT	: 0 to 1V DC 4 to 20 mA optional
ALARM OUTPUT	: Alarm can be set anywhere in entire range. LED indication on front panel and IP2W Relay terminals NO, NC, C provided on back panel.

### POWER

: Mains 220 V A.C.

Manufactured by :



## NUCON ENGINEERS

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