

## 7000SB INFRA RED ANALYSER SPECIFICATION

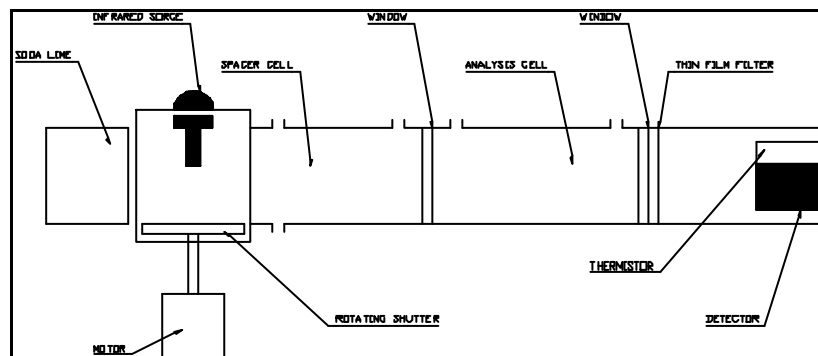


Non-dispersive infrared gas analysis is an established technique for the quantitative determination of gases and vapours possessing heteroatomic molecules. The method has the advantage of being continuous, selective, leaving the sample unaffected and offers a wide range of sensitivity. It is free from hysteresis and poisoning.

The single beam analysers in the Signal 7000 series offer a range of general purpose instruments suitable for all applications where high sensitivity is not required but reliable readings are essential.

The gas sample to be measured passes through an analysis cell sited between a hot wire radiation source and a solid-state detector. The gas being measured absorbs energy from the source thus reducing the amount of radiation reaching the detector. An optical filter ensures that the detector responds only to the gas to be measured. A rotating shutter interrupts the radiation from the source so that the detector sees a reference signal on alternate pulses.

Gas Measured	Minimum range
Carbon Dioxide	1000ppm
Carbon Monoxide	2%
Methane	1%
Propane	1%
Sulphur Hexafluoride	3000ppm
Ammonia	1%
Nitrous Oxide	2000ppm



**Measurement technique**

Non-dispersive infrared absorption with solid state detector. Single beam optics.

**Range of measurement**

Up to 100% for gases and saturation concentration for vapours. One or two analysis cells can be fitted.

**Resolution**

Display: 0.5% fsd  
Output:  $\leq 5\%$  fsd

**Repeatability**

$\pm 1\%$  fsd

**Noise**

$\leq 0.5\%$  fsd

**Linearity**

$\leq 0.5\%$  fsd

**Zero stability**

$\leq 2\%$  fsd over 24 hours (\*)

**Span stability**

$\leq 0.5\%$  fsd over 24 hours (\*)

**Cell response:**

Typically 4 seconds to  $T_{90}$  dependent on cell size and flow rate.

**Temperature effect on zero**

$\pm 0.25\%$  fsd per  $^{\circ}\text{C}$

**Temperature effect on span**

$\pm 0.25\%$  fsd per  $^{\circ}\text{C}$

**Flow rate**

Typically 0.2 to 1  $\text{l min}^{-1}$

**Flowmeter**

0.2 to 2  $\text{l min}^{-1}$

**Sample pump:**

2  $\text{l min}^{-1}$  standard option

**Electrical connections**

9 way D type plug for the RS 232C link  
1/4" jack socket for each analogue output  
Screw terminals for other inputs/outputs

**Gas connections**

1/4" compression fitting rear panel entries

**Installation**

19" rack mounting with optional bench case

**Case material**

Steel and aluminium

**Operating conditions**

0 to 40 $^{\circ}\text{C}$  ambient temperature  
0 to 95% relative humidity

**Gas conditions**

0-50 $^{\circ}\text{C}$ , non condensing at analyser entry

**Power requirements**

Nominal  
110V/220V/240V/50-60Hz  
- user selectable  
Frequency independent  
120VA maximum  
3 pin IEC connector supplied

**Dimensions (overall):**

180 x 485 x 420 mm - 19" rack  
H x W x D  
205 x 520 x 430 mm - bench case  
470 x 630 x 590 mm - (packed for export)

**Weight**

20 kg  
25 kg - (packed for export)

(\*) *Not applicable if auto zero and auto span options are fitted*