

# IR600 series infrared analysers

Single gas analysers for methane, carbon dioxide or carbon monoxide

- Methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>), or carbon monoxide (CO)
- Wall mounting
- Choice of ranges
- Integral sample pump
- Non-depleting sensor, no consumables
- Dual wavelength for stability and accuracy



## Applications

- Gas mixing
- Biogas monitoring
- Composting
- Fermentation
- Respiration studies
- Gasification
- Food processing

The **IR600 series analysers** combine established NDIR sensor technology with Hitech's application know-how to measure methane, carbon dioxide and carbon monoxide in a variety of applications. The easy to use analysers come as a complete package with the in-built pump, on-board filter, temperature and pressure correction over ambient ranges making the analyser 'plug-and-play' for a wide range of uses. The non-depleting sensor has a long life and infrequent calibration requirement resulting in a low cost of ownership.

**Methane analysers (CH<sub>4</sub>)** are available with 0-5%, 0-10%, 0-30% and 0-100% ranges for process control and general purpose applications. A special 0-100% version is available for typical biogas backgrounds as seen in landfill gas, biogas and anaerobic digester applications.

**Carbon dioxide (CO<sub>2</sub>) analysers** are available in 7 ranges from 0-1000ppm up to 0-100% ranges for composting, brewing, gas mixing, food processing and general purpose applications. A special 0-100% version is available for typical biogas backgrounds as seen in landfill gas, biogas and anaerobic digester applications. A special 0-30% version is designed for argon backgrounds as found in welding gas applications.

**Carbon monoxide (CO) analysers** are available with 0-3%, 0-10%, 0-30% and 0-100% ranges for general purpose use. Typical applications include gas mixing and blending.

**Nitrous oxide (N<sub>2</sub>O), butane (C<sub>4</sub>H<sub>10</sub>) and hexane (C<sub>6</sub>H<sub>14</sub>) analysers** are also available in ppm ranges for special purpose applications. Please enquire, stating your full process conditions, for more details on these products.

**The IR600 series all feature outputs and alarms.** There is a choice of milliamp outputs, fully programmable over the range of the analyser. There are two programmable, set-point relay alarms for concentration and one fault relay alarm. The on-board filter will withstand normal conditions but for 'dirty' or wet applications, additional external in-line filters can be added. Hitech are always pleased to advise on bespoke systems according to specific application requirements.

**The internal pump enables the analyser** to be sited up to 30 metres from the intake. Routine maintenance is limited to occasional filter replacement and gas test or calibration. Both are simple, quick procedures making the analyser versatile and easy to use.

## SPECIFICATION

### Gas measurement ranges

#### Methane:

0-5%, 0-10%, 0-30%, 0-100%  
0-100% in biogas background

#### Carbon Dioxide:

0-1000ppm, 0-5000ppm  
0-1%, 0-5%, 0-10%, 0-30%, 0-100%  
0-30% in argon background  
0-100% in biogas background

#### Carbon Monoxide:

0-3%, 0-10%, 0-30%, 0-100%

Consult Hitech for other gases and ranges

### Stability

±2 % f.s.d./year

### Accuracy

±2.5% of f.s.d.

### Repeatability

±2 % @ span

### Speed of response

T90: 30 seconds (typ.)

### Sample temperature range

0°C to +40°C (non-condensing)

### Sample connections

Inlet and outlet: Captive seal  
compression suitable for 0.25inch  
(or 6mm) o.d. tube

### Analogue output

4-20mA / 0-20mA  
User-programmable.

### Output (alarm)

Two set-point relay alarms  
One flow/fault relay alarm

### Ambient operating temperature range

0°C to +40°C,  
(0-90% R.H. non-condensing)

### Power

110V or 220V AC (nom.), 50/60Hz  
20VA requirement

### Enclosure details

**Protection:** IP54

**Net weight:** 3 kg

**Dimensions (mm):** 267w x 258d x 148h

### Spares

422-4035 Internal filter

### Option

SB100 Audio and visual alarm  
(see photograph)

## ORDERING INFORMATION

Part no	Gas	Range	Background	Description	
IR600	Methane	0-5% *	General	Wall mount, infrared gas analyser  Power: 110V or 220V AC 50/60 Hz  Supplied complete with internal pump, low flow alarm, alarms, analogue outputs and internal filter	
			0-10%		General
			0-30%		General
			0-100%		General
			0-100%		Biogas
	Carbon Dioxide	0-1000ppm †	General		
		0-5000ppm	General		
			0-1%		General
			0-5%		General
			0-10%		General
			0-30%		General
			0-30%		Argon
			0-100%		General
			0-100%		Biogas
Carbon Monoxide	0-3%	General			
		0-10%	General		
		0-30%	General		
		0-100%	General		
		0-100%	General		

\* stability ±3%; accuracy ±3% (includes cal. gas tolerance of ±1%)

† stability ±180ppm over 12 months; accuracy ±5.5% of f.s.d.; repeatability at span ±4.5%



**SB100 - optional audio-visual alarm**