Stand-alone type
Infrared Gas Analyzer

4-component analyzer
Type: ZRJ Standard type

Simultaneous and continuous measurement of gas concentration of up to 4 components out of NOx, SO2, CO, CO2, CH4, and O2

- Ideal for combustion control of various industrial furnaces
  - NO : 0 to 500ppm  50ppm
  - SO2 : 0 to 500ppm  50ppm
  - CO : 0 to 200ppm  100%
  - CO2 : 0 to 500ppm  100%
  - CH4 : 0 to 1000ppm  100%
  - O2 : 0 to 5%  25%

Simple operation allowed by easy-to-see large LCD

3-component display

5-component display

5-component analyzer
Type: ZKJ High performance type

Simultaneous and continuous measurement of gas concentration of up to 5 components out of NOx, SO2, CO, CO2, CH4, N2O, and O2

- Ideal for measurement of low-concentration components
  - NO : 0 to 50ppm  5000ppm
  - SO2 : 0 to 50ppm  10%
  - CO : 0 to 50ppm  100%
  - CO2 : 0 to 20ppm  100%
  - CH4 : 0 to 200ppm  100%
  - N2O : 0 to 200ppm  2000ppm
  - O2 : 0 to 5%  25%

- Arbitrary range setting is allowed within specified range.

Stand-alone type
Infrared Gas Analyzer

Infrared Gas Analyzer

Type: ZKJ High performance type

Menu screen

Alarm setting screen

Range select screen

Fuji Electric Co., Ltd.

ECNO:325c
**Principle**
The amount of infrared ray absorbed in the measurement cell is detected with a mass flow sensor.

**Example of gas sampling system configuration**
(For measurement of ambient gas of heat treat furnace)

**General Specifications**

<table>
<thead>
<tr>
<th>Measurement principle</th>
<th>NOx, SO₂, CO₂, CH₄: Non-dispersive infrared ray system (single-beam) O₂: Paramagnetic type (built in), galvanic cell type (built in), or zirconia type (Type ZFK7, Separately installed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured component</td>
<td>NO: 0 to 500ppm-------5000ppm SO₂: 0 to 500ppm-------5000ppm CO₂: 0 to 200ppm-------100% CH₄: 0 to 1000ppm-------100% O₂: 0 to 5%-------25% (2-range switching, Maximum range ratio 1:5, O₂ excluded)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.5%FS</td>
</tr>
<tr>
<td>Linearity</td>
<td>±0.1%FS or lower</td>
</tr>
<tr>
<td>Zero drift</td>
<td>±2.0%FS or lower/week</td>
</tr>
<tr>
<td>Span drift</td>
<td>±2.0%FS or lower/week</td>
</tr>
<tr>
<td>Gas extraction volume</td>
<td>1L/min: ±0.5L/min.</td>
</tr>
<tr>
<td>Response time</td>
<td>90% response from gas inlet: 15 sec. or shorter (2-component measurement)</td>
</tr>
<tr>
<td>Output signal</td>
<td>4 to 20mA DC or 0 to 1V DC (Max. non-insulated output point: 8) Instantaneous output value (measured gas concentration of each component) Instantaneous output value after O₂ correction, Average output value after O₂ correction, Average O₂ output Permissible load resistance: 550Ω or lower (4 to 20mA DC), 100kΩ (0 to 1V DC)</td>
</tr>
</tbody>
</table>

**Zirconia type O₂ Sensor**
Type: ZFK7

**Mass flow sensor**
The low impedance sensor has high noise immunity. The sensor with no movable parts has high resistance to vibration, and thus can be used semipermanently. Infrared ray absorption by measured gas component is converted into electric signals.

**Standard measured gas conditions for gas analyzer**

- **Temperature**: 0 to 50°C
- **Pressure**: 10kPa or lower (The gas outlet should be at atmospheric pressure.)
- **Dust**: 100μg/Nm³ or lower with particle size of 1μm or lower
- **Mist**: No mist allowed.
- **Moisture**: Saturated at 2°C (No condensation allowed.)
- **Corrosive component**: 1ppm or lower
The amount of infrared ray absorbed in the measurement cell is detected with a mass flow sensor.

**Example of gas sampling system configuration**

(For measurement of exhaust gas from boilers and refuse incinerators)

**Zirconia type O₂ Sensor**

Type: ZFK7

**General Specifications**

- **Measurement principle**: NOx, SO₂, CO, CO₂, CH₄:
  - Non-dispersive infrared ray system (Double-beam)
  - O₂: Paramagnetic type (built in) or zirconia type (Type ZFK7, Separately installed)

- **Measured component**:
  - NO: 0 to 50ppm ----- 5000ppm
  - SO₂: 0 to 50ppm ----- 10%
  - CO: 0 to 50ppm ----- 100%
  - CO₂: 0 to 20ppm ----- 100%
  - CH₄: 0 to 200ppm ----- 100%
  - N₂O: 0 to 200ppm ----- 2000ppm
  - O₂: 0 to 5% ----- 25%
  - (2-range switching, Maximum range ratio 1:5, O₂ excluded)

- **Repeatability**: ±0.5%FS (±1%FS for concentration of less than 50ppm)
- **Linearity**: ±1.0%FS or lower
- **Zero drift**: ±1.0%FS or lower/week
- **Span drift**: ±2.0%FS or lower/week
- **Gas extraction volume**: 0.5L/min. ±0.2L/min.
- **Response time**: 90% response from gas inlet: 60 sec. or shorter
- **Output signal**: 4 to 20mA DC or 0 to 1V DC (Max. non-insulated output point: 12)

**External contact input**: No voltage contact
- Auto calibration start, Average value reset, Range selection, Output hold, Pump ON/OFF

**Contact output**: Range identification of each component, Instrument error, Calibration error, Auto calibration in progress, Pump ON/OFF, CO peak count alarm, Instantaneous value concentration alarm for each component, Power OFF

**Communication function**: RS-232C (MODBUS) option

**Auto calibration function**: Auto zero and span calibration (Calibration cycle settable)

**Display**: LCD with backlight
- Instantaneous value of each component, Instantaneous value after O₂ correction, Average value after O₂ correction, Average O₂ value, CO peak count
- Parameter setting display (English or Japanese can be selected.)

**Outside dimension, weight**: 177 (H) × 483 (W) × 578 (D) mm, About 22kg

**Power supply voltage**: 100 to 240V AC, 50/60Hz, 250VA

**Standard measured gas conditions for gas analyzer**

- **Temperature**: 0 to 50°C
- **Pressure**: 10kPa or lower (The gas outlet should be at atmospheric pressure.)
- **Dust**: 100μg/Nm³ or lower with particle size of 1μm or lower
- **Mist**: No mist allowed.
- **Moisture**: Saturated at 2°C (No condensation allowed.)
- **Corrosive component**: 1ppm or lower