

PARAMAGNETIC OXYGEN ANALYZER

DATA SHEET

ZKG

This product is a dumbbell type paramagnetic oxygen analyzer. Because this analyzer is based on that the magnetic susceptibility of oxygen gas is larger than coexisting gases, stable measurement is ensured unaffected by coexisting gases. The detector does not have a heating part such as heater. Therefore, this analyzer is suited for measuring the oxygen concentration in flammable gas. Further, running cost can be saved since reference gas is not required.

FEATURES

1. Since reference gas is unnecessary due to use of a dumbbell type paramagnetic system, this analyzer will not entail an additional running cost.
2. The principle of measurement is dependent on the strong magnetic property of oxygen molecules. Therefore, measurement is almost unaffected by other molecules weaker in magnetic property than oxygen.
3. Suited for measuring oxygen in flammable gas.
4. Small-sized and easy to handle.
5. Usable with a wide range of power supplies.
6. Output is linear.

SPECIFICATIONS

Measuring range: 0 to 10, 21, 25, 50, 100% O₂

Number of ranges: 1 or 2 ranges (selectable by code symbol)

Measuring system: Paramagnetic (dumbbell type)

Output signal: One of the following signals (selectable by code symbol)
 4 to 20 mA DC (load resistance 550 Ω max.)
 0 to 1 V DC (permissible load resistance 100 kΩ max.)
 0 to 10 mV DC (permissible load resistance 100 kΩ max.)

Repeatability: Within ±0.5% of full scale

Linearity: Within ±1.0% of full scale

Zero drift: Within ±2.0% of full scale/week

Span drift: Within ±2.0% of full scale/week

Response time: Within 15 sec (90% response)

Flow rate of sample gas: 0.5 L/min ± 0.2 L/min

Pressure loss: Approx. 0.3 kPa (at sample gas flow rate 0.5 L/min)



Flow rate of purge gas (option):

1 L/min, N₂ or air (flowed for purging corrosive ambient gas)

Power supply: 100 to 240 V AC, 50/60 Hz

Power consumption:

Approx. 35 VA

Ambient temperature:

0 to 45°C

Ambient humidity:

Less than 90% RH

Warm-up time: Approx. 30 minutes

Materials of gas-contacting parts:

SUS304, SUS316, fluororubber, borosilicate glass, Electroless Nickel, platinum, platinum/iridium alloy, PP, Toaron, PVDF (polyvinylidene fluoride), PPS resin

Interference due to coexisting gas:

Interfering gas	Interfering gas concentration	Interfering concentration
NO	2000ppm	0.15vol% O ₂ max.
CO	100vol%	0.1vol%O ₂ max.
CO ₂	100vol%	- 0.35vol%O ₂ max.
CH ₄	100vol%	- 0.25vol%O ₂ max.

Enclosure: Steel casing, for indoor application, flush mounting on panel

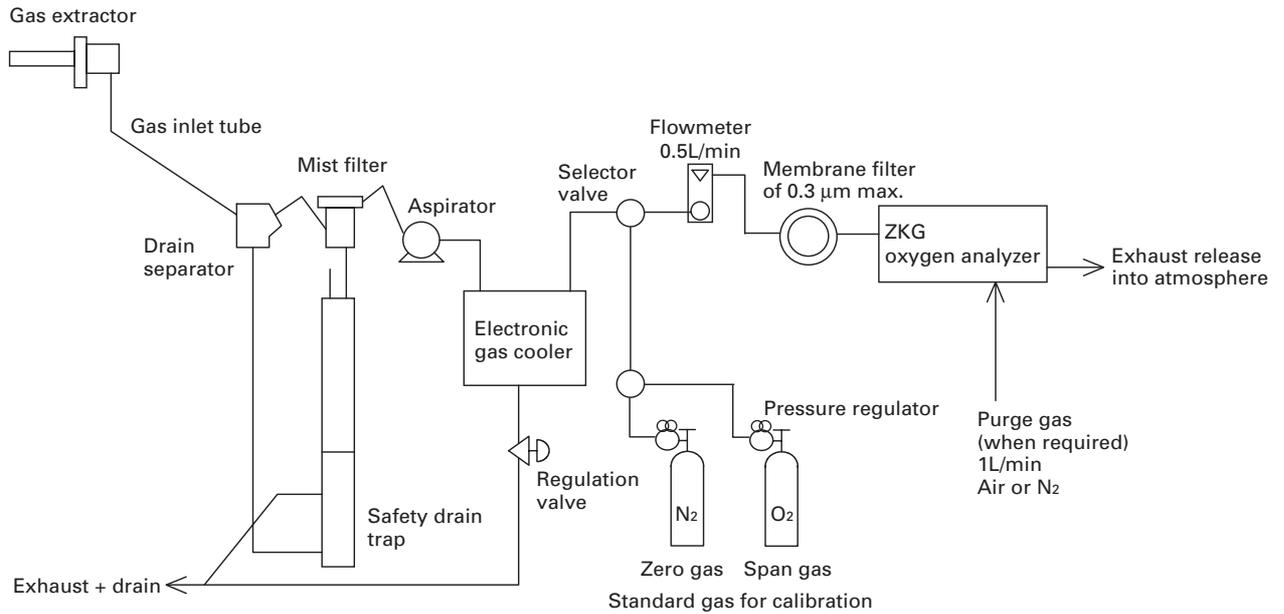
Dimensions (H x W x D): 240 x 192 x 234 mm

Weight: Approx. 5 kg

Finish color: Munsell 10Y7.5/0.5 semi-gloss

CONFIGURATION

Sampling System Diagram (example: Oxygen measurement in boiler exhaust gas)



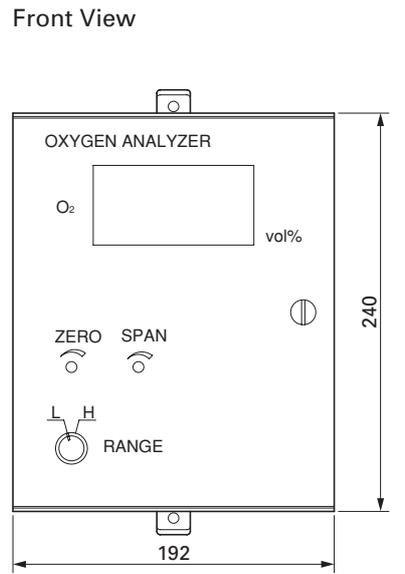
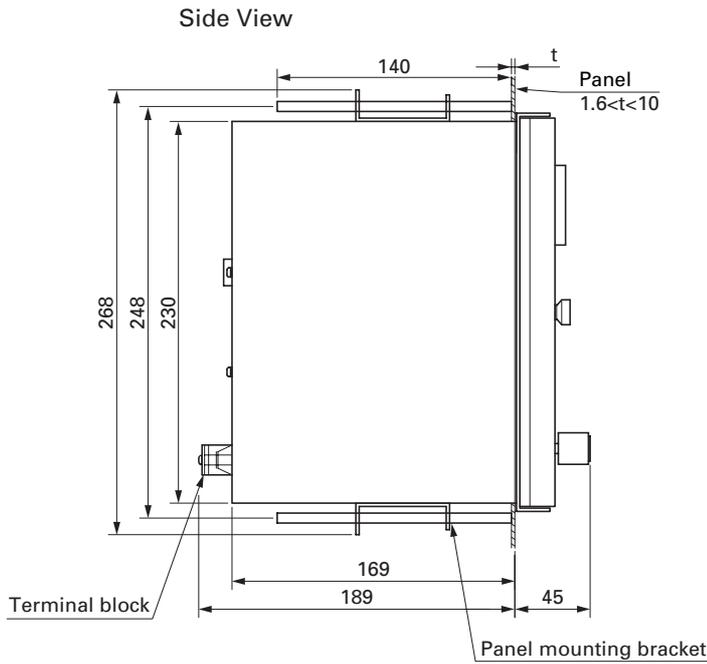
SCOPE OF DELIVERY

Analyzer main unit x 1
Panel mounting bracket x 2
Fuse 250 V AC/0.5 A delay type x 2 (1 accessory and 1 built in)
Instruction manual x 1

CAUTIONS

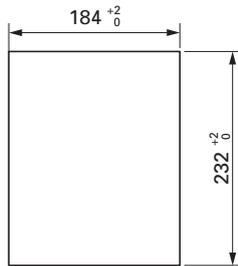
- (1) Use the analyzer within the specified flow rate. If it is used beyond the specified flow rate for enhancing response, the sensor section may be damaged to cause an instrument trouble.
- (2) Before the analyzer, be sure to connect a flowmeter and filter (0.3 μm or finer mesh).
- (3) Use a shielded wire for signal line connection.
- (4) Analyzer exhaust should be released into the atmospheric air.

OUTLINE DIAGRAM (Unit : mm)

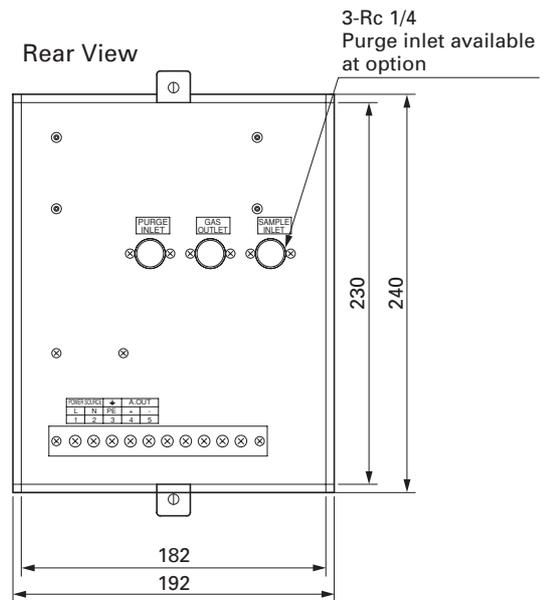
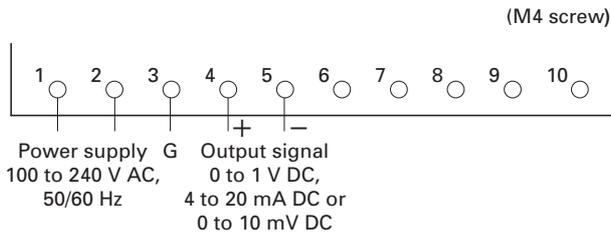


* Change switch is not attached in the case of a single range.

PANEL CUTOUT DIMENSION



CONNECTION DIAGRAM



⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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