

Fuel Saving With Oxygen Gas Analyzers!

ENERGY SAVING AND ENVIRONMENTAL FRIENDLY

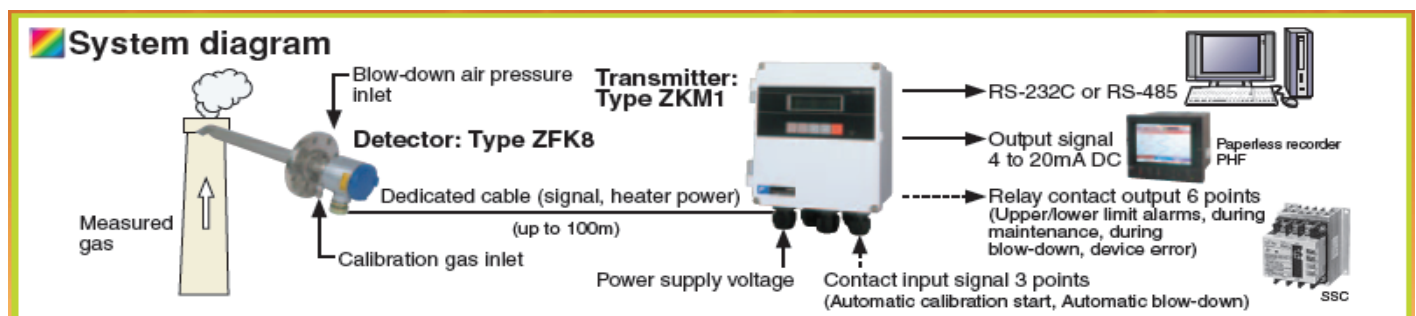
Fuji's Zirconia oxygen gas analyzers are widely used; not only in industries of high energy consumption, such as steel, power, petroleum/petrochemical, ceramics, paper/pulp, food, and textile industries, but also in various combustion facilities, such as garbage incinerators and medium-to-small sized boilers, as combustion controllers, achieving a significant energy saving effect. The oxygen concentration control ensures complete combustion, thus reducing CO₂, SO_x, and NO_x emissions and helping prevent global warming and air pollution.

The transmitter is available in two case structures: IP66 and IP67.



About:

- ✚ The zirconia oxygen analyzer makes use of the oxygen ion conductivity of solid electrolytes composed mainly of zirconia (ZrO₂) at high temperatures.
- ✚ Microscopically, it is assumed that electrochemical reactions occur at the interface (three-phase interface) among a solid electrolyte, electrode and oxygen.
- ✚ High-oxygen partial pressure side: $O_2 + 4e^- \rightarrow 2O_2^-$ (ionization)
- ✚ Low-oxygen partial pressure side: $2O_2^- \rightarrow O_2 + 4e^-$ (molecularization).




Installation:

The direct insertion type zirconia oxygen analyzer consists of the detector with a sensor unit, the flow guide tube that is directly inserted to the stack or the like in order to supply a gas to the detector, and the converter that performs sensor control, signal processing, output / display, and external transmission. The detector and converter are connected with a cable.

Function & Benefits:

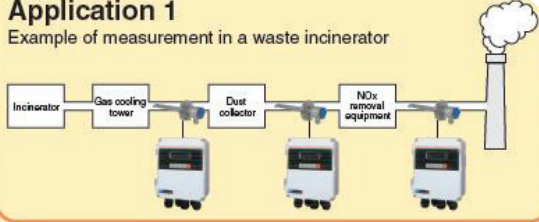
- ✚ Fuel saving and Environment friendly.
- ✚ Modular detector design allows easy field replacement of element.
- ✚ High speed response.
- ✚ No need for gas sampling devices and a rapid response.

Easily replaceable zirconia element



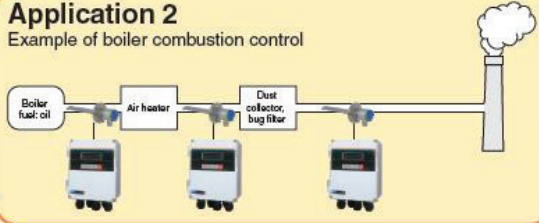
Application 1

Example of measurement in a waste incinerator




Application 2

Example of boiler combustion control



Settings may be made from the front panel without opening the cover

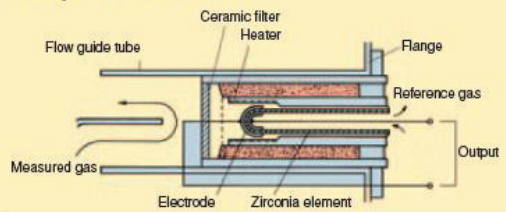


Make the settings from the front panel.

High safety level

- (1) Detecting a break of the thermocouple for heater control in the sensor unit, the analyzer stops the power supply to the detector.
- (2) The power supply to the detector may also be stopped by external contact input in an emergency.
- (3) The key lock function prevents operational errors.

Principle of the detector





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