

# Laser Gas Analyzer, AO2000-LS25

the specialist for in-situ process measurements



- Innovative measuring technology
- Tunable laser diode
- Highly selective and free from cross-sensitivity
- 1 - 2 components
- Robust design
- Large service intervals

## **Robust, versatile and fast - the new AO2000-LS25 laser gas analyzer**

The new AO2000-LS25 laser gas analyzer is conceived for direct process measurement. The measuring module consists of transmission and receiving units and can be used on processes and channels at a distance of 0.5 – 6 m. According to the application process pressures of 10 bar and temperatures up to 1500°C can be achieved. The AO2000-LS25 laser analyzer selectively measures the concentration of up to two measuring components. Calibration takes place either via a built-in flow cell or a separate calibrating cell.

### **Applications**

- O<sub>2</sub> process monitoring (corrosive gases) and combustion control in chemistry
- NH<sub>3</sub> on DeNO<sub>x</sub> installations of combustion plants in engine testing (diesel)
- Combustion monitoring of CO, CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>O and NH<sub>3</sub> on waste incineration plants and power stations
- HCl during EDC and titanium oxide manufacture, as well as in the glass industry
- H<sub>2</sub>S in cellulose and paper making
- CO, CO<sub>2</sub>, O<sub>2</sub> and NH<sub>3</sub> in steel manufacture.

### **Areas of use**

Chemical industry, process industry, pharmaceutical industry, car industry, steel and iron manufacture, glass industry and aluminium manufacture.

### **Concept**

**The design** always consists of transmission and receiving units, which are mounted directly on the process. An AO2000 control unit, which can be mounted centrally in an easily-accessible position, takes over the operation and offers the well-known user interface from the AO2000 series.

In this way up to three laser analyzer modules can be operated from one central AO2000. The connection is via Ethernet.

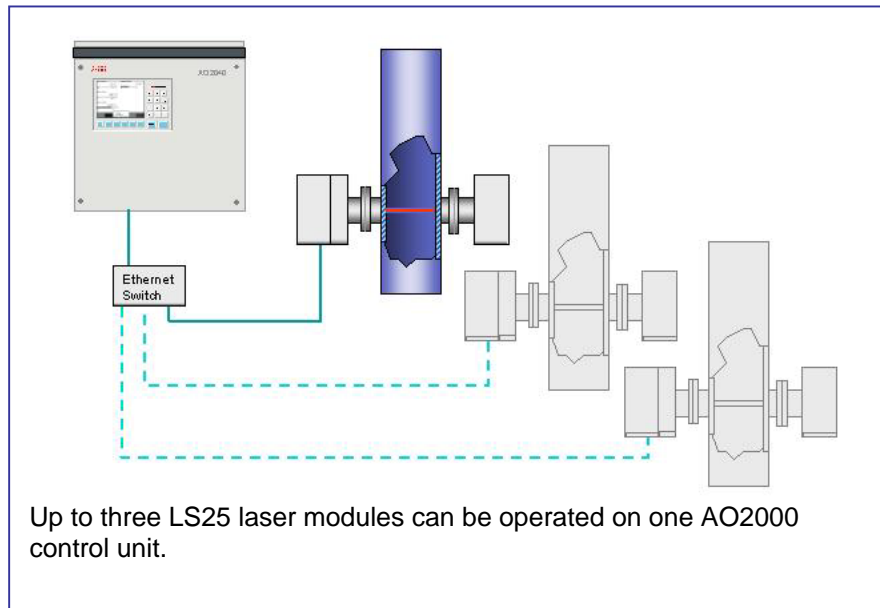
According to the measuring task the flanges on the process side must be purged with air or nitrogen. Because of its low drift servicing and calibrating intervals of > 3 months are sufficient as a rule.

Both the transmission and receiving units have their own power supply so that the voltage supply can be connected directly with 115/230 VAC. The transmission and receiving units are connected by premade cables with plugs for the outside area (IP67).

**A Modbus interface** is already integrated with RS232 or RS485 port. A digital connection is thus possible between the AO2000 and a PC, an SPC or a process control system. For easy interconnection a Modbus DDE driver is provided on the CD-ROM which is delivered with the system. It is thus possible to read out and archive as well as to visualize the data in linked Windows software programs very simply.

## The innovative measuring technology

The laser operates according to the principle of single-line spectroscopy. For measurement purposes a single absorption line is selected from the gas to be measured in the near infrared spectral range, at which no cross-sensitivity from other gases occurs. The absorption line is scanned and the receiver located opposite only detects the absorption caused by the gas to be determined and calculates the gas concentration from this.



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