

# ULTRAMAT 23 Gas Analyzer with O<sub>2</sub> Paramagnetic Cell

Siemens extends its portfolio for a  
complete solution



The well-proven ULTRAMAT 23 gas analyzer is now available with an additional option for oxygen gas measurements with a paramagnetic (dumbbell) cell providing the perfect, simple and complete solution for an even wider range of applications.

This solution combines the measurement of infrared active gases with the paramagnetic oxygen principle in a single unit to determine process states in the plant by continuous analysis of the gas composition.

## ULTRAMAT 23

[www.siemens.com/processanalytics](http://www.siemens.com/processanalytics)

**SIEMENS**

The ULTRAMAT 23 can be used for a wide variety of infrared-active gases as well as oxygen. Thanks to its multi-component design with NDIR technology for the measurement of up to three IR active constituents and oxygen, the ULTRAMAT 23 is extremely economical and space saving. The measurements of oxygen with a paramagnetic cell allow in comparison to an electrochemical cell applications at lower oxygen concentration and dry gases. The integrated automatic calibration function using ambient air enables maximum ease of use and minimum maintenance attention for effective, economic and reliable plant operation.

### Applications

- Process control in cement industry, e.g., for rotating kiln
- Process control in diverse locations of the converter steel process
- Quality control in biomethane production of biogas fed into commercial gas distribution network (corrosion prevention: the oxygen and hydrogen content must be monitored; low traces of water vapor contents require a paramagnetic oxygen sensor)
- Emission monitoring; compliance with legal requirements according to EN 15267 in preparation

### Technical Specifications, O<sub>2</sub> Channel

Smallest measuring range	0 ... 2 % vol O <sub>2</sub>
Largest measuring range	0 ... 100 % vol O <sub>2</sub>
Drift	Max. 0.1 % for measuring range 2 % with weekly zero adjustment
Repeatability	≤ 1 % of smallest measuring range
Resolution	< 1 % of smallest measuring range
Delayed display (T <sub>90</sub> -time)	< 60 s
Permissible pressure fluctuations	700 ... 1 200 hPa
Permissible ambient temperature	5 ... 45 °C

### Benefits

- High sensitivity – measurements at O<sub>2</sub> concentration < 0.5 %
- Suitable for dry gases – applicable by dew point < 4 °C
- No consumables – usage of a paramagnetic oxygen cell
- Improved durability – no wearing of the sensor
- Reduced calibration effort and costs – autocalibration with ambient air
- Compact and cost saving (only one analyzer is necessary for paramagnetic measurement)
- Better process control – continuous measurement of 3 IR components and oxygen in one compact analyzer
- Simplified process integration, remote operation and control – open interface architecture (RS 485, RS 232; PROFIBUS PA/DP, SIPROM GA)
- Service information and logbook – preventive maintenance; help for service and maintenance personnel, cost savings

Siemens AG  
Industry Sector  
Sensors and Communication  
Process Analytics  
76181 KARLSRUHE  
GERMANY

[www.siemens.com/processanalytics](http://www.siemens.com/processanalytics)

Subject to change without prior notice  
© Siemens AG 2011

The information provided in this brochure contains descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. Availability and technical specifications are subject to change without notice.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.