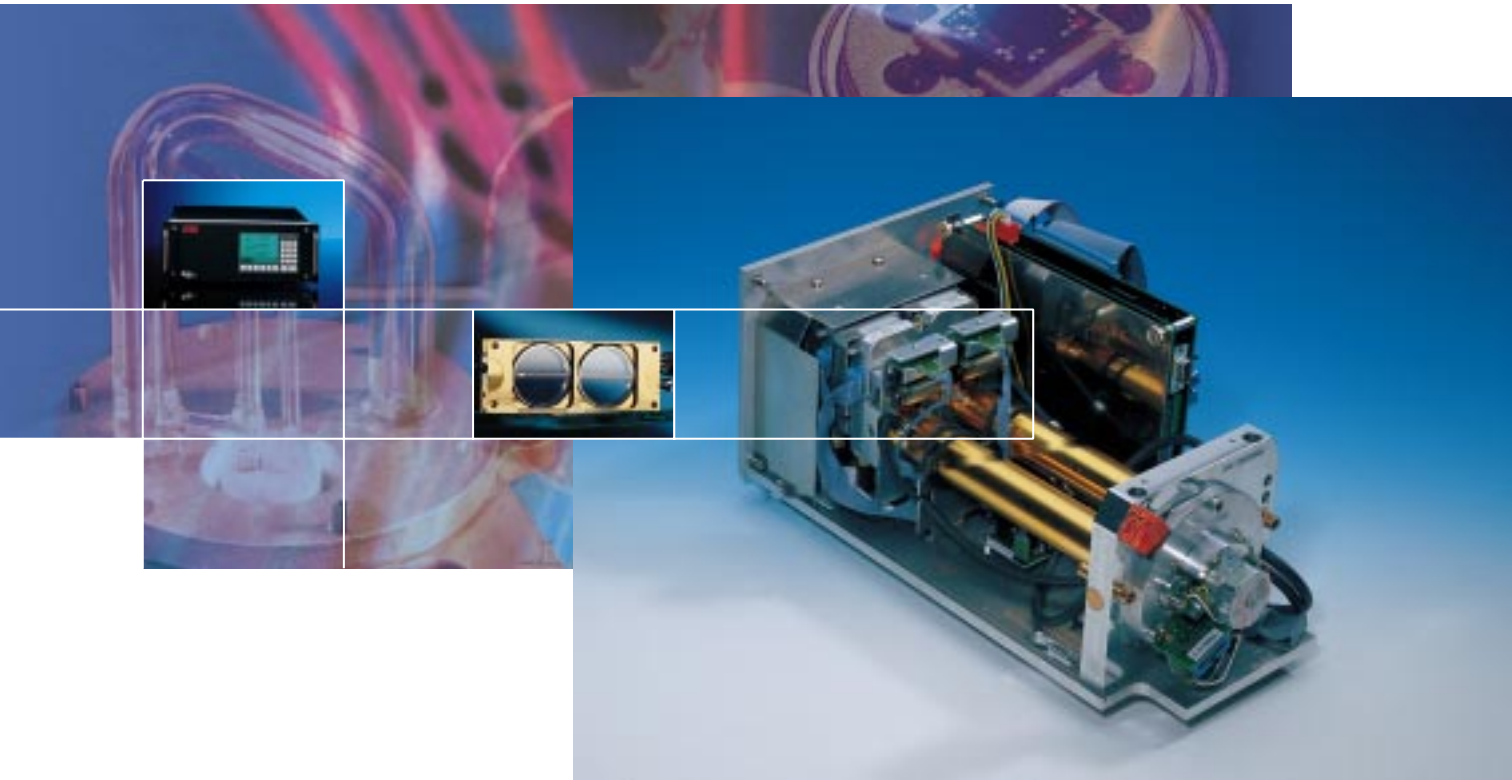


Advance Optima – High Performance Measurement Technology

Infrared Analyzer Module Uras 14



- Part of the Advance Optima product family, with all advantages
- Measurement of up to four components
- Calibration without test gas via built-in calibration cells
- High selectivity and stability
- Optimized to different applications: sample components, measuring ranges, carrier gas effects
- For a large number of varying gas components: e.g. CO, CO₂, CH₄, SO₂, NO_x, ...
- TÜV approval

The Advance Optima features one housing, a single system controller module, one user interface and multiple analyzer modules. All these analyzer modules have the same mechanical and electrical interfaces and plug directly into the standard housing. Other than the analyzer modules, all components are standard throughout the system.

Infrared Analyzer Module Uras 14

The Uras 14 continuous NDIR photometer can selectively measure the concentrations of up to 4 components. The analyzer is characterized by higher stability and selectivity. The analyzer features gas-filled opto-pneumatic detectors which have been optimized for each application. This enables higher sensitivity, a wider range of sample compo-

Technical Data

Measuring Principle:

Non-dispersive infrared absorption in the $\lambda=2,5...8 \mu\text{m}$ wavelength range

Sample Components (Examples):

CO	0...20 ppm
CO ₂	0...5 ppm
NO	0...150 ppm
SO ₂	0...25 ppm
N ₂ O	0...20 ppm
CH ₄	0...50 ppm
C ₃ H ₈	0...50 ppm
C ₂ H ₄	0...400 ppm
R 12	0...50 ppm

Measuring Ranges:

- 1 or 2 measuring ranges per sample component
- Measuring range ratio $\leq 1:10$ freely adjustable within the measuring range
- Largest measuring ranges
0...100 Vol.-% or 0 Vol.-% to saturation
or 0 Vol.-% ...LEL
- Measuring ranges with suppressed zero-point

Stability:

- Linearity Deviation
 $\leq 1 \%$ of span
- Reproducibility
 $\leq 0.5 \%$ of span
- Zero-Point Drift
 $\leq 1 \%$ of span per week
- Sensitivity Drift
 $\leq 1 \%$ of measured value per week
- Output Signal Variations
 $\leq 0.2 \%$ of span
at 2σ and electronic response time = 5 s
- Detection limit
 $\leq 0.5 \%$ of span

nents and reduced cross-sensitivity to interfering components. Detector filling corresponds to the gas being measured. This means that the detector provides optimal sensitivity and high selectivity for the component of interest. The Uras 14 can measure even the smallest ranges. Calibration is possible via the internal calibration cells which do not require expensive bottled test gas mixtures. This greatly reduces operation and maintenance costs. For CEMS applications, the analyzer can also be automatically calibrated with bottled test gases. Oxygen can also be measured via an electrochemical cell.

Typical applications for the Uras 14 includes emission monitoring, burner optimization and in process control or optimization of purification stages. In these applications, the Uras 14 meets the special requirements of different countries, e.g. the German 13. and 17. BImSchV Regulations and TA-Luft (German Federal Air Purity) Regulations. Additionally, the analyzer is well suited to the measurement of components in chemical processes and safety monitoring in waste disposal sites.

An flame-proof housing is available for use in hazardous areas, zone 1 and 2. The standard unit is certified for Class I, Division 2 hazardous areas.



ABB

Hartmann & Braun