



ADOS
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Instrumentation and Control



INFRARED GAS ANALYSER SYSTEM

ITR 504



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Application

Continous measurement of gases, that exhibit the properties of absorbing infrared energy (e.g. carbon dioxide)

Fields of Application

Processes, in which the moisture content in the gas can be as high as 95% rel. humidity, for example:

- Monitoring composting processes in environmental technology
- Process gas monitoring in the food and provisions industry
- Food storage houses
- Monitoring fermentative processes in fruit processing
- Laboratories
- and many more

Features

- 6-section keyboard and illuminated 4-line LCDisplay for displaying actual values, half-hourly average values and fault messages in cleartext
- Operation, fault and alarm indications on LED's
- Menu-assisted setting of the equipment parameters via the 6-section keyboard
- Three separate alarm thresholds, referred to average value or instantaneous value; adjustable hysteresis
- Data memory for alarm and fault messages
- 3 floating relay contacts for alarm signalling
- Floating change-over contacts for faults, acoustic (horn) and optical warning (warning banners)
- RS 232/RS 485 connection for communication with a PC or for controlling a printer
- 4-20 mA current interface
- Plastic wall housing IP54 / straightforward installation
- Extremely reliable, easy maintenance. Washable measurement chamber with replaceable dust filter
- Available with an integrated test gas feed pump (optional)
- External uninterruptible power supply (optional)

Measuring Principle & Functioning

The ITR 504 Infrared Gas Analyser System functions on the principle of NDIR technology (non-dispersive infrared). The test gas flows through a measurement chamber that incorporates an IR radiating source and a two-channel infrared detector. The intensity of the infrared radiation is reduced as it passes through the gas molecules. The concentration of the gas can then be calculated by the magnitude of the reduction in intensity.

Since only absorption of the wavelength specific to the gas under test in relation to the wavelength not absorbed by a test gas is considered, interference due to dust, ageing etc., is almost fully compensated. The measured values are temperature-compensated.

Accessories (optional)

Signal horn, warning lamp, warning banner, westmeter, plotter, stand-by power supply UPS 2000-24V.

Further accessories will be offered according to the measurement tasks required of the system.

Technical Data

Measurement principle	Non-dispersive infrared analysis
Measurement range	0-3000 ppm to 0-100 Vol% CO ₂ other measurement ranges available on request
t ₉₀ -time	< 40 seconds
Overall error	< ± 3 % of range f.s.d.
Linearity error	< ± 3 % of range f.s.d.
Long term drift	< ± 5 % of range f.s.d. / Month (Zero / Span)
Ambient temperature	-10°C to +45°C
Type of protection	IP54
Supply voltage	24V (DC) / 230V≈ / 115V≈ (optional)
Power consumption	10 VA
Outputs	3 relay contacts for alarms 1 relay contact, fault 1 relay contact, horn 1 relay contact, warning banner All outputs are floating change-over contacts, maximum rating 250V/4 A Analog output, 4-20 mA Serial interface, RS 232/RS 485
Inputs	1 input for cancelling horn signal
Dimensions (L x W x H)	240 x 160 x 90 mm
Weight	approx. 2 kg