



INSTRUMENTATION AND CONTROL

## PRODUCTION PROGRAM

measuring instruments for monitoring operational performance

■ Gas Analysis ■ Gas Warning ■ Environmental Protection

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MEASUREMENT, CONTROL AND  
WARNING UNIT FOR SENSORS

## LON® Center 2000



### APPLICATION

The ADOS LON® Center 2000 is a test, control and warning unit for the techniques of gas-sensorics. It continuously monitors the surrounding air and provides an early warning of dangerous, explosive and non-combustible gases and vapours. Various types of sensors can be connected to the system via the LON® field-bus.

The ADOS LON® Center 2000, together with the ADOS 592 TOX CO LON® gas test-sensor, conforms to all the VDI guidelines.

### FIELDS OF APPLICATION

#### Monitoring of:

- Garages and tunnels
- Monitoring of heating systems
- Liquid gas storage rooms
- Laboratories
- Cold-storage houses
- Plastic processing plants
- Chemical industries
- Paint manufacturing plants
- Concentration measurement of O<sub>2</sub>
- and many more



MEASUREMENT, CONTROL AND  
WARNING UNIT FOR SENSORS

## Multitronik 592



### APPLICATION

The ADOS Multitronik 592 is a modular-constructed measurement, control and warning unit, designed for universal use with gas sensors. It can be used either stationary or as a portable measuring system, depending on the design of the unit being used. Various types of sensor can be connected to the system by means of a 4 to 20 mA current interface or the LON® field-bus.

ADOS Multitronik 592 in conjunction with the ADOS 592 CO gas test-sensor, conforms to the requirements of the German VDI 2053 standard. The microcontroller-aided unit allows installation of an all-electronic version without pneumatic components as well as the assembly of a version with gas intake.

### FIELDS OF APPLICATION

- In garages and tunnels for measurement, control and warning, according to the German VDI 2053 standard, with ADOS TOX 592 carbon monoxide sensors
- For monitoring the air at workplaces, to control the maximum level of concentration and for protection against explosion
- For measuring the concentration of exhaust and waste gases at motor and brake test benches
- Monitoring liquid gas reservoirs
- Control of cold-storage houses
- Control of fruit-storage cells



## MULTI-CHANNEL GAS WARNING SYSTEM

# GW 399



### APPLICATION

The multi-channel gas warning system **ADOS GW 399** continuously monitors the ambient air and provides an early warning of hazardous, explosive and non-combustible gases and vapours. Suitable for measuring tasks where every sensor must have high reliability based on its own control unit as well as its own optical and electrical output signals.

In respect to explosion protected sensor installations the GW 399 system offers the optimum technical solution. A master card can supervise central alarms as well as serial data output.

### FIELDS OF APPLICATION

#### Monitoring of:

- Heating systems
- Liquid gas storage rooms
- Laboratories
- Cold-storage houses and air conditioning plants
- Plastic processing plants
- Chemical industries
- Paint manufacturing plants
- Concentration measurement of O<sub>2</sub>
- and many more



## MULTI-CHANNEL GAS WARNING UNIT

# MWS 906



### APPLICATION

The multi-channel gas warning unit **ADOS MWS 906** continuously monitors the ambient air and issues an early warning of gases and vapours that are dangerous to health, or when there is a danger of explosion, for non-combustible gases and vapours.

#### Examples of measurable gases:

- Acetylene
- Ammonia
- Petrol
- Hydrogen chloride
- Carbon dioxide
- Carbon monoxide
- Methane (natural gas)
- Xylene

#### Alternatively, we offer you MWS 906 CP with the following features:

upto 2 alarm levels, each with 6 relays, of which, for each level: 3 average values, 1 instantaneous value, 1 horn, 1 warning banner, 1 fault relay, 1 service relay  
VDI 2053 approval

### FIELDS OF APPLICATION

#### Monitoring of:

- Heating systems
- Garages and tunnels
- Liquid gas storage plants
- Laboratories
- Cold-storage depots
- Plastic processing workshops
- Chemical industries
- Paint varnish manufacturers
- Concentration measurement of O<sub>2</sub>
- and many more



## MULTI-CHANNEL GAS WARNING UNIT

# MWS 903



### APPLICATION

The multi-channel gas warning equipment **ADOS MWS 903** continuously monitors the surrounding air and provides an early warning of dangerous, explosive and non-combustible gases and vapours.

It is possible to connect up to 8 gas transmitters to the unit.

### FIELDS OF APPLICATION

#### Monitoring of:

- Heating systems
- Garages and tunnels
- Liquid gas storage rooms
- Laboratories
- Cold-storage houses
- Plastic processing plants
- Chemical industries
- Paint manufacturing plants
- Concentration measurement of O<sub>2</sub>
- and many more



## SINGLE-CHANNEL GAS ANALYSER

# GWA 2000



### APPLICATION

The single-channel gas warning system **ADOS GWA 2000** continuously monitors the ambient air and provides an early warning of hazardous, explosive and non-combustible gases and vapours.

Suitable for non-explosion protected installations where only one complete control unit is required, with integrated gas sensor, optical, acoustic and electrical outputs.

### FIELDS OF APPLICATION

#### Monitoring of:

- Heating systems
- Liquid gas storage rooms
- Laboratories
- Cold-storage houses and air conditioning plants
- Plastic processing plants
- Chemical industries
- Paint manufacturing plants
- Concentration measurement of O<sub>2</sub>
- and many more



## MULTI-CHANNEL GAS ANALYSER

# Biogas 401



### APPLICATION

The Biogas analyser **ADOS Biogas 401** monitors, either continuously or intermittently, gas components contained in Biogas, and optionally the surrounding air to provide an early warning of dangerous, explosive and non-combustible gases and vapours.

#### Typical application is the measurement of:

CH<sub>4</sub>, O<sub>2</sub>, CO<sub>2</sub> (optionally continuous)  
H<sub>2</sub>S, H<sub>2</sub> (only discontinuous)

#### measuring principles:

electro-chemical (H<sub>2</sub>S, H<sub>2</sub>, O<sub>2</sub>)  
infrared (CH<sub>4</sub>, CO<sub>2</sub>)  
paramagnetic (O<sub>2</sub>)

### FIELDS OF APPLICATION

- Monitoring of biogas components
- Warning of explosive gas mixtures
- Warning of gases that endanger health
- Warning of non-combustible gases
- Dedicated for processes with high humidity levels
- Multiple use for alarm values

Equipped with a water sensor for the detection of condensate breakthrough

#### Feature:

- modular construction
- using a special cabinet an outdoor installation is possible



## MULTI-CHANNEL GAS ANALYSER

# Biogas 905



### APPLICATION

The Biogas analyser **ADOS Biogas 905** monitors, either continuously or intermittently, gas components contained in Biogas, and optionally the surrounding air to provide an early warning of dangerous, explosive and non-combustible gases and vapours.

#### Typical application is the measurement of:

CH<sub>4</sub>, O<sub>2</sub>, CO<sub>2</sub> (optionally continuous)  
H<sub>2</sub>S, H<sub>2</sub> (only discontinuous)

#### measuring principles:

electro-chemical (H<sub>2</sub>S, H<sub>2</sub>, O<sub>2</sub>)  
infrared (CH<sub>4</sub>, CO<sub>2</sub>)  
paramagnetic (O<sub>2</sub>)

### FIELDS OF APPLICATION

- Monitoring of biogas components
- Warning of explosive gas mixtures
- Warning of gases that endanger health
- Warning of non-combustible gases

Equipped with a water sensor for the detection of condensate breakthrough

#### Feature:

- fixed design



## INFRARED GAS ANALYSER SYSTEM

### ITR 504



#### APPLICATION

The infrared gas analyser system **ADOS ITR 504** continuously measures gases that exhibit the properties of absorbing infrared energy.

Typically used for the measurement of carbon dioxide over the range of 0–5000 ppm to 0–100 Vol. %.

#### 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

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## INFRARED GAS ANALYSIS SYSTEM

### ITR 498



#### APPLICATION

The **ADOS ITR 498** infrared gas analysis system is suitable for continuous measurement of gases which exhibit typical absorption bands in the infrared region of radiation.

Typically used for the measurement of carbon dioxide over the range of 0–5.000 ppm to 0–100 Vol%.

#### The ITR 498 is available as:

transmitter with current output, as complete test unit with optical, acoustic and electrical output as well as a hand-held tester (smallest measurement range: 0–2 Vol. %).

#### FIELDS OF APPLICATION

- Monitoring the ventilation and air conditioning, according to TRSK 313, for cellars containing carbon dioxide bottles
- Monitoring the ventilation in fruit storage rooms
- Regulating climatic conditions in large open-plan offices or departmental stores
- Monitoring the maximum concentration at working places, according to TRGS 900 (TLV)
- Monitoring carbon dioxide fire extinguishing systems
- Analysing flue gases
- Monitoring production processes (e.g. fermenting processes)
- Optimising chemical processes
- and many more



## GAS TRANSMITTER

### GTR 210



also available as stand-alone version (GTR 210 Comfort; only for non-EX installations)

#### APPLICATION

The gas transmitter **ADOS GTR 210** is suitable for continuous measurement of gases in normal areas and areas where there are risks of explosion. By employing 6 different types of sensor, noxious, explosive and non-combustible gases and vapours can be measured. Display of the measured gas concentration and the adjustable alarm thresholds, are shown on a multi-colour graphic display. The keyboard input is by way of a touchpad.

A current signal is generated that is proportional to the measured concentration of gas, which is transmitted to an evaluation unit placed in a safe area, away from any dangers of explosion.

The type test of the explosion-protected gas transmitter, is completed by the DEKRA.

ATEX certificate: DEKRA 11 ATEX 0257 X

IECEx certificate: IECEx DEK 11.0090 X

Type of protection: Ex d e i a mb IIC T4 Gb

Versions: Ex, non-Ex, stand-alone

#### FIELDS OF APPLICATION

- Chemical industry
- Manufacture of paints and varnishes
- Plastic processing plants
- Sewage works
- Gas-fired boiler systems
- Liquid gas storage houses
- Laboratories
- Measurement of oxygen concentration
- Refineries
- Cold-storage houses (Ammonia monitoring)
- Paint spraying booths
- and many more



## SENSOR FOR MEASUREMENT OF TOXIC GAS CONCENTRATIONS

# TOX 592



## HYDROCARBON ANALYSER

# KM 2000 CnHm EM



## FLUE GAS ANALYSER

# RG 399



### APPLICATION

The **ADOS TOX 592** gas test-sensor is suitable for continuous measurement of a concentration of toxic gas in air, over the range of 0–20 ppm to 0–1000 ppm.

Various electrochemical sensor types are available for the simple measurement of gases such as monoxide, ammonia, nitrogen dioxide, sulphur dioxide, hydrogen sulphide and many others.

Two sensor versions with different output signals are available:

- TOX 592, 2-wire current output 4-20 mA or
- TOX 592 LON®, intelligent 4-wire LON® field-bus interface

### FIELDS OF APPLICATION

- VDI 2053 approval for measuring, control and warning in garages together with the ADOS Multitronik 592 & MWS 906 CP (TOX 592 4–20mA) or with LON®Center 2000 and Multitronik 592 LON® (TOX 592 LON®)
- For monitoring at workplaces, to control the maximum concentration value; e.g. in laboratories or motor test stands
- In private and collective shelters for monitoring the external or internal air

### APPLICATION

The modular constructed **ADOS KM 2000 CnHm EM** equipment incorporates a microcontroller-aided measurement device for measuring solvents.

All combustible gaseous ADOS KM 2000 CnHm EM compounds can be measured with the exception of chlorinated and sulphur-sublimed hydrocarbons. The thermocouples used for measurements, in conjunction with applying the principle of heat reaction, offer the following advantages:

- high degree of sensitivity
- good accuracy
- negligible drift of zero point
- over-range signals have no effect

### FIELDS OF APPLICATION

#### Supervision of industrial processes

- KM 2000 CnHm EM: measuring the emission of hydrocarbons, according to the German clean-air regulations
- KM 2000 CnHm: measuring solvent saturation measuring the concentration of solvents

#### Room air (ventilation) monitoring

a warning is issued at a very low concentration of toxic gas thus preventing any danger to health.

### APPLICATION

The flue gas analyser **ADOS RG 399** is suitable for supervising exhaust and process gases that contain traces of corrosive gas and /or dust.

The gas preparation before analysing, is achieved by way of a double-filter that is self-regenerating.

#### Examples of measurable gases:

- Carbon dioxide
- Carbon monoxide
- Methane
- Oxygen

### FIELDS OF APPLICATION

- Supervision of flue gases
- Supervision of boiler installations
- Supervision of process and exhaust gases
- and many more



## DUST FILTER MONITORING

# Filter-Guard 206



## ACCESSORIES FOR HYDROCARBON MEASUREMENT

# KM 2000 Accessories



## GAS WARNING SYSTEMS

# Accessories



### APPLICATION

The ADOS Filter-Guard 206 continuously monitors the clean air side of any fine dust filter installation.

A warning is initiated when a sudden increase in dust concentration is present, i.e. due to a breakdown in the filter casing or bag.

### ACCESSORIES FOR HYDROCARBON MEASUREMENT



Sampled gas extraction



Mounting stubs with single flange



Pressure reducer



Heated extraction pipe



Explosion vent



Respirable dust filter with filter cartridge

### GAS WARNING SYSTEMS



Alarm horns



Warning banners



Alarm horn Ex-version



Rotating mirror lamp (also available as Ex-version)



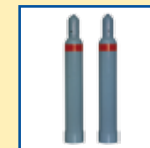
Warning flasher (also available as Ex-version)



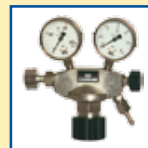
Room probes



Mains Stand-by supply unit



Test gas bottle



Pressure reducer

### FIELDS OF APPLICATION

- Monitoring fine dust filter systems at the clean air side
- Vibrating and jet filter systems
- Air extraction installations in wood and plastic processing plants
- Air conditioning units with dust filter systems
- Paint and varnish production
- Ambient air monitoring at workplaces
- and many more