COMPUR Monitors

Gas detection for your safety

Monitox

AsH_3
Cl_2
CO
$COCl_2$
ClO_2
H_2S
HCl
HCN
N_2H_4
NO_2
O_2
PH_3
SO_2

Compur Monitox plus

Imitated by all, duplicated by none.

With decades of outstanding performance, this latest version of the Monitox is the best yet. The Monitox plus provides unmatched performance and value. It shows the actual gas concentration on a recessed LCD display and responds to hazardous concentrations within seconds giving an audible as well as visual alarm.

Monitox plus is very small and lightweight. Its housing is made of sturdy, galvanized ABS, withstanding the harshest industrial environments. The metalized surface protects it from electromagnetic interference. Handling the Compur Monitox plus is quick and easy. Sensor replacement is a breeze since a plug-in socket sensor can be easily replaced without even opening the instrument.

A recessed button on the front side of the instrument gives easy access to a menu for automatic zero and calibration. Thus even calibrations can be done without opening the instrument.

Two alarms can easily be set to any value within the measuring range of the instrument by push-button.

For added safety the Monitox plus features smart technology such as a "missing sensor-alarm" which detects if the electrical connection to the sensor has been damaged.

Despite all these advantages the Monitox plus is inexpensive to purchase and maintain.

With the optional Compur gas generator a 100 % performance test can be done within 10 seconds, without a gas cylinder.

Dositox

Compur Dositox

The Dositox measures, calculates the exposure and stores the data.

To protect personnel from potential hazards by gas, the concentration of a toxic gas must be measured. Any potentially dangerous substance has a specific toxic impact. Based on these characteristics, threshold limits of allowable concentrations and the total exposure by shift have to be calculated.

The powerful microprocessor of the Dositox continuously compares the actual gas concentration, and the total exposure calculated according to local regulations, with the allowable level. Once it is exceeded the instrument will provide an audible and visual alarm. The data logger will store the values which can be downloaded later to a personal computer for permanent storage and evaluation.

When calculating these average values, it is important to have a high time resolution and the averaging starts once the TLV is exceeded. A fixed time frame could cut a concentration peak that would have exceeded the STEL, in two halves having an average below the STEL.

Therefore the Dositox is programmed to start an averaging interval whenever the TLV value is exceeded. This allows the best possible exposure determination for increased safety.

The measured values can be downloaded to any personal computer that operates with Windows software via a bidirectional RS 232 Interface. The evaluation program DATALOG provides three types of reports: A measurement report with all relevant information, a listing of the measured values with a variable time base and a graphic display of the concentration profile versus time including a zooming option.

The Dositox can also be programmed to operate as a gas detector alarming at TLV values with data logging capability.

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Compur Minitox

A disposable H2S detector and a field-proven safety concept.

This handy instrument offers reliable protection against hydrogen sulphide. The alarm threshold is adjusted to 10 ppm.

This instrument is a disposable unit with an expected lifetime of two years.

A remarkable option is the gas test with the Compur gas generator, which can perform a go / no go test within 10 seconds. This option guarantees optimum safety for the user without handling gas cylinders.

The on/off switch helps to conserve battery power to obtain maximum benefit of the long-life sensor.

If required, the instrument can be recalibrated.

Compur Ex plus

A warning system for combustible gases in a small package.
Common warning instruments for combustible gases are cumbersome, heavy and large. Not so with the Ex plus, one of the lightest instruments on the market.

Compur Ex plus continuously measures the actual concentrations of combustible gases and vapors. The measured value is displayed on an easy-to-read LCD display in '% LEL' (percent Lower Explosion Limit). If one of the two freely adjustable alarm thresholds is exceeded, it gives visual and audible warnings within seconds. The two alarm thresholds are identified by different alarm tones.

With its rugged ABS housing, it withstands even the harshest industrial environment. The sensor is a field-proven catalytic combustion sensor (pellistor).

Compur provides the sensors precalibrated for the gas or vapor to be measured. For substances which make recalibration difficult, the sensor will be calibrated with an additional reference gas. The reference gas and the reference factor are printed on the sensor label. This facilitates the recalibration of the instrument in the field.

A simple push of a button gives access to the gas calibration- or the alarm level adjustment menu, without opening the instrument. The sensor bridge voltage can even be displayed on the LCD display - an excellent indication of the sensor condition.

The Ex plus is available with two different battery packs: the mini-version providing four hours operation time, or the long-time monitoring version providing up to fifteen hours operation time. The explosion proof rechargeable battery packs can easily be changed in seconds, no tools needed. This allows users to convert the mini-detector into a long-time monitor even in hazardous areas.

Tracer

Tracer – Leak detection in the ppb range

Application

The Tracer has its strength where other methods of leak detection would fail because of their cross sensitivities to other gases. Such selectivity is required in plants using or producing extremely toxic substances. These plants always have a "Zero Emission Policy" in force. Here high sensitivity in combination with good selectivity is required.

Sensor technology

Electrochemical sensors can be designed to be very selective and sensitive at the same time by the right material choice for electrodes and electrolyte. These sensors will not respond to less dangerous substances that might be around in the plant such as hydrocarbons, carbon monoxide, hydrogen or even humidity. A detection limit of Phosgene as low as 2 ppb is no problem for this sensor technology!

A disadvantage of electrochemical sensors compared to physical methods has been their comparatively slow response. The working electrode must transform analyte to confer a response – and this takes its time.

Tests in Compur's laboratories have shown that the material transformation process at the working electrode can be speeded up by increasing the mass transfer of the analyte to the sensing surface compared to gas access by diffusion. It was a short step from there to develop an instrument with a built-in pump and a special measuring chamber with optimized flow characteristics. In this way the response time of the instrument is almost as short as would be obtained with a physical detection method.

The Tracer is capable to detect even traces of toxic gases. The detection limit is in the low ppb range depending on the substance to be detected. As a leak detector might be exposed to very high concentrations, it must not be used as a personal monitor. To avoid it being abused as such, it displays no concentration, but only a dimensionless figure or a bar graph.

Using the Tracer

To locate a leak, move the sample intake along the surface to be inspected. The measured value will increase when a leak is approached. The display can be selected between bar graph and digital. A control tone and LED will increase in frequency with mounting measured value similar to a Geiger counter.

The Tracer will protect itself from poisoning. If the measured value goes out of range the pump will go off and start again when it drops below 95% of the range.

The graphic display is easy to read. At night or in dark places in the plant a backlight can be switched on.

Consumables such as sensor, filter or sampling probe can easily be replaced without tools.

ClO_2
$COCl_2$
Cl_2
HCl
HCN
H_2S
NO_2

Statox 501

Statox 501

Fixed gas detection system for oxygen, toxic and combustible gases

The DIN – rail mounted modern controller saves space, money and installation time.

One safe controller for all gases: Any combination of a sensor head plus a controller is a complete gas detection system. This is what makes the Statox 501 so safe and reliable. The Statox 501 also gives you the opportunity to alter or expand existing systems with minimum expenditure.

Programs for any gas and measuring range are permanently stored in the memory of the controller. The user-friendly software program allows authorized personnel to select different configurations by a simple push of a button.

Easy to install and easy to use

The controller power supply and common alarm module clip on to a DIN rail. The remote sensor heads and any alarm or recording devices connect to terminals on the front of the controller. The Statox 501 controller has three relays for alarm 1 and 2 system failure (115 / 230 V AC / 2 A). An analog output for recorder or process control systems is also included.

Measured values are displayed on a 4 digit LED-display. It is easy to program or calibrate the new 501 controller! Just follow the menu!

If sensor heads are to be installed in division 1 areas, they can be connected via intrinsically safe repeaters.

The 24 V power supply as well as the signals for the common alarm module are transmitted via bus from one controller to the next. All terminals are easily accessible from the front.

Field proven sensors for reliable gas detection

Compur manufactures electrochemical sensors for the detection of oxygen deficiency and toxic gases. These sensors generate an electrical current proportional to the actual gas concentration. The remote sensor heads are designed as intrinsically safe certified 4 - 20 mA transmitters and have an integrated concentration display.

Combustible gases are detected with a variety of catalytic beads (pellistors). These sensor heads are certified and can be connected directly to the controller even if they are to be used in classified areas. The controller can supply and operate different designs of catalytic sensors. With so many possibilities, the system can easily be tailored to suit your individual application needs.

Easy maintenance saves time and money

Maintenance of the 4 – 20 mA transmitters is very easy. A one-man calibration or replacement of the sensors can be done without further precautions, even in classified areas.

Accessories

A range of wall-mount cabinets for a maximum of 5, 8 or 32 controllers as well as a 19”-carrier, ensure an easy professional installation.

AsH_3
Cl_2
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H_2
HCl
HCN
NH_3
N_2H_4
NO_2
O_2
PH_3
SO_2
THT
com-
busti-
ble
gases

Statox 501 IR detects gases in the LEL and ppm range.

Protecting people and assets from hydrocarbons

The infrared absorption method of detection is ideal for the detection of larger hydrocarbon molecules such as fuels. It features enough sensitivity to expand the range of application into the ppm range. For instance fuels such as gasoline, diesel or kerosene are mixtures of hydrocarbons.

Infrared gas detection theory of operation

Some gases absorb light at a certain wavelength (color). This absorption band is specific to the gas. The rate of the absorption depends not only on the substance to be detected but also on the number of gas molecules (i.e. the concentration of the gas). This premise is used to detect gases. For example, the C – H bond in hydrocarbon molecules will oscillate and absorb light at 3,4 mm. This fact makes it so easy to detect fuels. Hexane, for instance has 14 C – H bonds compared to Methane that has only 4!

A light beam is directed through a cuvette filled with the gas to be detected. The more hydrocarbons present, the more light will be absorbed. A photo detector at the other end of the cuvette measures the remaining light intensity. The difference between the original and remaining light intensity corresponds to the gas concentration.

A reference beam with a different wavelength compensates for potential interferences of dust, humidity or variations of intensity from the light source.

Statox 501 IR

Hydrocarbons, Unsaturated hydrocarbons, CO_2

Fail-safe technology

Failure of important components such as the light source or photo detector will trigger a "system fail" alarm. Most local authorities will accept this as a self-diagnostic feature. Systems including a self-check require less maintenance and calibration, saving time and money.

Simple maintenance: Easy to read display and non–intrusive calibration

The bright LED display of the Statox 501 IR shows the gas concentration in percent L.E.L. (Lower Explosion Limit). An important accessory is the calibration adapter, featuring control buttons operating Hall-sensors inside the Ex d housing.

The service menu is password protected preventing unauthorised access. All parameters can be checked and changed, or a calibration can be done all without opening the transmitter. The adapter is also equipped with a gas outlet so that it can be used for flow-through applications.

Impervious compact design

The dimensions of the Statox 501 IR are small and compact. The sensor compartment is completely sealed, not allowing dust or insects to enter. It is located in the center of the sensor head. This allows heat radiation from the electronics and the infrared lamp to keep the unit a few degrees above the ambient temperature thus avoiding condensation. This innovative design makes any additional heating unnecessary, allowing the sensor head to be very energy efficient. This saves additional money by eliminating more expensive wiring and a bigger power supply that would otherwise be necessary.

The sensor head is rated protection class IP 67 (6 = protection even against fine dust, 7 = submerged 1 m deep in water for 30 minutes). You can have confidence that this system will safely operate even in the harshest environment.

Statox 4120

The system consists of an intrinsically safe sensor head communicating with a control module. Up to 9 control modules can be located in a 19"-rack where each combination sensor head - control module works as an independent detection system. Therefore the total system can be expanded without limitation.

System Reliability by Automatic Self Check

Today's monitoring requirements demand a high degree of reliability and fault-free performance. The Statox system incorporates an automatic self check routine every 24 hours. The system completely verifies and tests all components including the sensor for proper operation. The sensor is dynamically tested via an internally generated target gas which assures that its' response and recovery meet acceptable performance specifications. If a fault is detected in any of the components, it immediately notifies the control unit. The test can be initiated manually either from the control panel or the remote sensor head.

No electromagnetic interference

The remote sensor heads are made of chromium plated ABS. This makes them extremely sturdy and resistant to electromagnetic radiation. The Statox is CE – approved. Its safety against electromagnetic interference has been proven by a qualified laboratory.

One – man calibration and fault diagnosis

Sensor calibration and system fault diagnosis are easily achieved via the use of the Statox portable calibration and diagnostic unit. This intrinsically safe unit is connected by an optic coupler to the sensor head and allows one person to electronically calibrate a new sensor, diagnose any faults, or initiate a complete system test. All this is done without ever having to open the sensor head.

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Monitox	x	x	x	x		x			x	x	x	x		x	x	x	x	
Dositox	x	x	x	x		x			x	x	x			x	x	x	x	
Minitox									x									
Ex plus							x											
Tracer		x	x			x			x	x	x			x				
Statox 501	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Statox 501 IR					x		x											
Statox 4120		x	x	x		x			x	x	x			x			x	

COMPUR Monitors

Compur Monitors GmbH & Co. KG
Weißenseestraße 101
D-81539 München

Phone: ++49 89 620 38 - 0
Fax: ++49 89 620 38 - 184

E-Mail: compurmonitors@t-online.de
Internet: **www.compur.com**

USA, Canada, Mexico:

Compur Monitors Inc.
100 East Nasa Road One, Suite 308
USA-Webster, TX 77598

Phone: ++1 281 338 78 85
Fax: ++1 281 557 79 11

E-Mail: USCompur@compur.us

Belgium, Netherlands, Luxemburg:

Compur Monitors B.V.
De Veldoven 49
NL-3342 GR Hendrik Ido Ambacht

Phone: ++31 78 682 05 37
Fax: ++31 78 682 19 36

E-Mail: info@compur.nl
Internet: **www.compur.nl**

Frankreich:

Compur Monitors SARL
155 Avenue du General de Gaulle
F-62140 Clamart

Phone: ++33 1 45 37 89 51

E-Mail: compur@compur.fr
Internet: **www.compur.fr**