COMPUR Monitors

Gasdetection for your Safety

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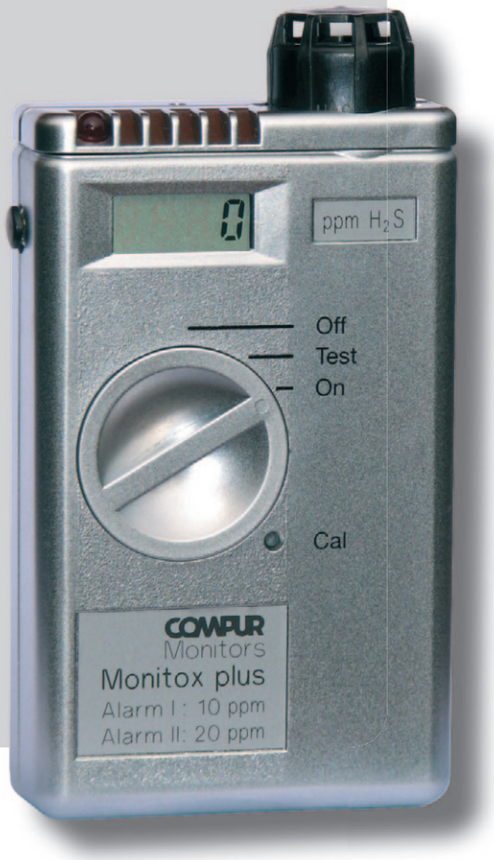


Cl_2
CO
$COCl_2$
HCl
HCN

Monitox plus
The classic single Gas Detector

The Monitox plus can detect five different toxic gases.
It measures the actual gas concentration and generates
a visual and audible alarm as soon as the user selectable
alarm threshold is exceeded.

A functional test or calibration, and even sensor replacement
can be performed without opening the instrument.

An extra safety feature is the sensor heartbeat monitoring.
This feature will detect a missing or defective sensor.

Test Gas Generator for easy Bump Test of Gas Detectors
Safety in ten Seconds

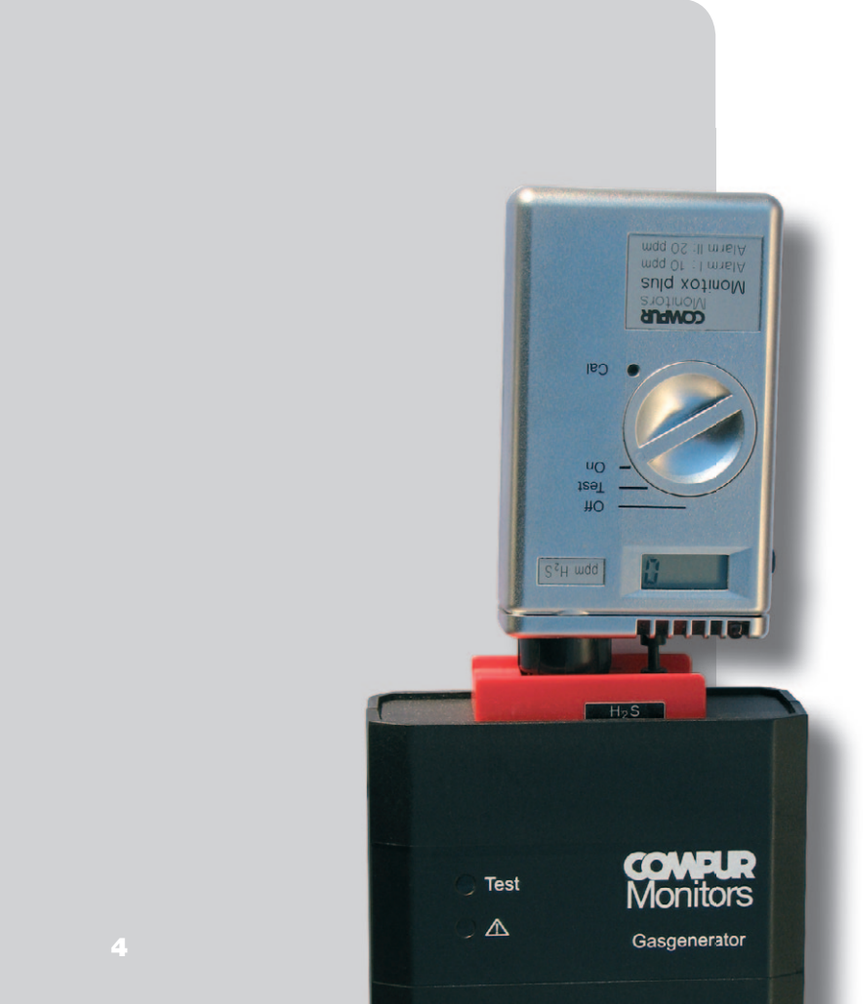
Personnel working in chemical plants, uses gas detectors to protect themselves from exposure to toxic gases. Gas leaks fortunately happen very rarely, so the gas detector will normally read “zero” all the time.

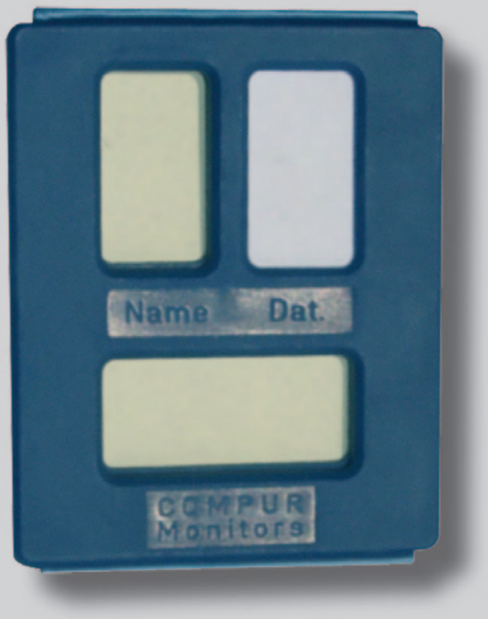
The “zero” reading may have two reasons:
a) The gas concentration is zero.
b) The gas detector is defective.

For this good reason a daily performance test of the gas detector is mandatory in many plants. A complete calibration would be too time-consuming, but a bump test will prove that the detector is working. It will reliably indicate any damage by wear and tear or abuse.

The gas generator can be operated by everyone without extra training. The gas generation starts, as soon as a gas detector is attached to it. It stops gas generation automatically after ten seconds, or if the gas detector is removed. If the detector fails to alarm within this time interval, it needs to be serviced.

$COCl_2$
Cl_2
CO
HCN
H_2S
NO_2
O_3
SO_2





$COCl_2$

Phosgene Indicator Badge Field-Proven Technology

A reusable badge holder equipped with a robust clip holds an indicator paper that changes its color when exposed to Phosgene. It can be easily attached to the clothing or hard hat. The indicator paper should be replaced after three days.

The intensity of the stain gives important information to the doctor attending phosgene exposed personnel.

One of the gas access windows is covered with an extra diffusion barrier providing two measuring ranges in one badge.

The reasonable price of the Compur indicator badge allows monitoring all personnel in the plant.

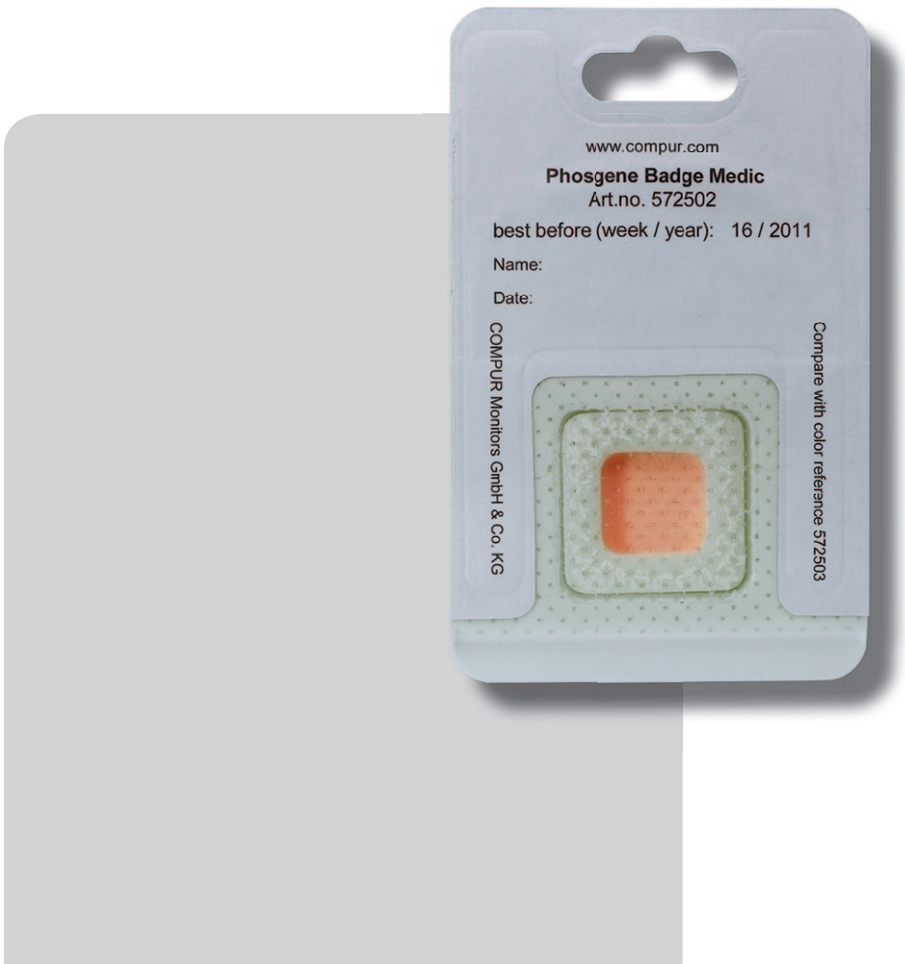
$COCl_2$

Phosgene Indicator Badge MEDIC
The latest Addition

Recent research in industrial hygiene has shown, that therapy procedures of phosgene-exposed personnel needed to be changed. This required an indicator badge with new specifications.

Phosgene intoxication may not show immediate symptoms. Thus the doctor attending has no immediate physical indication for the exposure. Therefore the MEDIC badge is his most important tool to decide upon an adequate therapy.

The badge should be worn by any personnel in the plant – not only in the manufacturing area. It is good for five days, covering a full working week.



Tracer
No Leakage can go unnoticed

The Tracer is a leak detector specific to extremely toxic gases. It is very sensitive: The detection limit is as low as 2 ppb for some gases. To locate a leak, just move the tip of the sampling probe along the surface to be inspected. As soon as the probe is approaching a leak, the gas concentration will increase. The reading (digital or bargraph) as well as the frequency of the audible signal will increase.

The Tracer protects its sensor from poisoning. The pump is switched off as soon as the measuring range is exceeded. It will start again, as soon as the concentration drops to a normal level.

To locate larger leaks, the Tracer can easily be converted to a high range version. Just unplug the low range sensor and replace it by the high range sensor. No tools required.

Cl_2
ClO_2
CO
$COCl_2$
H_2S
HCl
HCN
NO_2

Functional safety

Compur Statox 502 Control Module

One for all

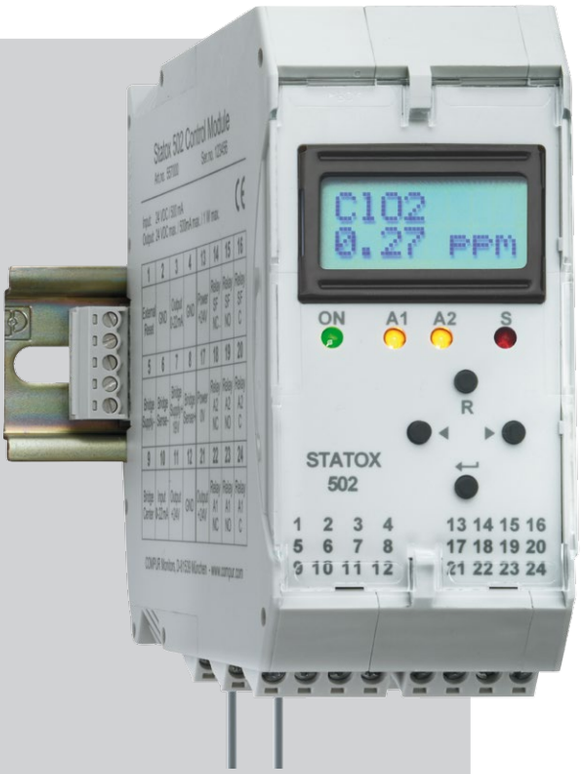
No matter if you want to detect toxic or combustible gases: This control module works with any sensor head. It provides the power supply and processes the signal. Three highly rated relays and a 4 - 20 mA output are the interfaces to peripheral instrumentation.

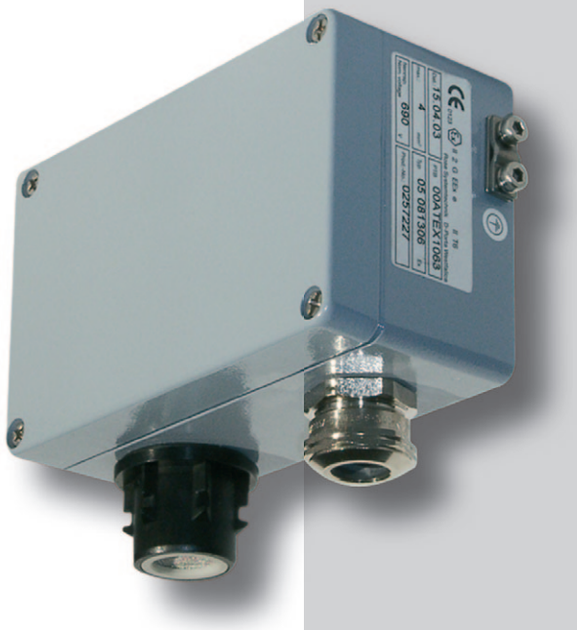
Potential front ends may be the Statox 501 or Statox 505 transmitters with electrochemical or infrared sensors, or sensor heads with a Wheatstone bridge signal such as Statox 501 PID, catalytic or the Statox 501 LC and MC series with infrared sensors.

Just by the push of a button you can program the module to handle 4 - 20 mA sink or source. Even the bridge voltage can be set to any value between 2 and 5.2 V, it even works with sensor heads of other manufacturers.

So there is no restriction at all when selecting the appropriate sensor head for your application. With its two “sense” lines it can even compensate the voltage drop in the cable for very remote sensor heads or if there are extreme temperature variations.

For maximum flexibility themeasuring range is user program-mable. You can also select the unit, no matter if it is ppb, ppm, % LEL or % volume.





Statox 501 HRC and ARE
Two Sensor Heads covering all explosive Hazards

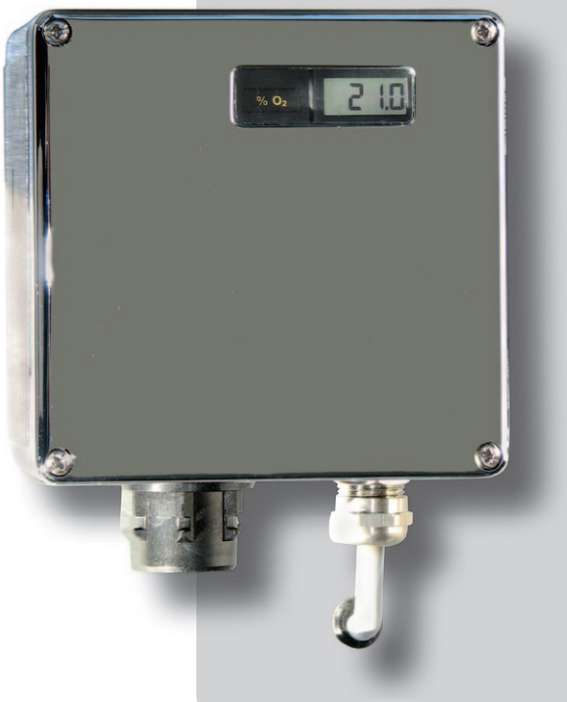
Statox 501 sensor heads HRC and ARE detect combustible gases in the range 0 – 100 % LEL. Both operate with catalytic sensors. This sensor type burns the gas to be detected on the catalytic surface of the sensing element and thus increases its internal temperature and electrical resistance. This parameter is easy to measure. Therefore these sensor heads are robust and affordable.

Catalytic sensors respond to any kind of combustibles although not with the same sensitivity for different substances. Statox 501 HRC is the better choice for volatile hydrocarbons, while the ARE type is very good for solvents and fuels.

Both sensor heads operate in conjunction with the Statox 502 control module which provides the power supply and processes the signal. It features three powerful relays and a 4 – 20 mA analog output.

The combination sensor head / control module constitutes a complete gas detection system for combustible gases. There is one potential disadvantage of catalytic sensors: Their reliability may be compromised by catalyst poison or oxygen deficiency. In this case one of Compur Monitors infrared gas detectors will be the better alternative.

AsH_3
Cl_2
ClO_2
CO
$COCl_2$
H_2
H_2S
HCl
HCN
HF
N_2H_4
NH_3
NO_2
O_2
O_3
PH_3
SO_2



Statox 501 S
The most versatile Toxic Gas Detector

Wherever dangerous concentrations of toxic gases or oxygen deficiency may occur, the Statox 501 S will monitor the atmosphere.

It provides safety, outdoors as well as indoors. This gas detection system is field – proven in the chemical and petrochemical industry, in waste water treatment and manufacturing plants. It operates with electrochemical sensors, which are very specific to the target gas.

The transmitter provides a linear 4 – 20 mA signal, which can be run into a Statox 502 control module or directly into a process control system.

As the electronics are designed intrinsically safe, the sensor head can be opened even in hazardous atmosphere without any extra precautions. This makes calibration or even sensor replacement very easy. As the sensor head has a digital display, only a gas adapter and a screw driver are needed to do this.

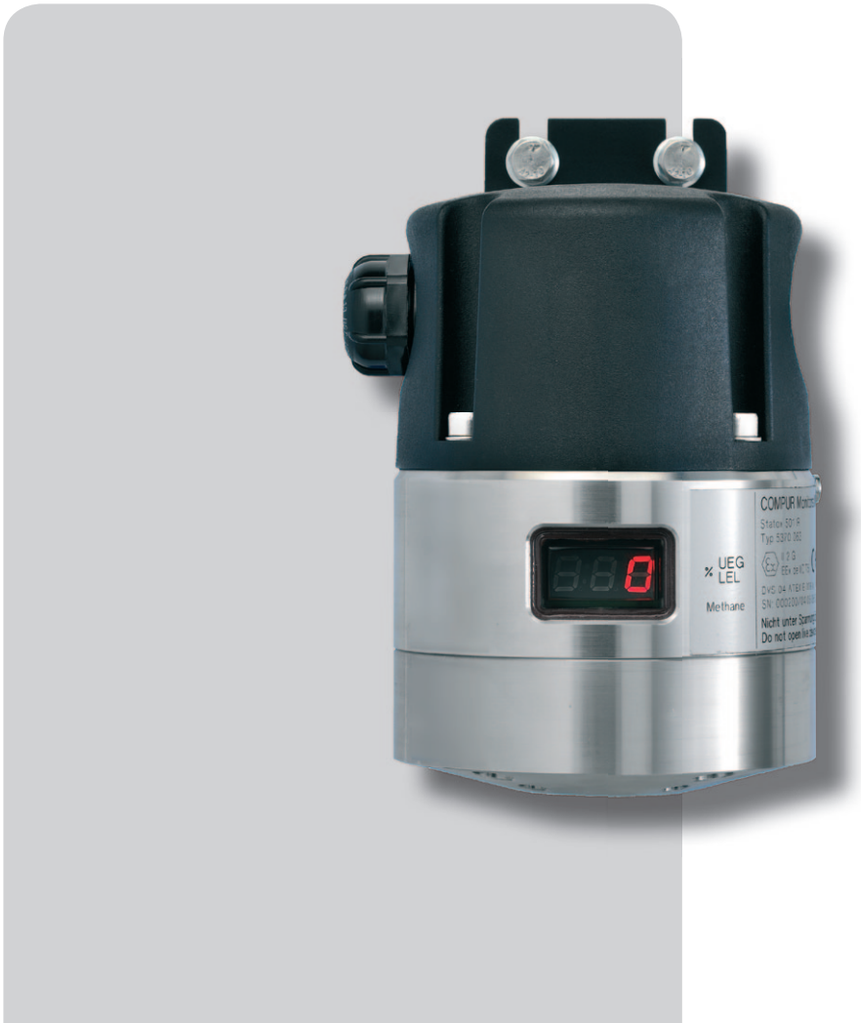
Compur Statox 501 Infratox
The Comfort Class

Statox 501 Infratox detects combustible gases or CO2 in the ppm range or 0 – 100 % LEL. The sensor head is an active transmitter with 4 – 20 mA output, electrically isolated from the power supply. The digital display shows the actual concentration.

Two magnetic pins on the gas adapter operate hall sensors inside the sensor head. This non-intrusive feature gives access to the calibration menu and all parameter setting programs.

The infrared sensor itself is located in the center of the stainless steel body. It is always kept warm by the excess heat from the lamp and the electronics. This prevents condensation without extra heating.

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.

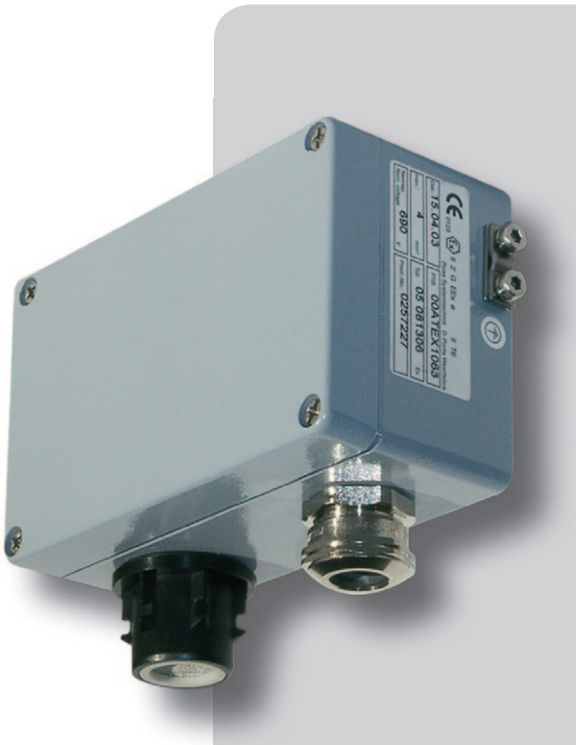


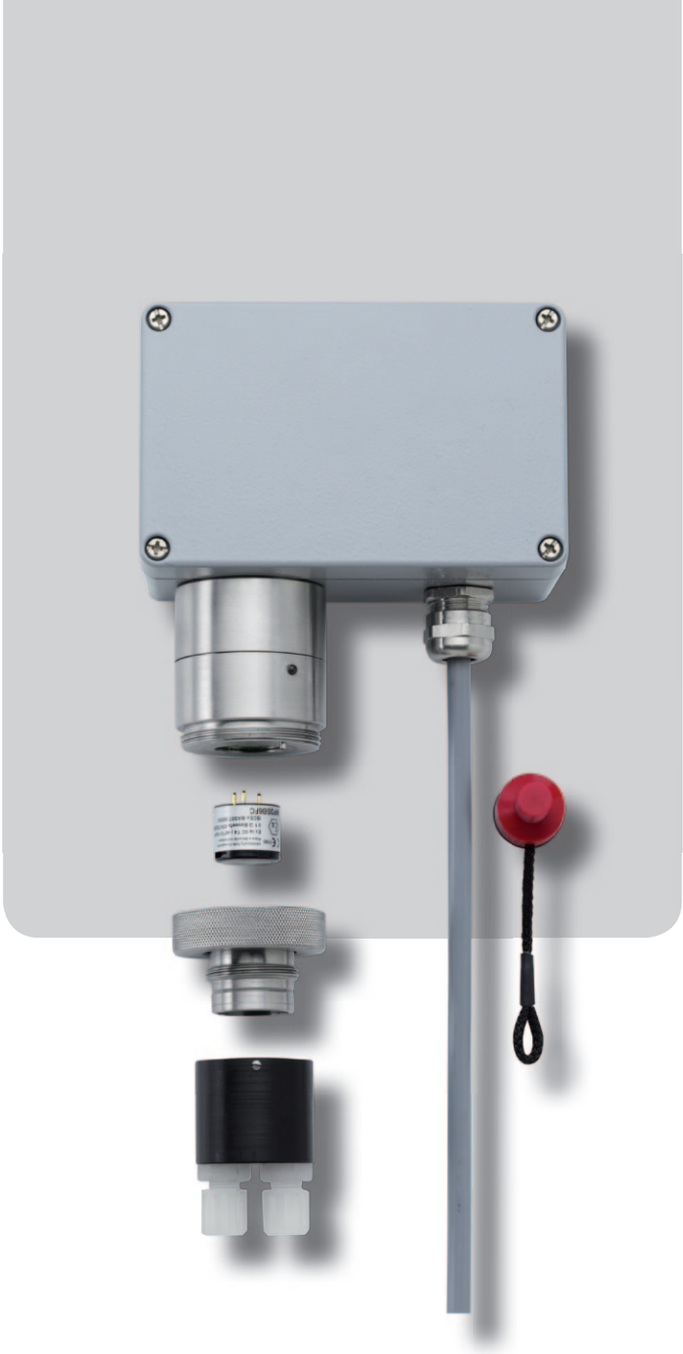
Compur Statox 501 Infrared LC and MC
Safety at a favorable price

These two detectors for combustible gases stand for reasonably priced high quality gas detectors. The sensor heads consist of an EEx e housing and the sensor itself. The sensors operate with infrared absorption. Their output signal is a voltage signal similar to a catalytic sensor. Therefore it can be operated with the Statox 502 control module.

This design features the advantages of an infrared combustible gas detector nearly for the price of a catalytic sensor. In fact it can even replace catalytic sensors wherever corrosion problems have occurred – without replacing the entire hardware!

While the LC-type is most suitable for ideal gases, the MC-type works better for solvents and fuels. Response factors for many gases are published on **www.compur.com** Using these response factors you can easily calibrate the sensor heads in the field with commercially available span gas.





Statox 501 PID
The Allrounder

PIDs (Photo-Ionisation-Detectors) detect VOCs (Volatile Organic Compounds) in the ppm range, which other sensor types are unable to monitor, like solvents and fuels.

A PID sensor uses high energy ultra violet light radiation to break gas molecules into radicals, which are discharged while passing a condenser. The discharge current increases proportional to the number of molecules, i. e. the gas concentration.

The standard Statox 501 PID will detect all substances with a ionization energy below 10,6 eV

Statox 505
You always know what is going on in your plant

The new Statox 505 gas detector family features everything a modern gas detector needs:

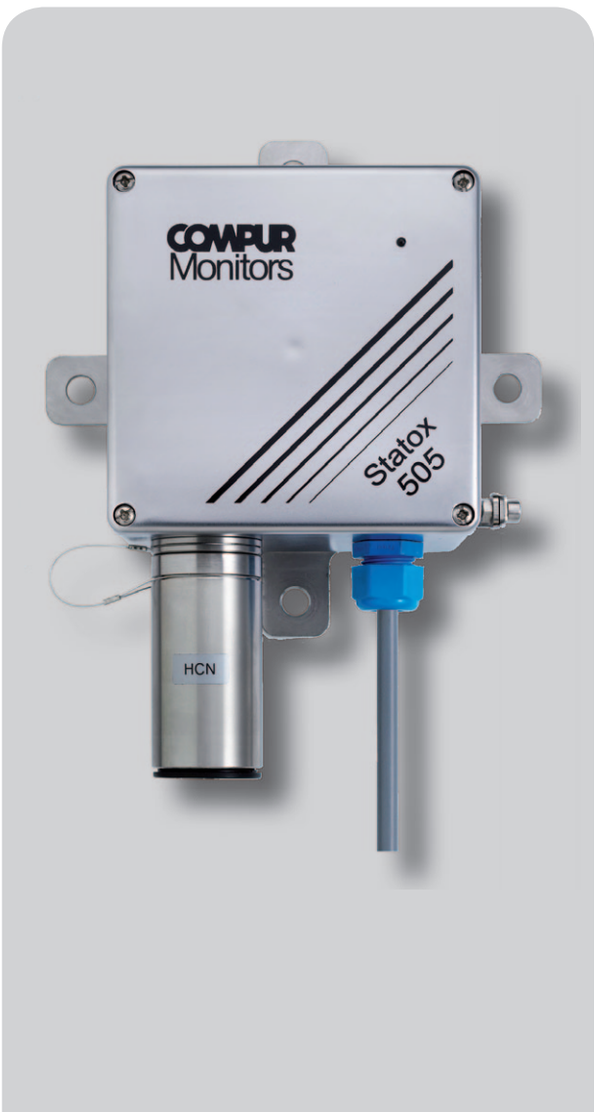
- Sil 2 standard
- Sensor heartbeat technology
- Smart sensor

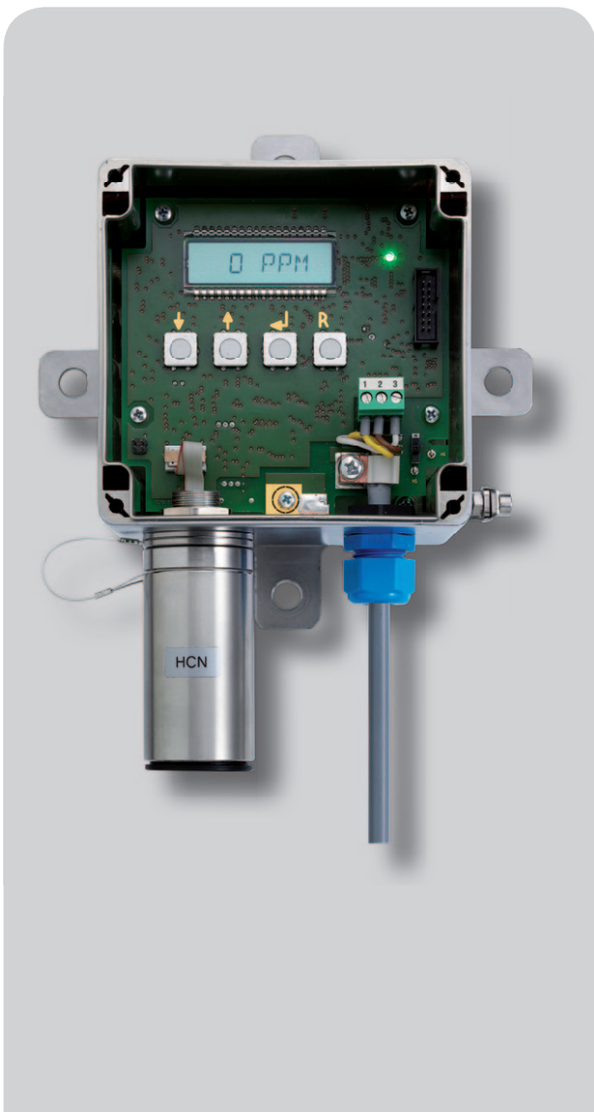
Statox 505 complies with the requirements of Sil standard according to DIN EN 61508 as well as DIN EN 50402. The hardware assessment has been performed by EXIDA. All important parameters are permanently monitored, so that no undetected dangerous failure can occur.

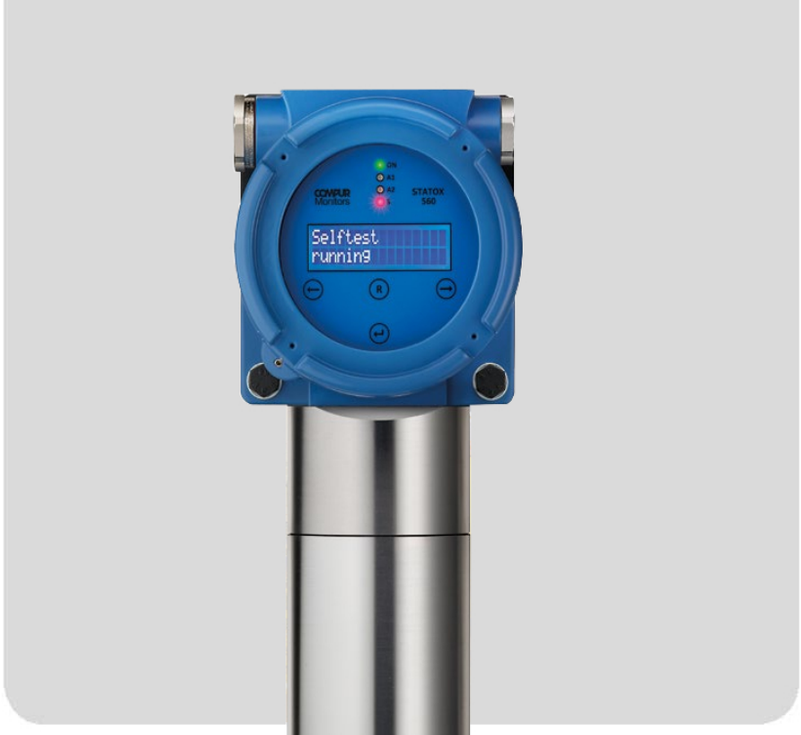
All relevant sensor parameters are saved in the sensor F-RAM memory. For the user this means that he can do calibration work in the workshop, away from the harsh elements. All you have to do is remove the sensor (no tool required!), calibrate it in the shop and then plug it back in.

The display and controls are located inside the housing – well protected from the elements. The sensor head comes inclusive a stainless steel mounting plate for wall or pipe mounting.

AsH_3
Cl_2
ClO_2
CO
$COCl_2$
H_2
H_2S
HCl
HCN
HF
N_2H_4
NH_3
NO_2
O_2
O_3
PH_3
SO_2







Compur Statox 560 – Gas Detector with Self Test

Functional Safety

In order to achieve a maximum SIL rating, manufacturers use high quality components and include many test routines into the software. Statox 560 complies with the requirements of SIL 2.

Self Test

A SIL rating quantifies the probability of failure on demand, i. e. the probability that the gas detector will be unable to detect gas, while there is a leakage which is roughly once in 10.000 years. This does not tell you, that this will not happen just the other day.

Therefore Statox 560 does not only comply with SIL 2 requirements, but it also performs a daily self - test with the target gas. Only applying gas to the sensor is the ultimate test of the entire system. Some Compur gas generators are even patented.

Construction

The electronics is located in an Ex “d” housing, which does not need to be opened once the sensor has been installed and connected. It is operated with a magnetic pin through the window.

All consumables are located in an Ex “i” sensor module. The sensor module can be opened or even removed without any precautions such as hot work permit.

Plug - and Play

As sensing element the Statox 560 is using the field proven sensors of the Statox 505 product family. They come with an on board F Ram providing all relevant parameters, such as measuring gas, range, calibration data and history, total dose and the sensor sensitivity.

Stand Alone

The sensor head provides the following status parameters as open collector contacts: alarm 1, alarm 2 system failure and maintenance request. Connecting these to external alarm devices will give you the capability to use Statox 560 as stand alone unit.

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