

The WITEC logo is located in the top right corner of the image. It consists of the word "WITEC" in a bold, sans-serif font, with a stylized "C" that incorporates a circular element. The logo is white and is set against a dark, rounded rectangular background.A red, starburst-shaped callout box is positioned on the left side of the image. It contains the text "NEW processline selective methane NDIR Humidity" in white, bold, sans-serif font. The word "NEW" is larger and more prominent than the other text.The main headline is centered in the lower half of the image. It is written in white, bold, sans-serif capital letters on a bright orange rectangular background. The text reads "HIGH-PRECISION MODULAR GAS MEASUREMENT TECHNOLOGY".A dark grey rectangular box is located at the bottom center of the image. It contains the text "Configurable & combinable OEM sensors" in white, sans-serif font.



THE GAS MEASUREMENT COMPANY

!CAUSE IT MAKES .SENS

Wi.Tec-Sensorik GmbH, Schepersweg 41-61, 46485 Wesel, Germany
Tel +49-281-206578-20 · info@witec-sensorik.de · www.witec-sensorik.de



Editorial



Dipl.-Ing. Sebastian Wiegleb Prof. Dr. Gerhard Wiegleb



Our vision for the future is to provide appropriate measurement technology that will help to master the challenges in the energy and environmental sector in an intelligent and sustainable way.

Wi.Tec-Sensorik GmbH is a technology company specializing in the development, production and distribution of high-quality physical gas measurement modules. Our goal is to convert customer requirements into series products. In our development center we have the necessary competences in the field of sensor development, mechanical engineering and hard / software design. We use the latest software tools to make our

products better and better. Manufacturing is exclusively done in Germany. We have a long and successful cooperation with our local suppliers.

The technological improvements are constantly updated and supported by government funded R&D projects. The company is managed by the founders and is majority owned by the founding family.



We carry on where others stop!

Wi.Tec-Sensorik GmbH has extensive specialist knowledge in the field of gas measurement technology and signal processing. We develop and manufacture high-quality gas measurement modules for use in analysis devices, for control tasks in process engineering and for monitoring processes.

The technological basis is our own developed NDIR and NDUV technology, with which almost all IR and UV active gases can be measured down to the low ppm range. Another focus is our customer-oriented application analysis, where we work together with our customer to develop a customized solution and then offer a product suitable for series production.

Research, development and production are located in one place, ensuring flexible and high quality products that push the physical limits.

In addition to IR and UV photometers, our company offers a range of other sensors for measuring temperature, pressure, humidity and oxygen, which can be combined with our photometric modules.

In 2014 Wi.Tec-Sensorik GmbH was founded by Prof. Dr. Gerhard Wiegler and Dipl.-Ing. Sebastian Wiegler in Schermbeck / Germany. The management is carried out by the two founders.

On the occasion of the 5th anniversary, the development and

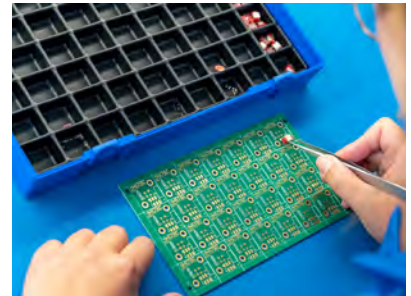
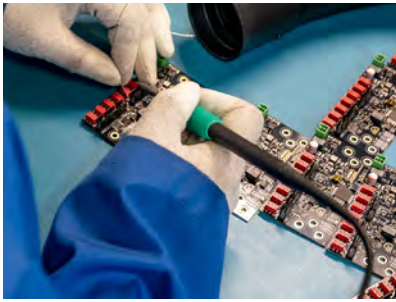
production site in Wesel was expanded to a total of 525 sqm in order to create additional capacities for the increasing production and the R&D area.

As a goal to push the standardization of the processes even further, the company Wi.Tec-Sensorik has started the project ISO 9001 and will probably conclude this with the certification at the end of the year to be able to live it further.



We already cover standardized measurement tasks with our highly developed, up-to-date gas sensors. In the spectral range from 214 nm (UV) to 12 μ m (IR), our current products **INFRA.sens**[®] and **ULTRA.sens**[®] are able to detect and evaluate in detail almost all important gases.

»Standard can do some – we can do more!«



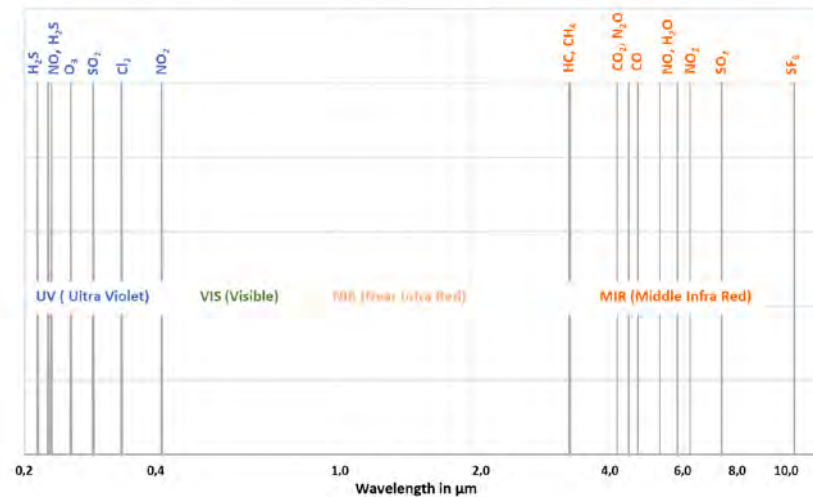
Modular sensor design

In order to be able to adapt gas analyses as flexibly as possible to individual measurement tasks, the individual components designed modularly. This resulted in a »modular system« in which the various photometric components such as detectors, emitters,

measuring sample cell, etc. can be exchanged. Aluminium with bright gold coating and passivated stainless steel is used as the standard sample cell material. Other materials are also available for special Applications.

With this sophisticated sensor design, customer-specific applications can also be realized without the need for a completely new development. The modularity makes replacement and maintenance considerably easier when servicing is required. Completely bonded gas sensors, on the other hand, can only be replaced as a complete unit and thus generate high follow-up costs (total cost of ownership) in case of maintenance.

Optionally, the different gas measurement modules can also be equipped with a pressure measurement (**P.sens**) oxygen measurement (**O2.sens**) or a humidity measurement (**HUMI.sens**).

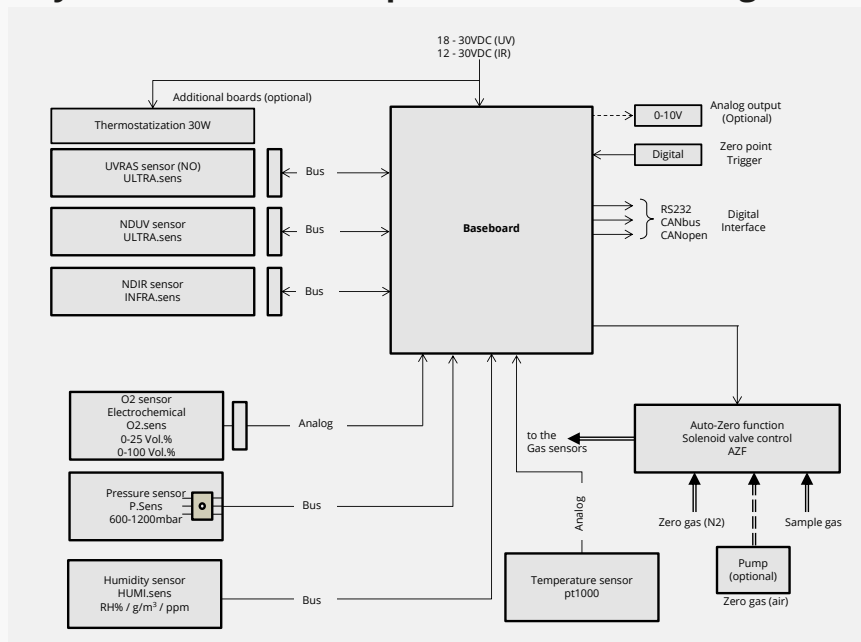


Analyze up to 4 different gases with only one module!



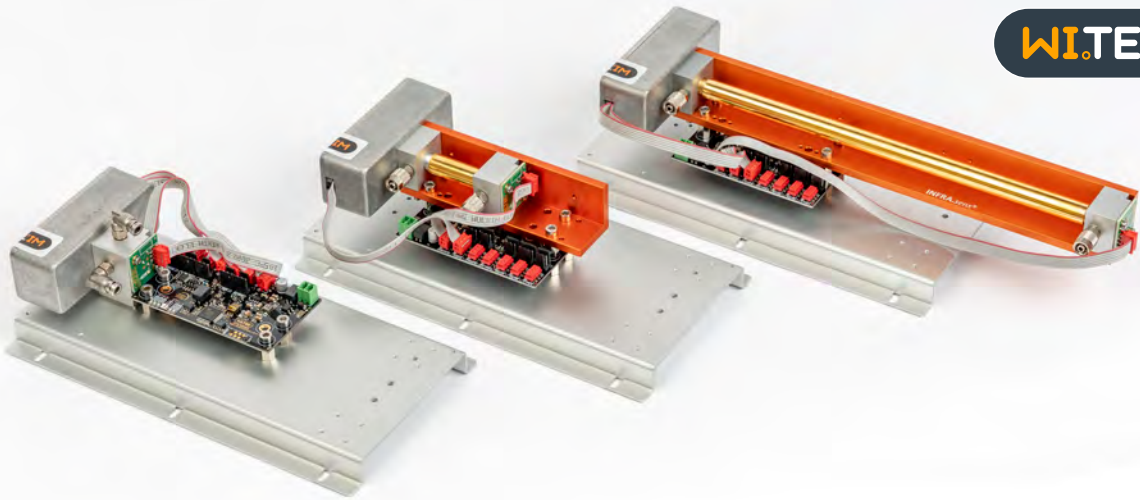
Please note: All content of this brochure is subject to change without notice.

System overview - all possibilities in one diagram



The most recent version of this content can be found online at ...
<https://www.witec-sensorik.de/en/gas-sensors/>





INFRA.sens® AK5 compact // INFRA.sens® AK20G compact // INFRA.sens® AK250G compact

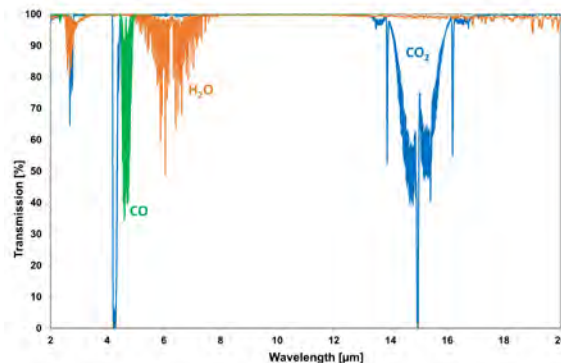
NDIR sensor technology pushed to the limits

The **INFRA.sens®** was specially developed for high-quality NDIR gas analysis. In the design phase, special emphasis was placed on high stability and a low detection limit. With the use of high-performance light emitting diodes (IR-LED) and thermal micro radiators, which were adapted to the needs of gas measurement technology,

these goals were achieved in full. The corona impact pushed us to revise and improve the algorithm of the NDIR sensor technology. This allowed us to improve our IR technology by a huge factor compared to 2019, especially in terms of detection limit. With our **INFRA.sens®** series, we can build

modules with a sample cell from 1mm up to a quarter meter. In the spectral range from 2 µm to 12 µm, this series can reliably detect carbon dioxide, carbon monoxide, hydrocarbons, nitrous oxide, sulfur hexafluoride, and tetrafluoromethane from 100 vol.% down to the ppm range.

Typical infrared spectra with some examples of measured gasses



Applications

- › TOC Analysis
- › Elemental Analysis
- › Biogas Monitoring
- › GIS Monitoring
- › Natural Gas Monitoring
- › Humidity Measurement
- › Automotive Exhaust Gas Analysis
- › Continuous Emission Monitoring

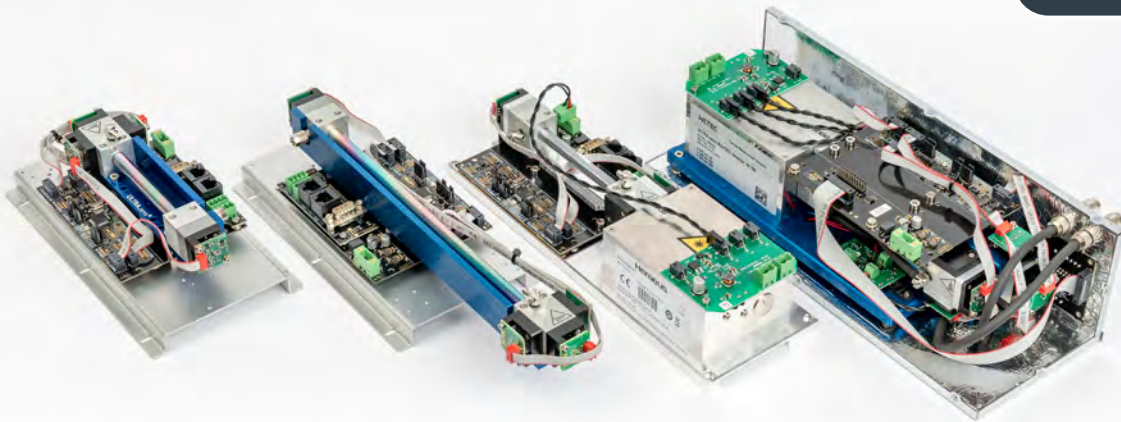
Features & Benefits

- › Gold plated sample cell
- › Response time: t₉₀ < 1,5 s
- › High dynamic range: 1:100
- › Temperature range: 5 °C - 45 °C
- › Power consumption: < 5 W @12 V (with basisboard IR-compact)
- › Communication: RS232, CAN bus
- › Analog output (0 - 10 V) as an option

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/products/infra-sens/>





ULTRA.sens® AK100 // ULTRA.sens® AK250 // ULTRA.sens® H₂S-AK100 // ULTRA.sens® NO_x/SO₂-AK100 TBH

NDUV sensor technology at an enormous variety

The **ULTRA.sens®** is the world's first OEM gas measurement module based on miniaturized UV LEDs. The stability and lifetime of these UV-LEDs enables high-precision gas analyses down to the ppb range. By using two UV-LEDs 2 gases can be detected simultaneously.

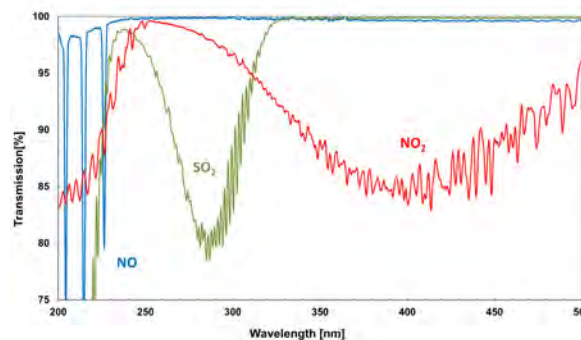
With this approach, 2 measuring ranges from ppm to vol% can also be realized. For the detection of NO and H₂S an EDL (electrodeless gas discharge lamp) is used.

A combination of both technologies (UVRAS & UVLEDs) allows

simultaneous gas analysis of NO, NO₂ and SO₂ in the lower ppm range, which is particularly important in flue gas analysis (CEM). We detect these gases in the spectral range from 200 nm to 500 nm with the **ULTRA.sens®** series.

Applications

- › Elemental Analysis
- › Automotive Exhaust Gas Analysis
- › Continuous Emission Monitoring
- › Biogas Monitoring
- › Process Gas Analysis
- › Sterilization Monitoring



Typical ultraviolet spectra with some examples of detectable gasses

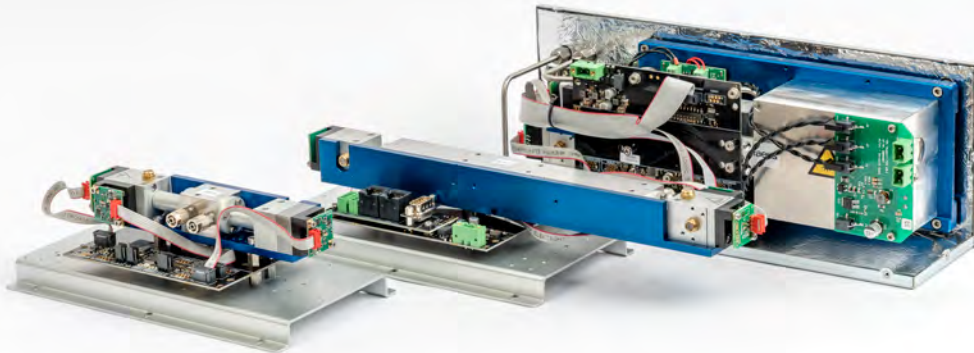
The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/products/ultra-sens/>



Features & Benefits

- › Coated stainless steel sample cell
- › Fast response time: t90 < 1 s
- › High dynamic range: 1:100
- › Temperature range: 5 °C - 45 °C
- › Power Consumption: < 3 W @24 V
- › Communication: RS232, CAN bus
- › Analog output (0 - 10 V) as an option
- › Combination of 2 optical measuring paths to 1 basisbaord (**KOMBI.sens**)



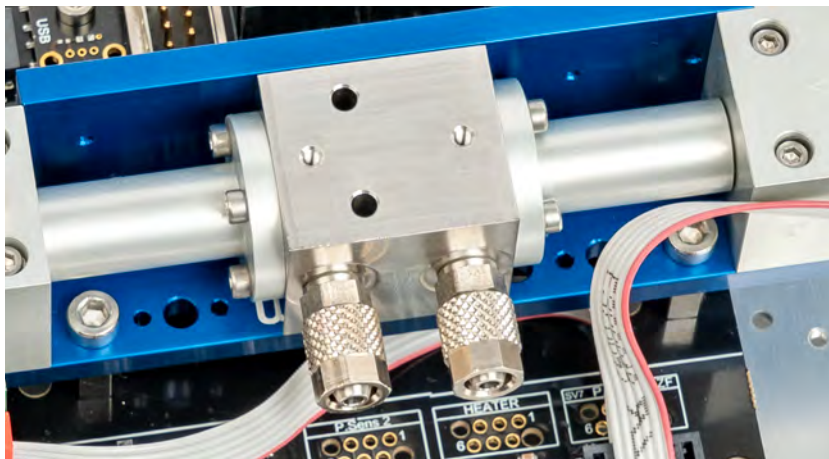
ULTRA.sens® processline AK25 & ULTRA.sens® processline AK200 & ULTRA.sens® processline NO_x/SO₂-AK50 TBH piped

NDUV sensor technology now ready for corrosive gases

In many areas of process engineering, reactive gases are used as starting products in chemical processes. These gases often are corrosive, so that only certain materials can be used. In process

measurement technology, these gases are usually detected with special photometers that are located locally outside the process. The process gas therefore comes in contact with all materials on its

way from the process to the sample cell. Both the design of the gas paths and that of the sample cell must therefore be adapted to these requirements.



The example on the left hand side shows a 25 mm sample cell made of stainless steel. This cell is complete sealed with O-rings and easy to dismountable for cleaning (adhesive-free)

Applications

- › Process Gas Analysis
- › Petrochemical
- › Electrolysis
- › Sterilization Process
- › Process Engineering

Features & Benefits

- › Gas-tight connection technology
- › Different materials available
- › Long term stability
- › Fast reponse time
- › Customized version available
- › Tube Diameter 6mm
- › Modules ready for piping

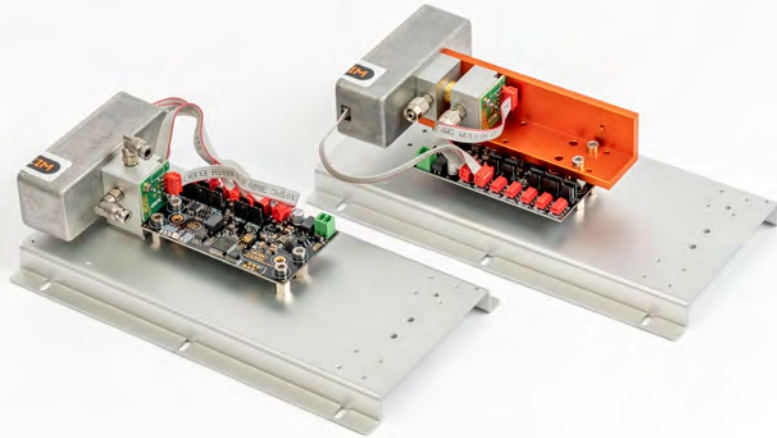
The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/products/ultra-sens-processline/>



Gas Insulated Switchgear Monitoring

SF₆ CF₄ CO CO₂ SO₂



INFRA.sens® AK2/μP compact // INFRA.sens® AK20G compact

To save the atmosphere – for quality and leakage measurement

In gas-insulated high- and medium-voltage switchgear, sulfur hexafluoride (SF₆) is used as an insulating and quenching gas.

Due to its structure, the gas is chemically inert and has a relative density about five times that of air. SF₆ is capable of switching off high short-circuit currents within milliseconds and extinguishing the resulting arcs. For qualitative control and monitoring of SF₆ the **INFRA.sens®** SF₆ - AK2 / μP can be used which detects concentrations up to 100 vol.% SF₆. Due to the density of the gas, a special procedure



for linearization with associated pressure, zero point temperature and end point temperature compensation is performed. Due to its greenhouse potential, leak

detection is an important application in which Wi.Tec's can be used. This measures down in the ppm range and is also zero and end point temperature compensated, as well as pressure compensated.

Since SF₆ has a high GWP, alternative insulating gases will be used in the future. These are e.g. CO₂, NOVEC 4710 etc. These gases can also be measured with the **INFRA.sens®** technology.

Furthermore, we can measure the reaction products, such as CO, H₂S and SO₂ in the insulating gas.

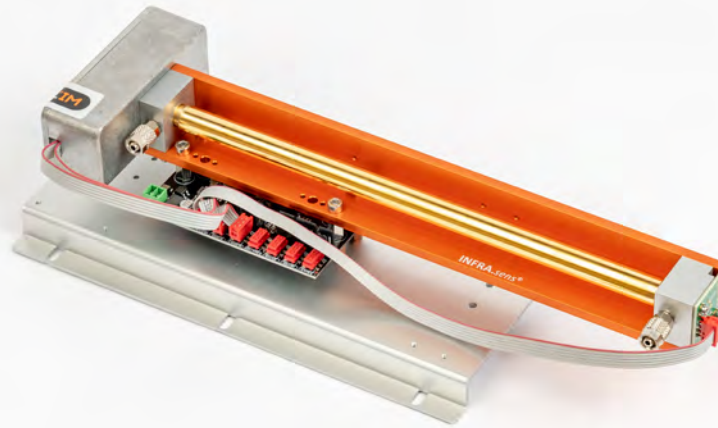
The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/gis-monitoring/>



Features & Benefits

- › Detection limit (3 sigma) < 0,1 vol.%
- › Linearity error < 0,5 % FS (Fullscale)
- › Including Temperature-compensation 5 - 45 °C
- › Including pressure compensation 300 - 1200 mbar
- › Ready to use module



INFRA.sens®AK250G compact

For a better environment – one module all ranges



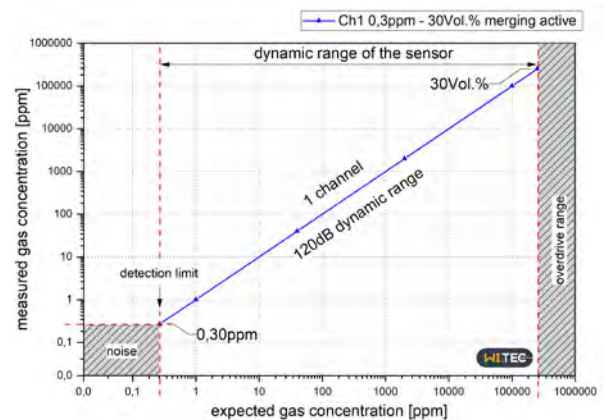
Water occurs in the most varied of qualities in our environment. As a rough differentiation, drinking water, waste water and cooling water can be named.

Organic impurities dissolved in the water in particular have a significant negative impact on its quality.

This must be determined qualitatively and quantitatively for a determination of the water quality. To analyze the organic constituents, small amounts of the water to be tested are fed into a thermal reactor and there oxidized to CO₂. Its concentration is then measured with a Wi.Tec sensor at the reactor outlet.

The TOC content of the water sample can be precisely determined on the basis of the measurement results.

High performance due to separate characteristic curves for the low and high measuring range. Both characteristics can be output in a single measuring channel by the merge algorithm developed by Wi.Tec. This facilitates integration and signal evaluation during TOC analysis of unknown samples.



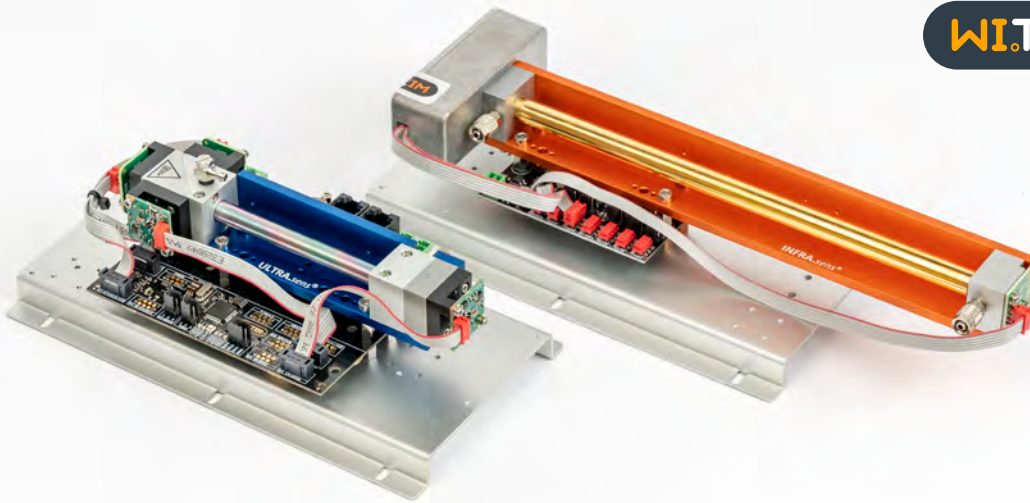
Features & Benefits

- › One channel output for 0 - 30 vol.% with accuracy of < 1 ppm (accuracy)
- › 2 sample cell version for different gas path available with only one module
- › Data rate of 100 ms possible

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/toc-analysis/>





ULTRA.sens® AK100 // INFRA.sens® AK250G compact

High precision leads to higher quality



In chemistry, the term quantitative elemental analysis is used to describe the quantitative determination of the elements carbon (C) and hydrogen (H) as the main constituents of all organic substances, as well as the most important heteroatoms: nitrogen (N), oxygen (O), sulfur (S), more rarely also phosphorus (P) and the halogens (F, Cl, Br, I).

Commercially available instruments of CHNS elemental analysis work according to the principle of the so-called combustion analysis. A precisely weighed sample quantity is transferred via a sample lock into a combustion tube and burned at continuous temperatures of up to ~1400 °C with the addition of pure oxygen (O₂). The released gaseous oxidation products (analysis gases) are then passed through the complete analyzer by means of an inert carrier gas. To reduce the nitrogen oxides (NO_x) formed during combustion to nitrogen (N₂) and to remove any excess O₂ from the analysis gas, the analysis gas is then passed through a packing of hot copper (chips or granules). Thus, only the analysis gases N₂, CO₂, H₂O and

SO₂ remain in the He carrier gas flow. At this point **ULTRA.sens®** and **INFRA.sens®** are used for the selective and quantitative determination of carbon (as CO₂) and sulfur (as SO₂). Based on the measured values, the components of the solid sample can be reliably determined.



Combinable to **KOMBI.sens**
CO₂/SO₂-AK250G / AK100

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/elemental-analysis/>

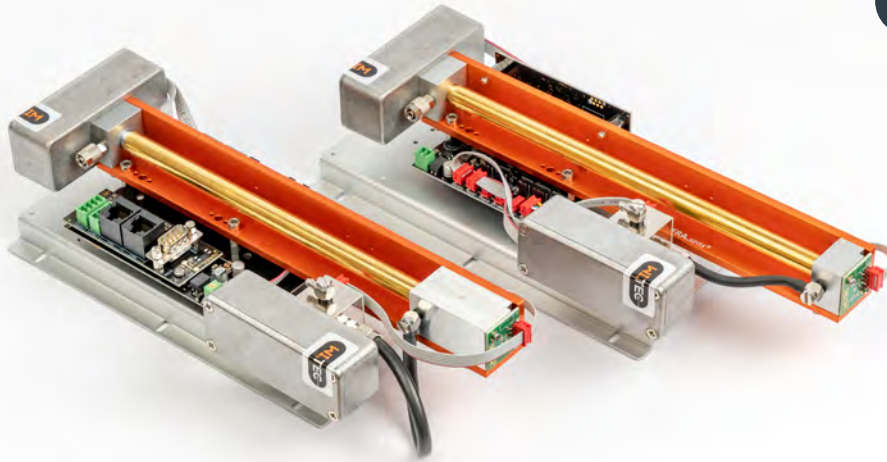


Features & Benefits

- › Area saving solution for 2 gases with best technology selection (NDUV & NDIR)
- › Data rate of 100ms possible
- › Correction algorithm for SO₂ to CO₂ and vice versa
- › Long lifetime of radiation source
- › SO₂ measurement possible with NDIR as well as NDUV

Automotive Exhaust Gas Analysis

CO CO₂ CH₄ N₂O HC NO_x



INFRA.sens®N₂O/CH₄/CO₂-AK220G/AK5 // INFRA.sens®N₂O/CH₄/CO₂-AK250G/AK5

Low emission means low ranges

Combustion engines emit a large number of gaseous substances that must be limited according to national and international regulations (e.g. EURO6). The control is carried out with appropriate exhaust gas analyzers. For this application, Wi.Tec offers carbon monoxide (CO), carbon dioxide (CO₂), hydrocarbon (HC), nitrogen oxide (N₂O) sensors and NO_x modules that comply with the latest technology and standards.

The **INFRA.sens**® CO₂/N₂O/CH₄-AK5/AK220G is based on the EURO7 standard, which is currently under discussion. The measurement of carbon dioxide is performed up to 20 vol.%, the measurement of nitrous oxide and methane is performed in the lower ppm range. Here, all cross-sensitivities of the gases to each other are already calculated in the main electronics and a cross-sensitivity to carbon monoxide can be excluded.



Features & Benefits

- › For high carbon monoxide ranges additional gas filter for suppression of interfering gases are integrated
- › Low N₂O measurement without CO₂ interference powered by software algorithm

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/automotive-exhaust-gas-analysis/>



Continuous Emission Monitoring (CEM)

CO CO₂ N₂O NO_x SO₂



ULTRA.sens® NO_x/SO₂-AK100TBH

Environmental Monitoring must not be expensive

In combustion processes, for the generation of electrical energy and heat, a variety of gaseous components are produced, such as carbon monoxide (CO), carbon dioxide (CO₂), hydrocarbons (HC), nitrogen monoxide (NO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂) and others. With the Wi.Tec modules, these exhaust gases can be recorded very accurately and with long-term stability. This applies both to stationary systems



in accordance with BImSchV. and to mobile measuring equipment

for periodic monitoring. With the **ULTRA.sens®** NO_x / SO₂ TBH module, Wi.Tec has brought the possibility of a simultaneous NO, NO₂ and SO₂ measurement with included cross calculation of the gases to each other on the market. The module is equipped with a thermobox heated to about 45°C and can be used immediately in your gas analyzer, since it is already compensated for pressure and temperature during production.

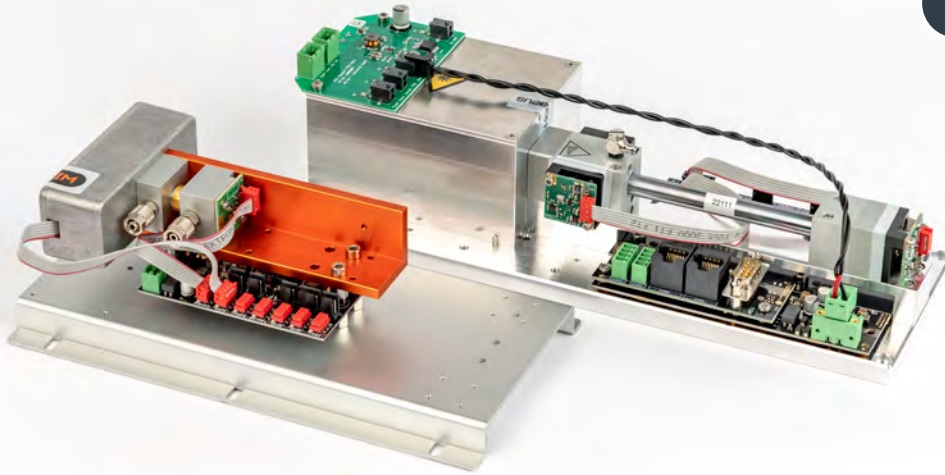
The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/cems/>



Features & Benefits

- › Solution for stationary, mobile and maritime analyzer
- › Vibration tested according to DIN EN60068-2-64(04/2009)



INFRA.sens® AK20G compact & ULTRA.sens® H₂S Modul

Measure the future energy sources

Biogas is produced by fermentation of organic waste and renewable resources (NAWAROS). The main components of biogas are methane (CH₄) and carbon dioxide (CO₂).



Depending on the type of material used, biogas may also contain a significant amount of hydrogen sulfide (H₂S). Furthermore, the biogas also contains nitrogen (N), oxygen (O₂), ammonia (NH₃), and water vapor/moisture.

Wi.Tec has implemented a special procedure for the calibration of the modules that are used for biogas

applications. Due to the carrier gas dependency of CO₂, Wi.Tec offers a module with vice versa CO₂/CH₄ calibration.

To detect the H₂S concentrations in biogas the **ULTRA.sens®** AK100 can be used for measurement ranges down to 100ppm.

H₂ development in progress based on thermal conductivity.



Features & Benefits

- › Wide range of solution in the area of renewable energy sources and infrastructure
- › Development in progress for a new kind of portable H₂S detector

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/renewable-gas-monitoring/>



Natural Gas Monitoring

CH₄ C_nH_m CO₂

NEW
selective
methane



WI.TEC

NGM 1000

Selective measurement in complex gas mixtures

The analysis of natural gas has recently become increasingly important. Since energy flows currently come from a variety of sources, this has significant implications for gas quality. Known sources include regional supply sources, injection of biogas and hydrogen from renewable sources, and the increasing use of LNG.

By knowing the gas flows and calorific values, this distribution in the network can be calculated or simulated. This SmartSim software enables grid operators to bill correctly for the injection of different gas qualities and thus simplifies the injection of biogas and hydrogen. Within the framework of a research project, these calculations are to be supported by reliable gas monitors.

For this purpose, Wi.Tec supplies a gas monitor (NGM) that can selectively detect methane (80 - 100 vol%) and C_nH_m (0 - 10 vol%).

Furthermore, the CO₂ concentration (0 - 5 vol%) in the natural gas mixture is analyzed.

The gas analysis is performed with a 3-channel **INFRA.sens**[®] and provides long-term stable measurement results.

The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/natural-gas-monitoring/>



Features & Benefits

- › Low power consumption (< 10 Watt)
- › Small size (28 cm x 20 cm x 10 cm)
- › Fast response time (t₉₀ = 10 sec.)
- › No complex calibrations required
- › Temperature and pressure compensated gas measurements
- › Designed for high pressure range up to 15 bar

Customer Specific Projects



BINOS®

Reliably detecting concentration changes in the ppb range

The **BINOS®** represents a housing platform in which the proven Wi.Tec products can be integrated. Furthermore, components for sample preparation such as sample gas pump, fine filter, dust filter, flow indicator etc. can be integrated into the device. It has a digital output CAN, RS232 as well as an optional analog output. The concept is based on a 19" rack-mount housing, which can also be integrated into a case housing for portable applications. Due to the modular concept, customer specific designs are possible at any time.

For the use in laboratory analysis Wi.Tec cooperates with the company Dr.-Ing. Ritter Apparatebau in Bochum/Germany. The individual photometric components **INFRA.sens®** and **ULTRA.sens®** are assembled by RITTER according to customer and order specifications and mounted in a high-quality bench-top housing. RITTER offers these instruments



mainly for biogas research and combines this gas analysis with own high-precision flow measurement equipment (drum-type gas meters and MilliGascounter).

Customer-specific requirements are supported by extensive spectral analyses, which are carried out in the Wi.Tec development center.

To reduce cross-sensitivities, hermetically sealed gas cells are available that mask out interfering spectral components. These cells are manufactured in-house and can thus be adapted to the respective application.

Your requirement is our challenge

You have a measuring task beyond the usual standards and are looking for a competent partner? Please contact us. Your measurement task is our challenge! The employees of **Wi.Tec-Sensorik GmbH** have extensive expertise in the field of industrial gas measurement technology and sensor signal processing.

More than 40 years of experience in research and development in various fields of application form an outstanding basis that clearly distinguishes us from our competitors.

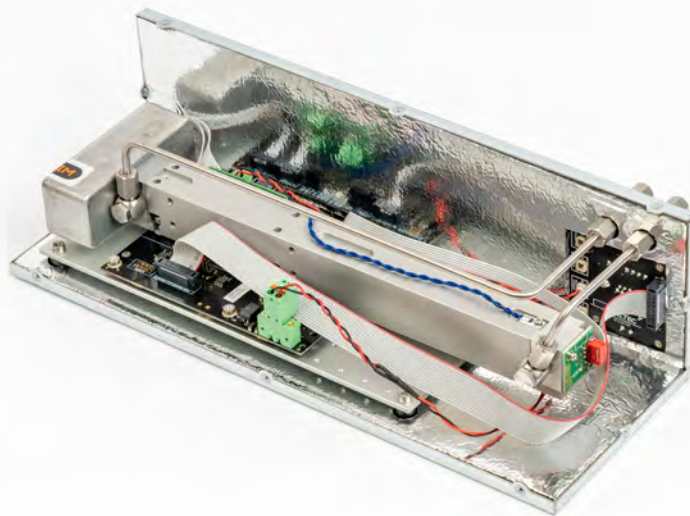
The most recent version of this content can be found online at ...

<https://www.witec-sensorik.de/en/applications/device-technology/>



Humidity Measurement

H₂O CO₂ CO N₂O C_nH_m CF₄ SF₆



INFRA.sens® CO₂/HC/H₂O-AK250GC/TBH piped

Compact alternative to laser and dew point mirror sensors

Humidity measurement is an important component of gas measurement technology, since a greater or lesser water vapor content is present in almost all applications. In combustion processes, for example, water is formed as a reaction product from the HC compounds, while in medical technology (breathing gas analysis) the water content originates from the lungs. Since the water content is very closely linked to the gas temperature, it can change over wide ranges and thus massively influence the concentration ratios in a gas mixture.

Here are some application areas:

- › Food technology
- › Gas application
- › Ceramic/porcelain production
- › Process chemistry
- › Moisture measurement in biogas and digester gas
- › plant physiology
- › Glass production,
- › Moisture monitoring in coating processes
- › metal industry

The **Wi.Tec** concept for online measurement of water vapor, is based on the absorption of IR radiation. For this purpose, the proven **INFRA.sens**® is selectivated to the H₂O main absorption band. With a 250mm analysis cuvette, H₂O concentration changes of less than 5ppm can be reliably detected in a measuring range of 100 - 23.000ppm. Stainless steel piping is used for residual moisture determination. For high dew points, the **INFRA.sens**® is heated up to 50°C. In a 3-channel setup, two additional gases can be detected simultaneously in the same analysis cuvette.

The most recent version of this content can be found online at ...

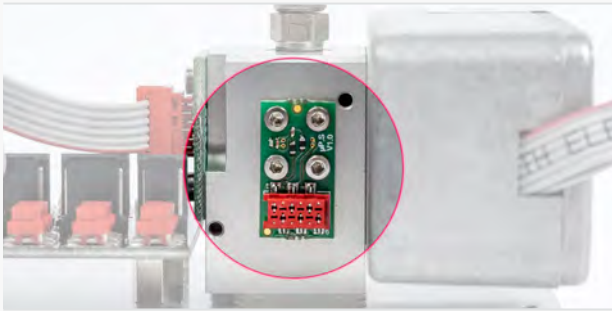
<https://www.witec-sensorik.de/en/applications/humidity-measurement/>



Features & Benefits

- › Detection limit: < 5 ppm H₂O
- › Fast response time (t₉₀ < 10 sec)
- › Efficient alternative for a dew point mirror measurement
- › Low maintenance operation
- › Can be combined with other gas measurements such as CO₂, CO, C_nH_m, CH₄ etc.

Options



P.sens (Pressure Sensor)

- > Measuring range: 300 - 1.200 mbar
- > Resolution: 0,1 mbar
- > Response time (t90): 1 s
- > Integrated in the gas path
- > Picture shows integrated version **µP.sens**
- > Also available as 'corrosive version' in stainless steel



O2.sens (Oxygen Sensor)

- > Measuring range: 0 - 100 vol%, 0 - 25 vol%
- > Response time (t90): 15 s;
(5 s for automotive Version)
- > Service life: approx. 5 years
- > Electrochemical sensor
- > Gas tube connection 4/6 mm
- > Also available with digital version, **O2.sens^D** with higher resolution (16 Bit)



AZF-Modul VV (Auto Zero Function)

- > **Wi.Tec** extension module for **ULTRA.sens[®]**, **INFRA.sens[®]** & **KOMBI.sens[®]** series
- > Valve / Valve Version for switching to zero gas cylinder for purging
- > Especially for emission monitoring (CEM)
- > Automatic zero-point adjustment for long-term stable measurements
- > Adjustable over **MARS Tool**
- > Zero interval from 1 h to 1 per month zero setting with nitrogen (bag/bottle)



AZF-Modul VP (Auto Zero Function)

- > **Wi.Tec** extension module for **ULTRA.sens[®]**, **INFRA.sens[®]** & **KOMBI.sens[®]** series
- > Valve / Pump version for the suction of ambient air for purging
- > Especially for emission monitoring (CEM)
- > Automatic zero-point adjustment for long-term stable measurements
- > Adjustable over **MARS Tool**
- > Zero interval from 1 h to 1 per month zero setting with ambient air

All options and the most recent content to the articles listed here can be found online at ...
<https://www.witec-sensorik.de/en/products/options/>



Options



HUMI.sens® (Humidity Sensor)

- › Measuring range: 0 - 100 % RH
- › Resolution: ± 1 % RH
- › Response time (t90): 12 s
- › Absolute Humidity in g/m^3
- › I2C protocol
- › Polymer humidity sensor



Analogboard

- › 0 - 10 V / 0 - 5 V / 0 - 2 V
- › 16 bit resolution
- › 1 second Update rate
- › 4 parallel signal outputs



Thermobox small

- › For thermal insulation
- › Temperature controlled up to 55 °C
- › Optionally **ULTRA.sens®** or **INFRA.sens®**
- › With dust filter
- › Temperature range 5 °C - 40 °C



Thermobox

- › For thermal insulation
- › Temperature controlled up to 55 °C
- › Optionally **ULTRA.sens®** or **INFRA.sens®**
- › With dust filter
- › Temperature range 5 °C - 45 °C



All options and the most recent content to the articles listed here can be found online at ...
<https://www.witec-sensorik.de/en/products/options/>

Accessories



BB 1.9.1

- › Can be used for all **Wi.Tec** series
- › Input voltage range: 15 V - 30 V
- › Communication interfaces could be changed over extra PCB
- › Interfaces available like RS232, CANbus, RJ45,
- › SKEDD – Connectors for measurements in tough environments (e.g. marine applications), vibration tests approved
- › Version with demo software available for integration tests



BB Compact IR 2.0.1

- › For **INFRA.sens**® series
- › Space saving of almost 70 % compared to V1.9.1
- › Wide input voltage range: 9 V - 30 V
- › TTL-232R-RPI
- › RS232 and CAN bus Interface
- › Board to Board communication for even more flexibility
- › Screw mounting on **Wi.Tec** aluminium bracket or on Hammond case
- › Version with demo software available for integration tests



Modbus Shield for BB 1.9.1

- › Modbus RTU
- › Baudrate 115200
- › RJ45 connector
- › Additional RS232 interface



Sample Gas Pump

- › Pump head PVDF
- › Diaphragm PTFE
- › Valves and seal FFKM
- › Brush motor, 24 V DC, 2-wire
- › Gas flow rate 0 - 8 l/min
- › Hose connection 4/6 mm



Inline Filter

- › 4/6 mm tube connector
- › Flowrate 0-4 l/min
- › Small volume of 110 cm³
- › Pressure drop @ 1 l/min less 6mbar



Communication Cable Set for RS232 or CAN

- › On request you will always receive the matching cables to your module for immediate integration into your system
- › Also we offer CAN dongle for CANbus communication



FKM hose DN4/06

- › DN 04/06; 1 bar, 10 m
- › (Viton hose)

All options and the most recent content to the articles listed here can be found online at ... <https://www.witec-sensorik.de/en/products/accessories/>



PC Software / MARS* Tool



* MULTI-ANALYSE-RESEARCH-SOFTWARE

With MARS* Tool software for performance analysis of Wi.Tec modules

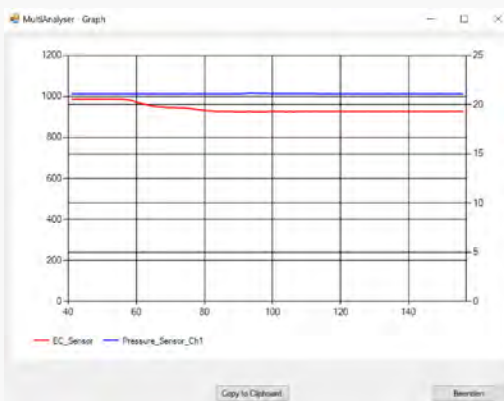
It is used by many customers for the initial operation to be convinced of the output of the modules, before the protocols, be it CAN bus, CAN open or ASCII via RS232, are entered into the higher-level systems. Especially for laboratory applications and in the research and development sector, this simple tool is used for data analysis.

Beyond that it is our heart in the manufacturing, each module is calibrated over the software. Thus the MARS Tool is over the years expanded and improved.

With the current mars tool version, we are focusing on ease of use and maximum flexibility in order to be able to help our customers quickly in the event of problems.

The new **MARS* Tool light** therefore includes the following functions:

- Data logging with *.csv file
- Preview diagram for quick evaluation
- Zero and Span calibration
- Sensor parameter import/export via *.xml file
- RS232/CAN bus communication
- Read out the connected sensor configuration



Concentration	Value	Unit	Read	Set
Concentration_Ch1	0.21580	Vol. %	Read	Set
Modulation_Ch1	0.02714	Vol. %	Read	Set
Concentration_Ch2	0.01104	Vol. %	Read	Set
Modulation_Ch2	0.07425	Vol. %	Read	Set
Concentration_Ch3	52.97319	ppm	Read	Set
Modulation_Ch3	-0.01292	ppm	Read	Set
Concentration_Ch4	0.27416	ppm	Read	Set
Modulation_Ch4	0.02727	ppm	Read	Set

Zero Detector	Value	Unit	Read	Set
Zero Detector Ch1			Read	Set
Zero Detector Ch2			Read	Set
Zero Detector Ch3			Read	Set
Zero Detector Ch4			Read	Set
Zero Detector all Channel			Read	Set

Onboard Temperature	Value	Unit	Read	Set
Temperature_IR	24.81640	°C	Read	Set
Temperature_UF	-273.14399	°C	Read	Set
Temperature_uC	27.61348	°C	Read	Set

Onboard Humidity	Value	Unit	Read	Set
ADCRat_Ch1	0.17018		Read	Set
ADCMeas_Ch1	0.16519		Read	Set
ADCRat_Ch2	0.16495		Read	Set
ADCMeas_Ch2	0.17553		Read	Set
ADCRat_Ch3	0.00000		Read	Set
ADCMeas_Ch3	0.00000		Read	Set



All options and the most recent content to the articles listed here can be found online at ...
<https://www.witec-sensorik.de/en/products/mars-tool/>

Customer relationship & Distribution Worldwide



A trusting and cooperative relationship with our customers is important to us! This creates room for the development of innovative solutions from which both sides benefit. A competitive advantage that should not be underestimated! Get to know us and make an appointment for a personal meeting.



Headquarters / Production

Wi.Tec-Sensorik GmbH
Schepersweg 41-61
46485 Wesel
Germany

Tel +49-281-206578-20
info@witec-sensorik.de
www.witec-sensorik.de

General Inquiries

Please use for general or purchase inquiries our comfortable application questionnaire ...

<https://www.witec-sensorik.de/en/application-questionnaire/>



Service Returns

For your service order, please find our pre-configured service returns form ...

<https://www.witec-sensorik.de/en/service-returns/>



Distribution China

M&C TechGroup China Co. Ltd.
8F-A, No.2 Bldg., 518 XinZhuan
Road, CaoHejing Hi-Tech Park
SongJiang
201612 Shanghai
China

Tel +86-021-64419350
info-china@mc-techgroup.com
www.mc-techgroup.com



Distribution Italy, Spain,
Portugal, France and
the Balkan Region

TECNOSENS S.P.A.
Via Vergnano n. 16
25125 Brescia
Italy

Tel +39-030-3534144
info@tecnosens.it
www.tecnosens.it



Distribution Non OEM

Dr.-Ing. RITTER Appa-
ratebau GmbH & Co. KG
Coloniastrasse 19-23
44892 Bochum
Germany

Tel +49-234-92293-0
mailbox@ritter.de
www.ritter.de



MIRA-sens®

**MADE IN
GERMANY**



www.witec-sensorik.de

