



Draw quickly!

Maximum flexibility
as any decision
is in your hand





A new sensor in town: BlueVary for you!



Maintenance free

No need for annual maintenance. Performing our established one-point calibration regularly is all you have to do.



No sampling – real-time measurements

Faster reaction times avoid extended run times for sampling just as any contamination.



No specific training – easy to install and handle

Install and calibrate it yourself. PC housing and various connections guarantee easy handling.



Gain scale up and down parameters

Gain important parameters and measure accurately – no matter if lab or production scale.



Maximum flexibility

Combine two gases* for parallel measuring (CO₂, O₂, H₂, CH₄). Use it also for biogas applications.



Quality made in Germany

All BlueSens sensors are developed, produced, calibrated and assembled in Germany under fair production conditions.



* See compatibility matrix on the last page.



We proudly present: The BlueVary



The basis station with three plug-in positions and an integrated data display operated by control buttons.




Link to [BlueVIS](#) and other third party software.

Three plug-in-cartridges: two for gases and one obligatory humidity and/or pressure cartridge.



Connectable to any hose/ tube or pipe – use it on your fermenter of choice.

 Watch animation online:





Easiest assembling



One plug-in-cartridge for a special pressure and/or humidity sensor (obligatory).



Two plug-in-cartridges for different gases to be measured at once*.

* See compatibility matrix on the last page.



Optimize efficiency



Do what you want!

BlueVary offers highest flexibility. Use it for each of your projects no matter what it is. Simply select the right cartridge/measurement range from our catalog and fix it to the basis. After 30 minutes warm up time you are ready to go.

The obligatory cartridge automatically compensates humidity and/or pressure – so no gas cooler, pumps or valves are needed.

What's new!

See here a short comparison between our BlueInOne and the new BlueVary sensor:



| Sensor comparison | BlueInOne | BlueVary |
|---|--|--|
| Housing | Stainless steel | PC |
| Annual maintenance needed | ✓ | ✗ |
| Gases to be measured | combination O ₂ , CO ₂ | Various combinations O ₂ , CO ₂ , H ₂ , CH ₄ |
| Different combinations possible for flexible usage | ✗ | ✓ |
| Integrated display to see measurement and sensor data at one glance | ✗ | ✓ |
| Various connections to connect to every fermenter | ✓ | ✓ |
| Application in projects with different measurement ranges | Calibration has to be changed (if possible) | Choose another cartridge |
| One-point calibration to ensure higher accuracy | ✓ | ✓ |
| Possible to combine with BlueVis software for higher automation grade | ✓ | ✓ |
| Suitable for biogas applications | ✗ | ✓ |



The BlueVary stays with you – forever!



Keep cool – it's maintenance free

There is no need to send the sensors for annual maintenance. Performing our established one-point calibration in reasonable time intervals is all you have to do.



No downtimes

As the BlueVary stays with you, you minimize the downtimes and avoid time consuming dismounting, packing, shipping, reassembling etc.

No customs issues

As no shipping for maintenance is necessary you just need to exchange the cartridges. A BlueCartridge works accurate for 2 years with a maximum of 1 year operation time.

Cartridge recycling

As BlueSens regards sustainability, we give you a discount on new cartridges for each BlueCartridge you send back to us.



Open to other brand - Open to other systems

Discover BlueVIS – the high performance software which helps you to manage your bioprocesses in the most efficient way.

- BlueVIS for monitoring, acquisition and integration of data from all components and for process control
- Parallel real-time measurement
- Integrated calculations via soft sensors
- Easy connection of various sensors and probes
- Keep track of the important process parameters
- Trigger actuators via automated controllers
- Integrated math sensors, connection to MATLAB
- Analog devices can be connected via analog/digital converter
- Integrated OPC server/client for data exchange to other systems and programs. Find a compatibility list here: [BlueVIS.BlueSens.com](https://www.bluevis.com/BlueSens.com)

Of course the BlueVary sensor is ready for BlueVIS.





Datasheet



| Sensors (BlueCartridge) | CO ₂ | O ₂ ec | O ₂ (ZrO ₂) | CH ₄ | H ₂ | Humidity/Pressure |
|--------------------------------|--|------------------------------|------------------------------------|---------------------------------------|------------------------------|--|
| Principle | NDIR | galvanic cell | ZrO ₂ | NDIR | thermal conductivity | Polymer |
| Measuring range | 0-10, 0-25, 0-50 vol.-% | 0-25, 0-50, 0-100 vol.-% | 0.1-25, 0.1-50 vol.-% | 0-100 vol.-% | 0-10, 0-50, 0-100 vol.-% | 0-100% rH, 5-55°C, 0.8-1.3 Bar abs |
| Drift/ Long-term stability | 0.2% of value/month | | | | | |
| Accuracy | ±3 % of value ±0.2% of range ±5 % of value ±0.5% of range for 50% range | ±3 % of value ±0.2% of range | ±3 % of value ±0.2% of range | ±3 % of value ±0.2% of range | ±5 % of value ±0.5% of range | ±3 % of value ±0.2% of range |
| Housing | PC | | | | | |
| Dimension/ Weight | 96 x 70 x 91 mm 270 g | 96 x 70 x 91 mm 215 g | 96 x 70 x 91 mm 280 g | 96 x 70 x 91 mm 270 g | 96 x 70 x 91 mm 280 g | 96 x 70 x 91 mm 190 g |
| Materials used for gas contact | POM, steel 1.4404, PTFE, FKM, sapphir | POM, PTFE, FKM, ABS | POM, steel 1.4404, PTFE, FKM | POM, steel 1.4404, PTFE, FKM, sapphir | POM, steel 1.4404, PTFE, FKM | POM, steel 1.4404, PTFE, FKM, Polymer H.L. |
| Connection | central unit / flow adaptor | | | | | |
| General | CO ₂ | O ₂ ec | O ₂ (ZrO ₂) | CH ₄ | H ₂ | Humidity/Pressure |
| Operating temperature | 5-55°C / 41-133°F | 5-55°C / 41-133°F | 5-55°C / 41-133°F | 5-55°C / 41-133°F | 5-55°C / 41-133°F | 5-55°C / 41-133°F |
| Operating humidity | 0-100% rel. / Non condensing | | | | | |
| Pressure range | 0.8-1.3 Bar absolute / 11.6-18.8 psi | | | | | |
| Storage temperature | 0-60°C / 32-140 °F | | | | | |

Gas compatibility

Obligatory cartridge

| | CO ₂ | O ₂ ec | O ₂ (ZrO ₂) | CH ₄ | H ₂ | | Humidity/ Pressure | Pressure |
|------------------------------------|-----------------|-------------------|------------------------------------|-----------------|----------------|------------------------------------|-----------------------|----------|
| CO ₂ | | ✓ | ✓ | ✓ | ✓ | CO ₂ | ✓ | |
| O ₂ ec | ✓ | | | ✓ | ✓ | O ₂ ec | ✓ | |
| O ₂ (ZrO ₂) | ✓ | | | | | O ₂ (ZrO ₂) | ✓ | |
| CH ₄ | ✓ | ✓ | | | ✓ | CH ₄ | | ✓ |
| H ₂ | ✓ | ✓ | | ✓ | | H ₂ | | ✓ |

Our product areas



Gas sensors



Software for
bioprocesses



Service and
maintenance