



AGRI-SONIC

ULTRASONIC MEASUREMENT OF GROUND DISTANCE

Precise measurement of ground distance – contactless, intelligent, and in real time. Ideal for accurate recording of working depth during tillage.

CHALLENGES IN SOIL CULTIVATION

Shallow, no-till cultivation offers numerous advantages: it preserves the soil structure, maintains soil moisture, and reduces both fuel consumption and machine wear. However, these advantages can only be fully exploited if cultivation is carried out precisely and adapted to the respective conditions.



PRECISE & UNIFORM DEPTH CONTROL

Even the smallest deviations in working depth affect the quality and efficiency of soil cultivation.



DIFFERENT SOIL CONDITIONS

When ground conditions change, for example from dry to wet, the depth set with the support wheels cannot be maintained precisely.



FALSIFIED MEASUREMENTS

Conventional ultrasonic sensors can measure the working depth precisely, but reach their limits with catch crops, volunteer grain, or stubble.





MOBA DEPTH MEASUREMENT AGRI-SONIC

The AGRI-SONIC measures the actual ground distance – reliably, without contact, and unaffected by vegetation. The working depth is determined precisely, taking into account the installation height – for example, of the cultivator frame. The robust ultrasonic sensor detects the actual ground distance directly on the attachment and provides the driver with precise real-time data on the current working depth. This allows immediate corrections to be made if necessary – for consistent results and optimal germination conditions.



Precise real-time measurement of the actual working depth



Non-contact ultrasonic technology without wear



Reliable filtering of interference such as plant debris through systematic evaluation of multiple echoes



Ideal for manual or automatic depth control



Continuous real-time compensation for temperature and wind



Robust construction for long-term field use (IP67)

THE TECHNOLOGY BEHIND AGRI-SONIC

The AGRI-SONIC measures the distance between the ground and the attachment using precise ultrasonic scanning.

The powerful sensor detects multiple echoes per sound pulse and analyzes them using an intelligent algorithm. This allows interference such as catch crops and stubble to be filtered out and the ground signal to be detected.

As long as the ground is visible, it is possible to filter out the ground echo.

The working depth is output in high resolution via the CAN interface – directly usable for control and documentation.

- **Evaluation of multiple echoes per measurement pulse**
- **Intelligent algorithm specifically filters out the ground signal**
- **Continuous real-time compensation for the effects of wind and temperature through reference measurements**
- **Derivation of the working depth taking into account the sensor installation height**



„Especially with changing soils, the working depth used to be a matter of luck. With AGRI-SONIC, I can now see exactly how deep I am actually working—and can react immediately. This saves time and fuel and simply delivers better results.”

„Finally, a sensor that delivers even under real field conditions. We were surprised at how well AGRI-SONIC measures even when there is volunteer grain in the stubble. For us, this is real progress.”

„The connection is straightforward, and the measurement results are precise. The system fits perfectly into modern machine architectures.”



ENGINEERED FOR ACCURACY

– AGRI-SONIC TECHNICAL DATA

Technical data

Name	Agri-Sonic	Ultrasonic frequency	120 kHz
Article number	04-21-1004X	Width of the ultrasonic beam	14°
Measuring range	150 ... 1200 mm	Linearity error	0.5 % (of full scale)
Operating voltage	10 ... 30 V DC	Temperature deviation	± 1 % (of reading)
Power consumption	≤ 100 mA	Repeatability	± 1 mm
Weight	1.2 kg		
Intrusion protection	IP 67		
Operating temperature range	- 25 ... + 85 °C		
Storage temperature range	- 40 ... + 85 °C		



The technical data refers to the sensor.
For an additional display technical data is available on request.



STRONG IN COMBINATION: THE GRAPHIC DISPLAY

- **Working depth display:** Visualizes the measured working depth in real time on the display in the driver's cab if the value cannot be shown on an existing machine display – for maximum control during processing
- **Setpoint display:** Shows the specified target depth directly on the display – as a reference for ongoing processing and for comparison with the measured values.
- **Live comparison with target values:** Enables comparison between target and actual depth – supports manual or automatic readjustment
- **Flexible integration options:** Works seamlessly with machine control systems or MOBA displays for full versatility

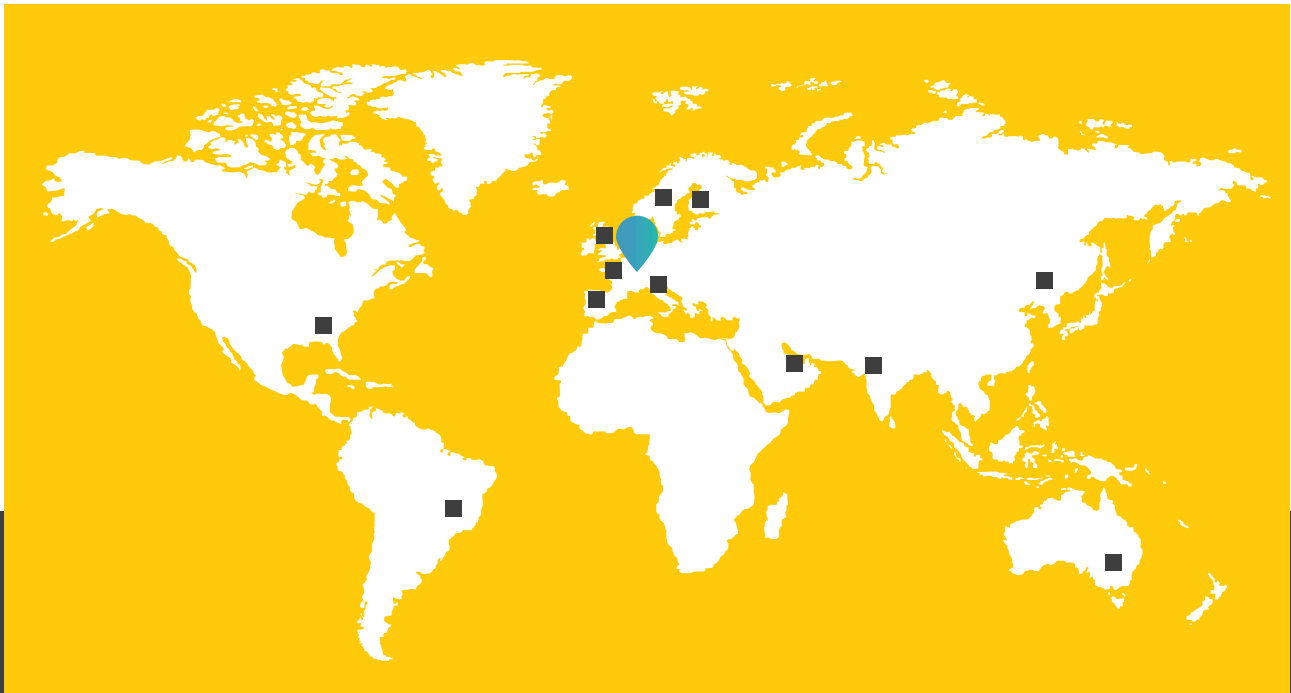


**For maximum control
during processing.**

MOBA GROUP

The MOBA Group has been an established name in mobile automation for more than 50 years. Our know-how and many years of experience in automation technology distinguish us as globally recognized experts. We develop and produce innovative machine control systems, identification and mobile weighing technologies as well as flexible software solutions. But MOBA components and systems are also used in other areas where robust and reliable sensors, controllers and operating units are required.

First Choice In Mobile Automation - that's what MOBA has stood for for more than 50 years!



Version 1.1



CONTACT



MOBA Mobile Automation AG
Kapellenstraße 15
65555 Limburg | Germany
moba-automation.de