

NIRXACT

NEAR INFRARED SENSOR
FOR CROPS AND SLURRY



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NIRXACT: ONE SENSOR DIFFERENT APPLICATIONS

NIRXact is a versatile sensor that can be used for different applications such as slurry tankers or stationary use.

NIRXact thanks to its Near Infrared Technology associated with artificial intelligence algorithms can analyse and determine not only the exact composition of crops but also of cow, pig and biogas digestate slurry:

- Slurry composition can be analysed for traceability purposes. Manure is a valuable source of nutrients for fertilising soil and must be used wisely depending of its concentration in NPK and Ammonia.
- Crops composition to better evaluate the quality of your harvested silages.



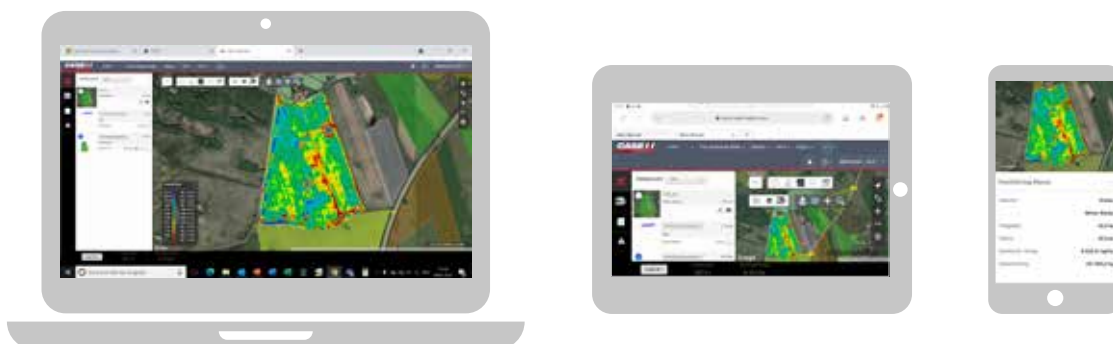
CERTIFIED QUALITY

NIRXact sensor is certified by the DLG (Deutsche Landwirtschafts-Gesellschaft - German Agriculture Society), an independent expert organisation who promote technical and scientific progress in the field of Agriculture.



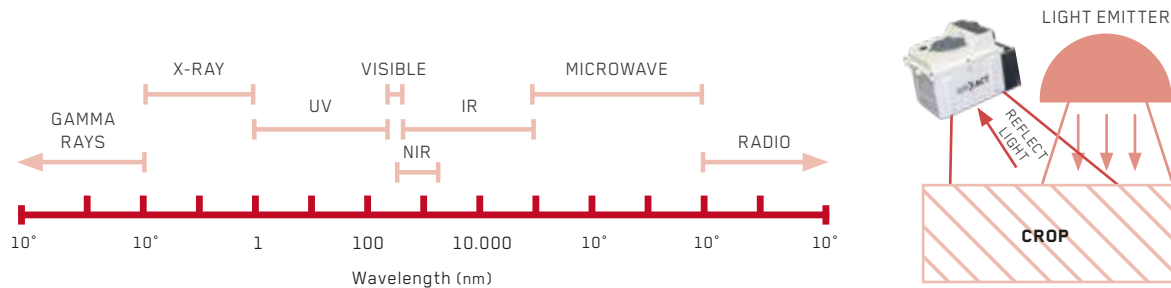
AN INTEGRATED SYSTEM

NIRXact data is compatible with the **AFS Connect** platform and can easily be transmitted from the tractor, equipped with telematic, to your devices.




WORKING PRINCIPLE


Near Infrared Sensors measure the interaction of electromagnetic radiation (spectrum) with material in the wavelength of the near infrared. By analysing the spectrum, our sensors allow us to determine the nutritional composition of the harvested crop.



CALIBRATION CURVES TO MAKE THE JOB EASIER

AGXTEND thanks to the NIRXact collected data can offer a large variety of calibration curves to support during multiple applications.

	Dry Matter	N Total	NH4-N	P205	K20
Cow Slurry	●	●	●	●	●
Pig Slurry	●	●	●	●	●
Digestate Biogas depends on digester's ration	●	●	●	●	●

	Dry Matter	Protein	Crude Fat	ADF	NDF	Starch	Ash
Corn Silage	●	●	●	●	●	●	●
Alphapha	●	●	●	●	●	○	●
Grass	●	●	●	●	●	○	●
Rye	●	●	●	●	●	○	●

THESE TABLES INCLUDE ONLY THE MAIN CALIBRATION CURVES. MANY OTHERS ARE AVAILABLE DEPENDING ON YOUR REGION.

STATIONARY ANALYSIS

Analysis of concentrate food by understanding the exact quality of your silage directly after the harvest.

Used by methane producer to determine:

- The crop quality in order to pay the right price dependant on the biogas production potential.
- Dry matter content of the silage loaded in the digester and optimise gas production.
- Digestate composition and optimise spreading on fields.



SLURRY TANKER APPLICATION: MANUREXCONTROL

Know what's in the manure

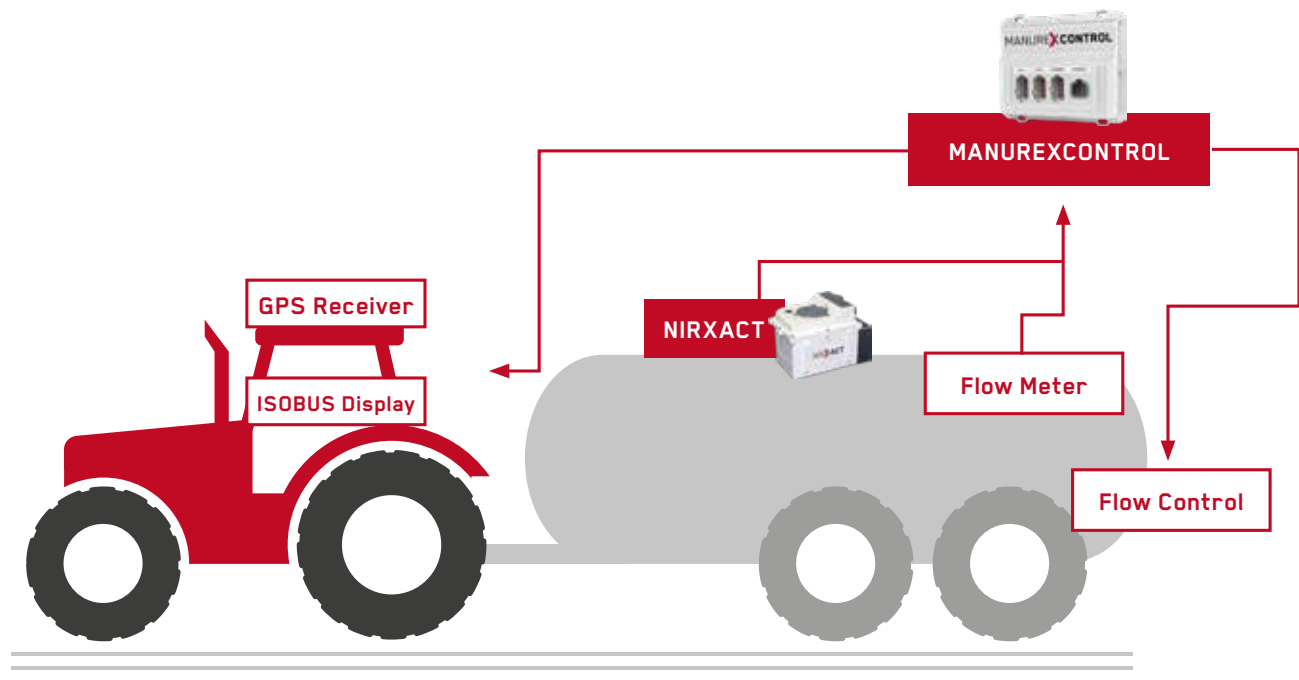
- Slurry is a valuable fertiliser and the NIR analysis enables the ingredients of the slurry to be precisely determined. This allows manure to be used even more specifically as a fertiliser.
- No matter what the composition is in your slurry tank. NIRXact measures the actual composition that has just been taken. The application of the manure can be controlled accordingly.



MANUREXCONTROL FOR ACCURATE NUTRIENT APPLICATION IN THE FIELD

ManureXcontrol is the rate control ECU capable of controlling most of the slurry tankers on the market based on NIRXact and flowmeter values.

- Users can easily define the target rate of a specific fertilising element from the cab. ManureXcontrol will control automatically the flow of the slurry tanker as well as suggesting the appropriate driving speed to match desired application rate.
- Target rate can also be imported in the ISOBUS terminal via an application map allowing the farmer to apply the quantity of fertilising element based on the crops needs.



KEY FEATURES

User Friendly

- Simple and intuitive user interface.
- User can select easily which parameter to modulate.
- A limiter on other nutrients can be set to avoid overapplication of secondary nutrient.

ISOBUS based system

- Will work with existing ISOBUS compliant Precision Farming equipment.

ISOXml documentation

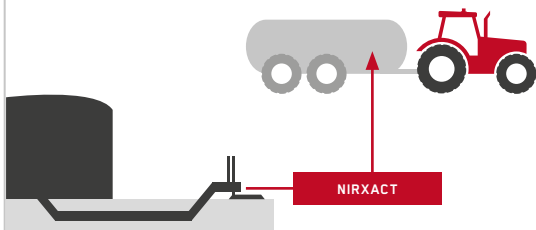
- Data generated can be used and analysed by most FMIS's (Farm Management Information Systems).



ManureXcontrol Userinterface

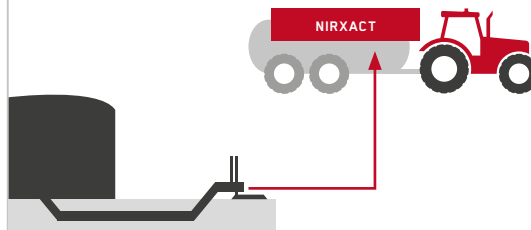
OPERATING MODE

1. STATIONARY ANALYSIS



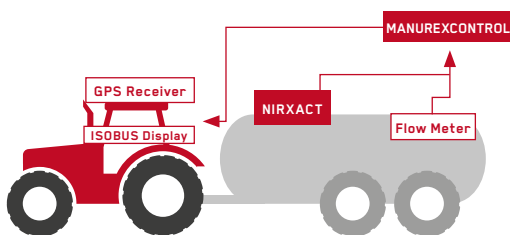
- NIRXact shows the average composition of the load before leaving the farm.
- Use one sensor with multiple tankers at the same time.

2. ANALYSIS DURING FILLING



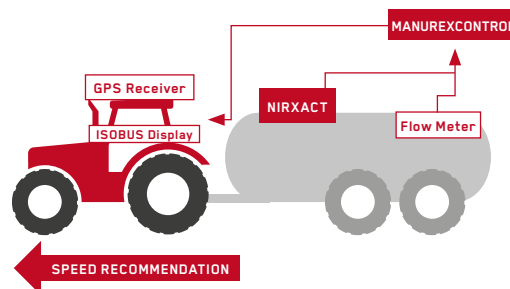
- NIRXact shows the average composition of the load before leaving the farm with automatic data transfer.
- Sensor is placed on the slurry tanker intake.

3. MAPPING



- ManureXcontrol measures slurry composition and flow rate during slurry application calculating the exact quantity applied to create traceability maps.

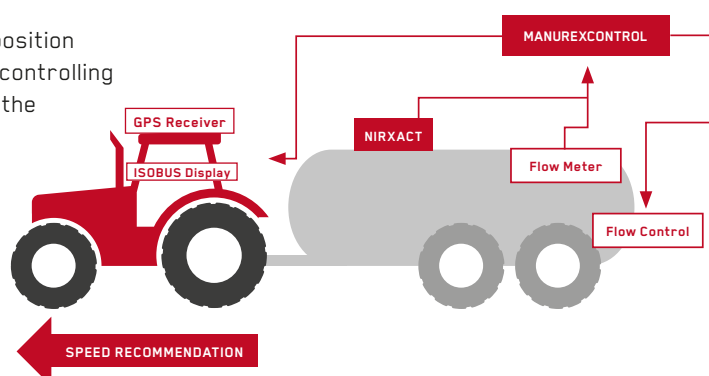
4. SPEED RECOMMENDATION + MAPPING



- Insert desired target rate in kg/ha for specific nutrient.
- ManureXcontrol reads slurry composition and instant flow during slurry application determining the correct speed.
- Ideal for retrofit of NIRXact sensor on old tankers where normally flow control is not possible.

5) SPEED RECOMMENDATION + FLOW CONTROL + MAPPING

- Insert desired target rate in kg/ha for specific nutrient.
- ManureXcontrol measures slurry composition and flow rate during slurry application controlling the slurry tanker flow and determining the correct speed to match the desired application rate.
- Ideal for applying slurry as precisely as chemical fertiliser.





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AGXTEND is a CNH Industrial aftermarket brand dedicated to accelerating pioneering technical solutions in agriculture. We do this through product development partnerships with agtech start-ups. Leveraging CNH Industrial's expertise and global network, AGXTEND aims to deliver rapid innovation, sustainability and productivity-boosting equipment add-ons that help make farming easier and smarter. Visit agxtend.com for more information.



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