NIR**X**ACT

NEAR INFRARED SENSOR
FOR CROPS AND SLURRY

AG**X**TEND

Xpect more

NIRXACT: ONE SENSOR MULTIPLE APPLICATIONS

NIRXact is a versatile sensor that can be used on many different machines such as forage harvesters, combine harvesters and slurry tankers.

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

- Crop and grain composition to better evaluate the quality of your harvest. Data can be mapped and compared to other maps generated during the crop circle such as seeding and fertilisation maps.
- Slurry composition can be analyzed 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.

STATIONARY ANALYSIS

FERTILISATION

GRAIN HARVESTING

FORAGE HARVESTING

CERTIFIED QUALITY

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

ANERKANNT 2021
DLG
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DINAMICA GENERALE S.P.A.
EVO NIR 4.0 mit SW 4.6.3 und
KALIBRATIONSMODELL 907
✓ Inhaltsstoffe in Rindergülle:
TM, N_{Gesamt}, P_2O_5
DLG-Prüfbericht 7139

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DINAMICA GENERALE S.P.A.
EVO NIR 4.0 mit SW 4.6.3 und
KALIBRATIONSMODELL 908
✓ Inhaltsstoffe in Schweinegülle:
N_{Gesamt}, K_2O
DLG-Prüfbericht 7140

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.
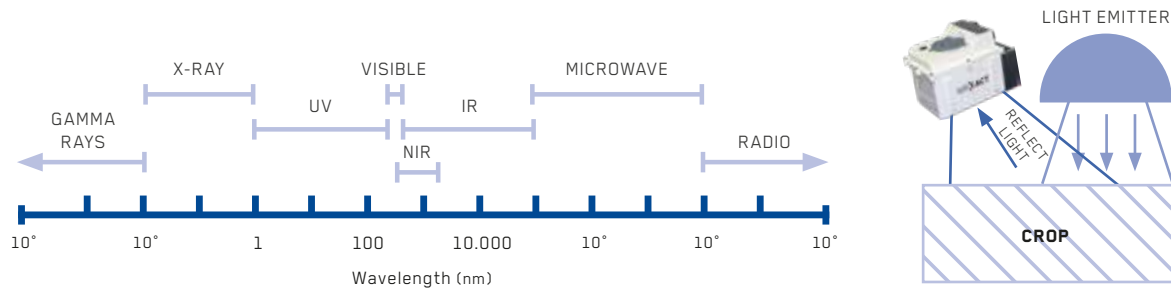
CALIBRATION CURVES TO MAKE THE JOB EASIER

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

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

	Dry Matter	Protein	Crude Fat	ADF	NDF	Starch	Ash
Wheat	●	●	●	○	●	●	●
Soybean	●	●	●	○	●	○	●
Corn	●	●	●	○	●	●	●

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

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

FORAGE HARVESTER APPLICATION

Production of high quality silage

- Adjusting the length of cut in real time and optimising silo compaction and therefore silage conservation.
- Adjusting the quantity of inoculants depending on silage composition.

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

Used by methane producer to determine:

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

COMBINE HARVESTER APPLICATION

Definition of grain quality directly in the field

Grain loads can be stored depending on their quality in order to optimise their commercialisation.

Maps creation

- Grain quality data can be georeferenced and used to create maps.
- Maps produced are then analyzed in a Farm Management Information System (FMIS) to determine benefits of the agronomical decisions taken during the year.

NIRXACT SENSOR: AN INTEGRATED SYSTEM

NIRXact data are compatible with the **PLM Connect** platform and can easily be transmitted from the tractor, equipped with telematic, to your devices.
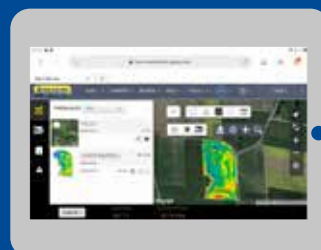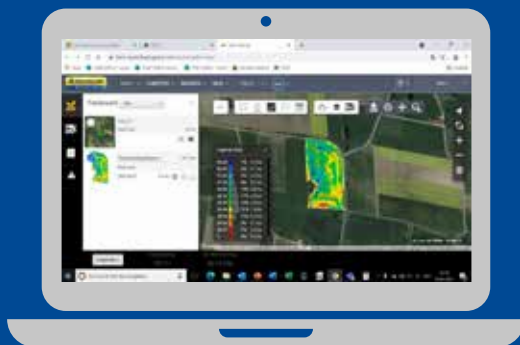
SLURRY TANKER APPLICATION: MANUREXCONTROL

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.
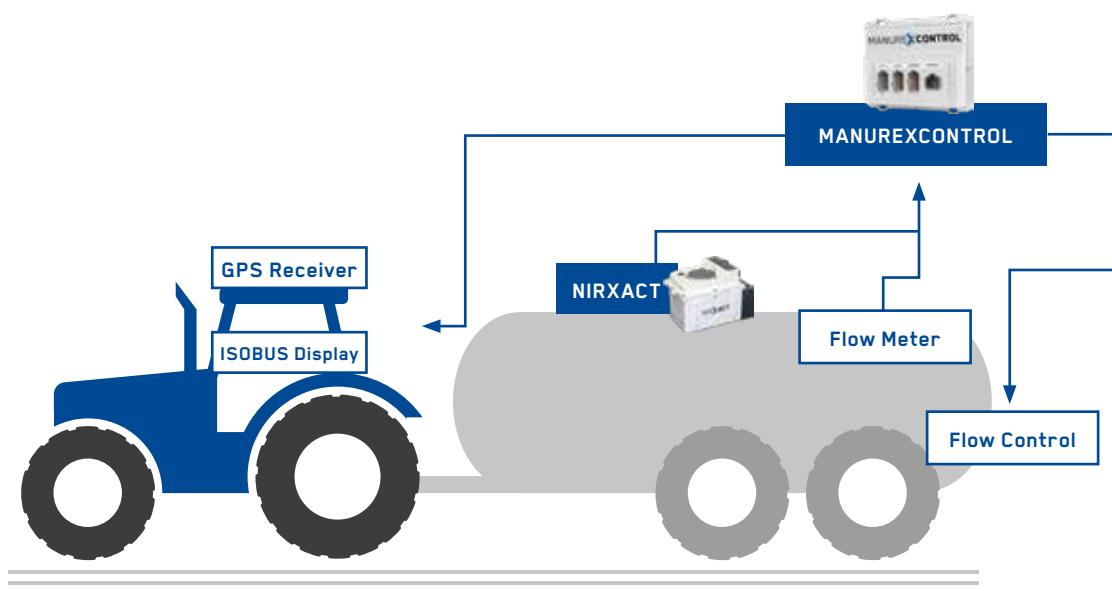
KEY FEATURES

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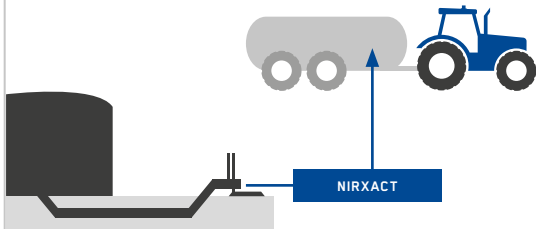
ISOXml documentation
- Data generated can be used and analyzed by most FMIS's (Farm Management Information Systems).
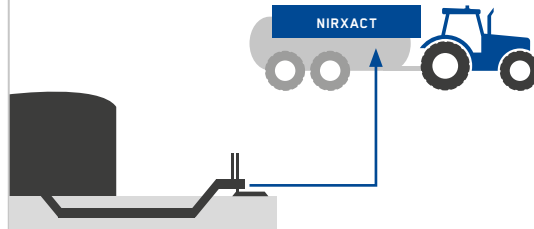

ManureXcontrol Userinterface
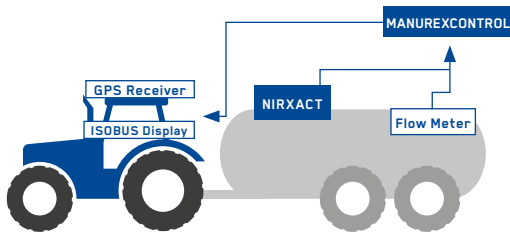
OPERATING MODE

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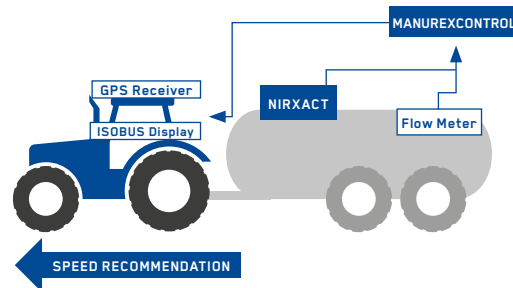
- Insert desired target rate in kg/ha for specific nutrient.
- ManureXcontrol reads slurry composition and instant flow during slurry application determining the correct speed.
- Ideal for retrofit of NIRXact sensor on old tankers where normally flow control is not possible.

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.
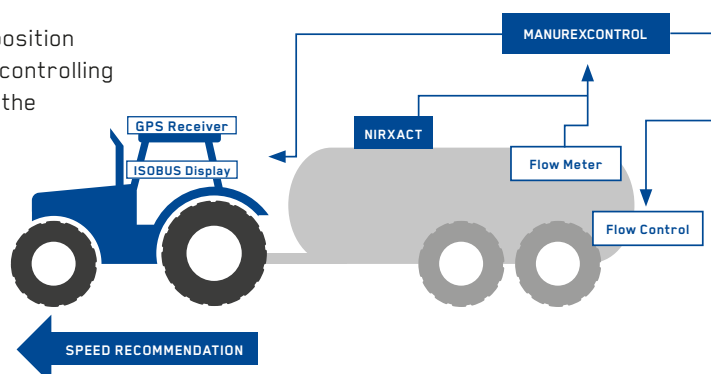
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AGXTEND is a CNH Industrial aftermarket brand dedicated to accelerating pioneering technical solutions in agriculture. We do this through product development partnerships with agtech start-ups. Leveraging CNH Industrial's expertise and global network, 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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