PRECISION FARMING SOLUTIONS

MC ELECTRONICS

SMART PHOTOCELLS RANGE

FOR PLANTERS

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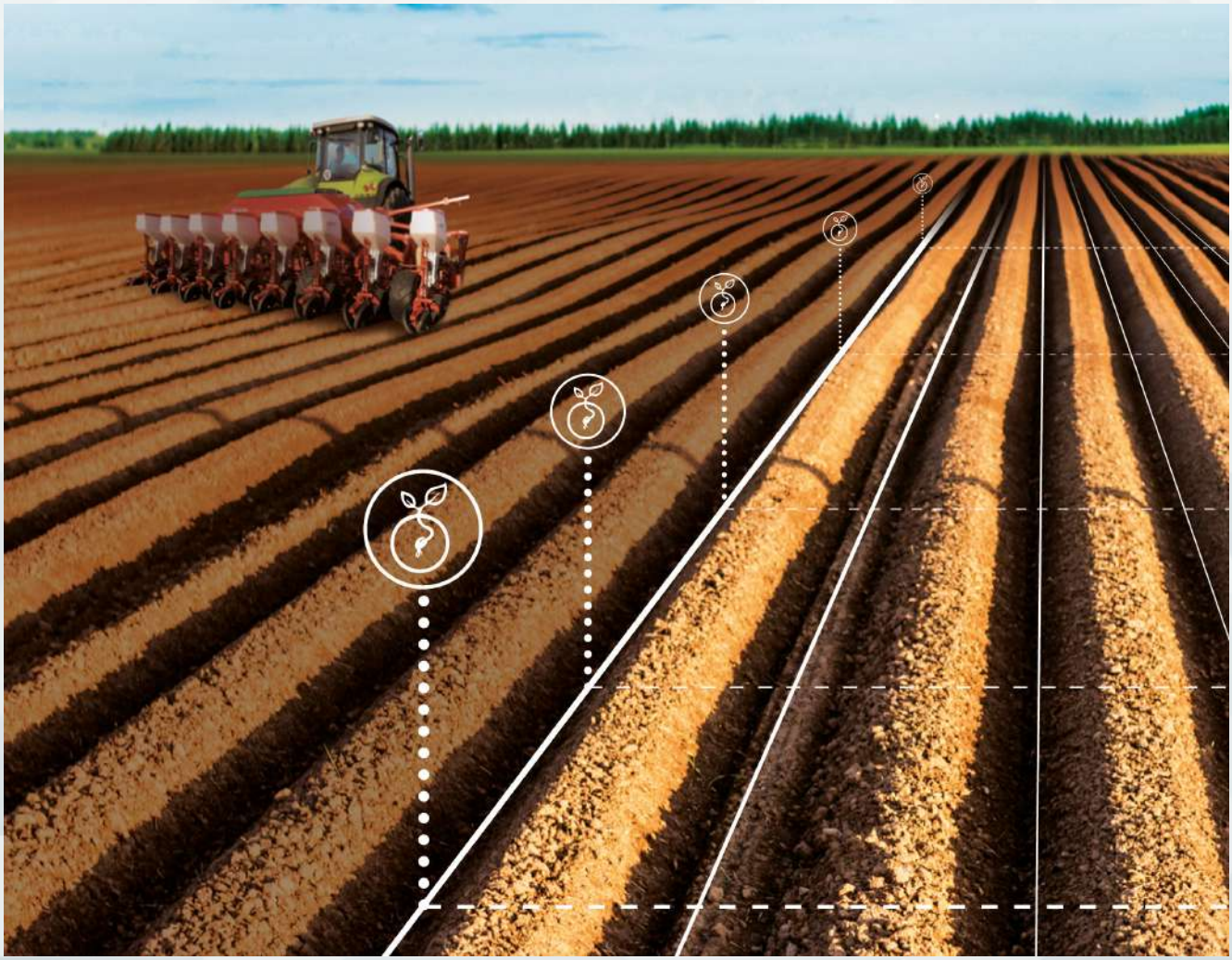
Precision Farming Solutions

NEW GENERATION SENSORS

The new «SMART» photocells range of MC Elettronica for Planters was born to create a high tech product, able to offer a superior seed detection quality. This fact will generate an higher seeding precision and consequently a reduction in seeding time and wasted seeds during operations.

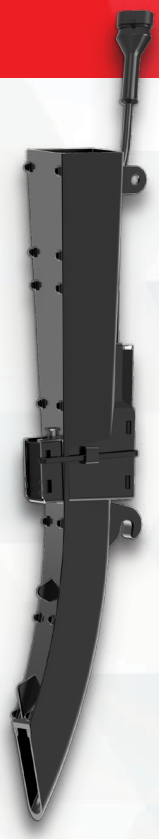
The new technology is based on the latest generation microprocessors, integrated into the photocell body. This approach is granting superior overall performances in every working condition, compared to the standard analogic photocells. Moreover is capable of interfacing with the most recent monitoring systems, of latest generation machines. Also diagnosis is easy thanks to the possibility of uploading data in real time from the sensor itself.



UNI-SEEDER

Precision Farming Solutions

UNI-SEEDER
bracket-mounted version



UNI-SEEDER
MC pipe-mounted version
with internal electronics

UNI-SEEDER is a top in class photocell for planters, which unlike the standard sensors, is self-adjusting to grant the maximum performances in every working condition with the majority of the seeds available on the market.

Thanks to the integrated microcontroller, acquires in real time the signals of the IR receivers and, with its latest software of analysis, is able to detect both big or small and fast seeds, with such an high resolution that is able to always distinguish seeds from dust or other particles. UNI-SEEDER can also communicate on an intelligent BUS with 3 wires.

ADVANTAGES

• **High resolution-Wider detection area**: the optimized optics, combined with an advanced software, enable to detect and count with maximum precision (100%) even the smallest seeds, on a much wider detection area.

• **Universal**: combines in just one product the performances of majority of the traditional photocells, like the 6+6 and 4+4, granting maximum detection capability in every condition and almost every type of seed (corn, soyabean, wheat, rapeseed, etc).

• **Self adapting**: detects in real time the type of seed and automatically defines the optimal set point, with self compensation of dust and ambient light.

• **Diagnosis**: performs periodic auto-tests, showing the results via the high visibility multicolor LED.

• **Plug & Play**: is 100% compatible with existing control systems, and can replace the traditional photocells, on existing brackets or pipes.

• **Configurable**: this photocell can be configured for special working conditions.

UNI-SEEDER is able to count all types of seeds from 5mm to 1mm diameter. Some examples of seed types detected:

Corn

Soybean

Sugarbeet

Sorghum

Canola

MAXI-SEEDER

Precision Farming Solutions

MAXI-SEEDER
bracket-mounted version

MAXI-SEEDER
MC pipe-mounted version
with internal electronics

MAXI-SEEDER is a universal photocell of excellent quality for planters, where is required an optimal compromise between superior performances and competitive price level. The robust analogic section coupled with the integration of a microprocessor, grants an extra-high quality output signal.

MAXI-SEEDER has a detection point which indipendently adjusts the dust level for every receiver.

ADVANTAGES

- **Counting capability**: grants 100% counting of all kind of macroscopic seeds (corn, soy bean, sugarbeet, sunflower and so on..).
- **Passing detection**: grants passing detection of all seeds up to canola diameter
- **Robustness**: self adapting the detection point to the dust concentration, in order to grant a good reliability in the long term
- **Plug & Play**: is 100% compatible with existing control systems, and can replace the traditional photocells, on existing brackets or pipes

MAXI-SEEDER is able to count all types of macroscopic seeds. Some examples of seed types detected:

Corn

Soybean

Sunflower

Sorghum

EASY-SEEDER

Precision Farming Solutions

EASY-SEEDER
bracket-mounted version

EASY-SEEDER
MC pipe-mounted version
with internal electronics

EASY-SEEDER is a latest generation «all round» photocell for planters, with a significantly wider detection area compared with the 3+3 analogic photocells currently utilized in most of the planters.

It has been developed from MAXI-SEEDER to outperform the basic photocell lines available on the market. Giving an outstanding price/performances ratio, is anyway equipped with an **high tech microcontroller**.This characteristic allows an extremely high quality of output signal.

ADVANTAGES

• **Counting capability**: grants 100% counting of all kind of macroscopic seeds (corn, soy bean, sugarbeet, sunflower and so on..) and 50% counting of smaller seeds (canola).

• **Passing detection**: grants passing detection of all seeds up to canola diameter.

• **Robustness**: self adapting the detection point to the dust concentration, in order to grant a good reliability in the long term.

• **Plug & Play**: is 100% compatible with existing control systems, and can replace the traditional photocells, on existing brackets or pipes.

• **Outstanding price/performance ratio**: thanks to its advanced microprocessor technology and the wider detection area, represent the best compromise available for replacing the standard photocells on all planters.

EASY-SEEDER is able to count all types of macroscopic seeds. Some examples of seed types detected:

Corn

Soybean

Sugarbeet

UNITY

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UNITY has a state of the art technology to perform on Planters for vegetables seeds. It can rely on an integrated micro-controller of superior performance, which allows the **detection in real time of all vegetable seeds** like arugula, valerian and others, and also very small seeds like onion.

The resolution is so high that UNITY can always distinguish seeds from dust and particles.

ADVANTAGES

• **Dedicated**: optimized performances in order to grant maximum detection precision with all vegetable seeds and very small seeds (arugula, valerian, onion, canola and so on…).

• **High resolution-Wider detection area**: the optimized optics, combined with an advanced software, enable to detect with maximum precision even the smallest seeds, on a much wider detection area.

• **Self adapting**: detects in real time the type of seed and automatically defines the optimal set point, with self compensation of dust and ambient light.

• **Diagnosis**: performs periodic auto-tests, showing the results via the high visibility multicolor LED.

• **Plug & Play**: is 100% compatible with existing control systems, and can replace the traditional photocells, on existing brackets or pipes.

UNITY is able to detect all types of seeds from 5mm to 1mm diameter. Some examples of seed types detected:

Radish

Carrot

Onion

Arugula

Chicory

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SMART PHOTOCELLS COMPARISON

	UNI-SEEDER	MAXI-SEEDER	EASY-SEEDER	UNITY
Extended Power Supply Range 6-16V	YES	YES	YES	YES
Microprocessor	YES, ARM 32bit	YES, 8bit	YES, 8bit	YES, ARM 32bit
BUS Management	YES	-	-	-
"DOUBLE" Signal	YES	-	-	YES
Status LED	RGB	GREEN (only tube version)	-	RGB
Seed "Smart" Buffer	YES	YES	-	YES
Seed Signal verification	YES-up to Canola	YES-up to Canola	YES-up to Canola	YES-up to Onion
Canola seed detection	YES, counting	Only passage	Only passage	Only passage
Vegetable seeds detection	-	-	-	YES
Dust Level signalling	YES, with width impulse modulation in output	-	-	YES, with width impulse modulation in output
Dust Compensation	YES	-	-	YES
IP grade	IP68	IP68	IP68	IP68

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