

MCSystems®
MONITORING CONTROL SYSTEMS

PRODUCT LEVEL SOLUTION FOR INDUSTRIAL USE

TAKE CONTROL. BE SMART.



Myriad Electronic Solutions Inc. d.b.a. ES Canada
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MCSystems main goal is offer technological solutions that allows, stocking and managing process be automated by the use of our own designed and manufactured solutions, on continuous development and adaptable to client's needs and requirements.

Thanks to our measurement, monitoring and data managing systems, MCSystems offers reliability, commodity and safety in terms of logistic and labour activities. Our wide range of solutions cover from agribusiness to industrial use.

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PRODUCT LEVEL SOLUTION FOR INDUSTRIAL USE



MCSystems®
MONITORING CONTROL SYSTEMS

PRODUCT LEVEL SOLUTION FOR INDUSTRIAL USE

- Monitoring stock inside silo in real time
- Improve scheduling of production and distribution
- High ROI, thanks to affordable implementation cost.

PRODUCT LEVEL SOLUTION FOR FARMING USE

- Real time control of silos containing all kind of material. Liquids or solids.
- Increase of labour safety standards.
- Complete control on water, animal feed, pellet, diesel supply.

LOGISTIC OPTIMIZATION

- Logistic tracking planning
- Reduction in transport costs
- Avoid excess product in return.



SIMPLICITY

- Wireless.
- Maintenance free.
- Requires no calibration.
- No need for electronic power supply.



STRENGTHENS

- Ingress protection IP65.
- Wide range of working temperature.



HIGH PERFORMANCE

- Low consumption.
- High battery durability.
- Very accurate measurements.



ADAPTABILITY

- Does not matter how big the storage silo, bin or container are.
- Programmable measure frequency.



RAW MATERIAL VERSATILITY

- Accurate measurement of bulk solids regardless of the type of material or product characteristics.



LABOUR SAFETY

- Improve labour safety, avoiding climbing silos for manual double-checking.



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SiloMetric®

Solids

Wireless and easy to install laser sensor for bulk materials stored inside silos or bins.



DIGITPLAN, THE APPLICATION THAT MONITORS AGRICULTURAL OR INDUSTRIAL FACILITIES IN REAL TIME

User-oriented monitoring software, where user can control the status of your installation in real time, using data obtained from the various level sensors (SiloMetric or FluidMetric) or temperature sensors (SecurDetect), through any electronic device connected to the Internet.

Features

- Multiplatform.
- Real-time status and inventory display.
- Consultation of historical data in graphic format, exportable to a spreadsheet (csv).
- Geo-location of the devices.
- Low level alarms configuration
- Possibility of integration with other programs.

FluidMetric®

Liquids

Wireless ultrasonic sensor, suitable to measure the level of liquid products stored inside tanks.



SecurDetect®

Wireless device for different environmental condition detection. The sensors can be equipped to detect temperature, moisture, enlightenment, tilts, vibration.

Services

 <p>Tank volume calculations tools.</p>	 <p>Data display in all international measurement units.</p>	 <p>Data calibration and corrections.</p>	 <p>Historical data in graphical format and exportable to spreadsheet.</p>
 <p>Alarm notifications via SMS or e-mail.</p>	 <p>Direct API connection with other software applications.</p>	 <p>Generate personalized user profiles.</p>	 <p>Status and control diagnosis of the devices.</p>

SiloMetric



Product Description

Silometric LM sensor uses laser technology to measure the level of solid material inside silos and bins.

 SiloMetric®

 **Solid Materials**

Easy to install,
wireless

Low maintenance

Customization of the
measuring frequency

Powered with long
last battery

Data sheet

Model	LM-1	LM-100 INDUSTRIAL
Material	 Solid materials , not recommended in dusty environments.	
Measuring range	Up to 10 m.	Up to 40 m.
Working temp. range	From -15° to + 55°.	
Voltage	Lithium Battery 3.6 V. Capacity 8,500 mAh.	Lithium Battery 3.6 V. Capacity 8,500 mAh.
Battery life	Measures every 2 h: Up to 4 years. Measures every hour: Up to 2 years. En continuo: not recommended with battery	
Sensor	Class II laser, <1mW, 635 nm.	
Accuracy	+/- 3mm.	
Measuring frequency	Every 2 h. Customizable.	
Case	IP65. High density polypropylene. UV protection.	
Communication	Wireless. Radiofrequency, free frequency bands: 433 Mhz, 868 Mhz, 905 Mhz, 922 Mhz, depending on the country.	
Data	<ul style="list-style-type: none"> • The data measured by the Fluidmetric can be visualized in the web DIGITPLAN. • Data Export to a .xls file. • Data integration with other systems using a Web Service or Modbus protocol. • Data visualization with Panel View Pi-100. 	
Dimensions	335 x 120 mm.	

SILOMETRIC · Data sheet · Review May 2022



Optionals

Continuous reading

Customizable reading.

12V power supply is required in continuous reading.

Installation

Drill a hole in the superior part of the bin, we recommend to use a 40mm drill crown. Place the **rubber gasket (3)** under the **support kit (2)**. Make sure that the **Silometric (1)** will be focusing the center of the silo before fixing the **support kit (2)**. Use the screws provided to fix the support. Place the **Silometric (1)** through the support kit, place the **packing rings (6)** between the support and the **Silometric (1)**. Finally fix the **screws (5)** adjusting the correct inclination .

Check the **Mounting Manual** for more detailed information. No need of activation, device ready to use.

Silometric parts



- ① Silometric Device
- ② Support kit
- ③ Rubber gasket
- ④ Autodrilling screws.
- ⑤ Inox M-6 screws
- ⑥ Inox M-6 packing rings

Certifications



MCSystems declares under our sole responsibility that **Silometric** complies with the applicable requirements of the EC Directive and the current standards.



None of our products contains lead.



SiloMetric Radar



PRODUCT OVERVIEW

Silometrics RM is a wireless sensor using radar technology for level measurement of solids in silos, bins and tanks. Specially designed for powdery materials.

 SiloMetric®

- ✓ Solids
- ✓ Powdery materials

Easy installation,
no wiring

Maintenance free

Customizable reading
frequency

Long battery life

TECHNICAL SPECIFICATIONS

Model	RM-1
Product type	✓ Product type Solids, recommended for powdery products.
Measuring range	Up to 10 m.
Working temperature	From -40° to + 85°
Power supply	7.2 V Lithium battery. Capacity of 8.500 mAh.
Battery life	Reading every 2 hours: Up to 4 years. Reading every hour: Up to 2 years. Continuous: not recommended with battery.
Sensor	60 GHz Radar.
Accuracy	+/- 5 mm.
Measurement	Programmed readings every 2 hours. Possibility of customization.
Housing	IP65. High density polypropylene, reinforced with fiberglass. UV treatment.
Type of communications	Wireless. Radio frequency, free band use: 443 MHz, 868 Mhz, 905 Mhz, 922 Mhz, according to country.
Data	<ul style="list-style-type: none"> • Silometric readings can be consulted on the Digitplan web platform from any electronic device with an Internet connection. any electronic device with Internet connection. • Possibility of exporting the data to a file in .xls format. • Possibility of obtaining data through a web service or through Modbus protocol. • Possibility of data visualization in Panel View Pi-100, in local mode.
Dimensions	275 x 120 mm.

SILOMETRIC RADAR · Data sheet · Review October 2022



OPTIONALS

Continuous measurement

Customized time between readings on request.

12V power supply in case continuous readings are required.

INSTALLATION

Drill a hole in the upper part of the tank, it is advisable to use a drill with a 51 mm bit. Adjust the **rubber gasket (2)** on the lower part of the **support**, screw the **support** tightening it on the hole, presenting the **Silometric device (1)** with the inclination that we will have to mount it. Mark the position of the **support** with a pencil and mount it with the self-drilling screws. Place the **Silometric device (1)** inside the support, interpose the washers between the **Silometric device (1)** and the **support**, finally screw it with the screws, adjust the inclination and tighten to fix it.

Consultar el **Manual de Instalación** para información más detallada.
No requiere puesta en marcha, programado de fábrica.

ASSEMBLY KIT



- | | |
|---|----------------------------------|
| ① | Silometric Device |
| ② | Rubber seal |
| ③ | 4.8 x 32 mm self-drilling screws |

Certificates



MCSystems declares that the **Silometric** product complies with current regulations and standards.



None of our products contain lead.



FluidMetric



Product Description

Fluidmetric is a wireless device that uses a rugged ultrasonic sensor to measure the level of liquids inside silos or tanks.



Easy to install,
wireless

Low maintenance

Customization of the
measuring frequency

Powered with long
last battery

Data sheet

Measuring range	From 30 cm to 10 m.
Working temp. range	From -40° up to +65°.
Voltage	Lithium Battery · 7,2 V · 8500 mAh.
Battery life	Measures every 2 h: Up to 10 years
Sensor	Ultrasound with robust PVC housing which meets the IP67 water.
Accuracy	+/- 3 mm
Measuring frequency	Every 2 h. Customizable.
Case	IP65. High density polypropylene. UV protection. Size: 335 x 120 mm.
Communication	Wireless. Radiofrequency, free frequency bands: 868Mhz, 905Mhz, 922Mhz, depending on the country.
Data	<ul style="list-style-type: none"> • The data measured by the Fluidmetric can be visualized in the web DIGITPLAN. • Data Export to a .xls file. • Data integration with other systems using a Web Service or Modbus protocol. • Data visualization with Panel View Pi-100.

FLUIDMETRIC · Data sheet · May 2021

Optionals

Reading Frequency

Customization on request.
External power supply needed if continuous reading required.

IP68

Fluorosilicone treatment around the sensor with an addition back up FET Teflon for more chemically inert selling.

Anticorrosive

Praylene coating around the transducer to prevent corrosion.

Installation

Drill a hole in the superior part of the bin, we recommend to use a 40mm drill crown. Place the **rubber gasket (3)** under the **support kit (2)**. Make sure that the **Fluidmetric (1)** will be focusing the center of the silo before fixing the **support kit (2)**. Use the screws provided to fix the support. Place the **Fluidmetric (1)** through the support kit, place the **packing rings (6)** between the support and the **Fluidmetric (1)**. Finally fix the **screws (5)** adjusting the correct inclination.



Check the **Mounting Manual** for more detailed information.
No need of activation, device ready to use.

Fluidmetric parts



- ① Silometric Device
- ② Support kit
- ③ Rubber gasket
- ④ Autodrilling screws
- ⑤ Inox M-6 screws
- ⑥ Inox M-6 packing rings

Certifications



MCSystems declares under our sole responsibility that **Fluidmetric** complies with the applicable requirements of the EC Directive and the current standards.



None of our products contains lead.



MASTER GW

Product description

The **Master GW** is a communication gateway that gathers the data sent by the different sensors, such as Silometric®, Fluidmetric®, or SecurDetect®, to Internet. Once the information is on the cloud, it can be managed from the DigitPlan® platform.



Technical specifications

Capacity	No limitation of Silometric® devices.
Distance range	300 m without obstacles.
Protocols	IEEE 802.3, IEEE 802.11.
Power supply	POE Adapter, 5V-3A.
Dimensions	12,5 x 7,8 x 3,7 cm (width x depth x height).
Communications	Wireless, radio. Frequency 868MHz, 905Mhz or 922MHz depending on the country. MQTT communication protocol available.

Installation

First, screw the antenna. Second, connect one of the ethernet cables to the Master GW and the POE Adapter, in the POE's port. Connect the other ethernet cable to a free port of the router with Internet connection and the POE Adapter, in the LAN's port. Place the MASTER GW in a centred position of the other Silometric® devices, where there is the best possible visibility between the MASTER GW and the Silometric®

Certifications



MCSystems declares that the **Master GW** product complies with current regulations and standards.

PANEL VIEW Pi-100

Product description

The **Panel View Pi-100** is a communication device capable of concentrating the packets coming from the radio network formed by different sensors or Silometric® equipment and showing the received values in a graphical way.



Technical specifications

Capacity	No limitation of Silometric® devices.
Distance range	300 m without obstacles.
Protocols	IEEE 802.3, IEEE 802.11
Power supply	5V - 3A
Dimensions	20 x 5 x 11,5 cm (width x depth x height).
Communications	Wireless, radio. Frequency 868 MHz, 905 Mhz o 922 MHz depending on the country. Modbus communication protocol.

Optional

Possibility of connecting the equipment to the Internet, enabling the supervision and control of the data through the DigitPlan® web application.

Installation

Connect the device to a 5V and 3A power supply and screw the antenna.

Place the **Panel View Pi-100** in a centered position of the other silometric devices, where there is the best possible visibility between the **Panel View Pi-100** and the Silometric®.

Certifications



MCSystems declares that the **Panel View Pi-100** product complies with current regulations and standards.

PANEL VIEW Pi-100 · Technical specifications · May 2021

SecurDetect · Multisensor

Product description

Wireless device for different environmental condition detection.
The sensors can be equipped to detect:

- Moisture
- Temperature
- Enlightenment
- Tilts
- Vibration
- Gasses
- Intrusion



**Easy to install,
wireless**

Low maintenance

Technical specifications:

Measuring frequency	Every 2 h. Customizable.
Voltage	Replaceable battery CR123A 3V. 1.500 mAh.
Case	Dimension: 85x80x50mm. Weight: 180gm.
Communication	Radio frequency 868 Mhz, 905 Mhz or 922Mhz according to countries current regulations.

Optional

*CO₂ sensor, Specific sensors might require external power supply.

Programmable lectures frequency.

Possibility to add different sensors according to client's requirements.

Temperature probe tube, until 2,5m length.

Installation and start up

Wall fixed with 4 anchor screws.

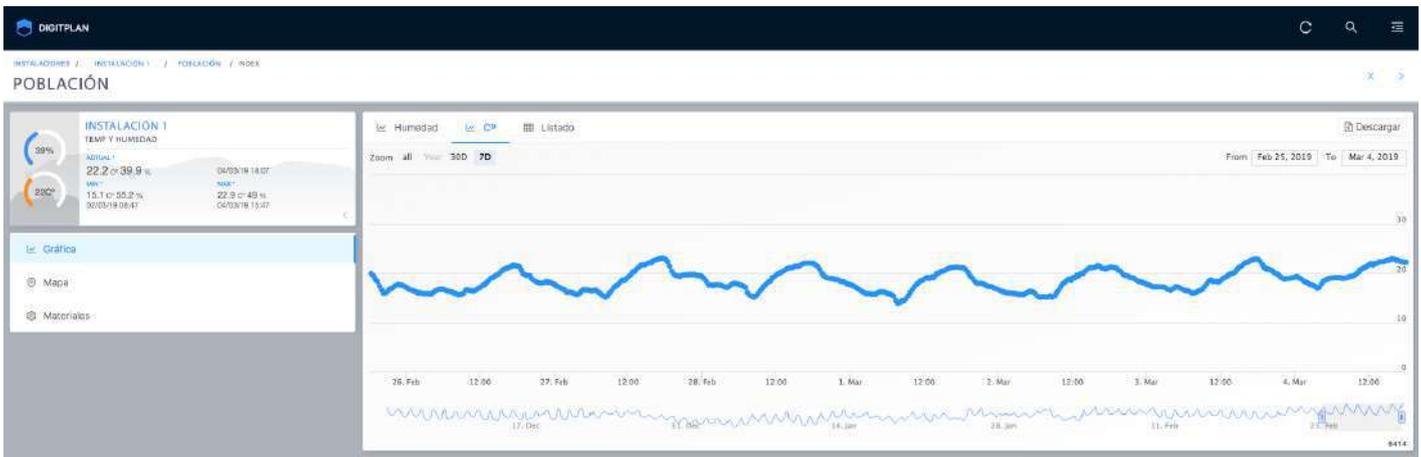
Can be installed and placed everywhere whenever it is covered by radio frequency.

Ask for specific coverage study.

In case there is a lack of radio frequency coverage, it will be required an extra Master Pi-100 communication device.

Data access

Measures taken by sensors are presented trough DIGITPLAN website.



Certifications



MCSystems declares under our sole responsibility that **SecurDetect** complies with the applicable requirements of the EC Directive and the current standards.



None of our products contains lead.





Digitplan, the application that monitors agricultural or industrial facilities in real time

User-oriented monitoring software, where user can control the status of your installation in real time, using data obtained from the various level sensors (Silometric or Fluidmetric) or temperature sensors (SecurDetect), through any electronic device connected to the Internet.

Features

- Multiplatform.
- Real-time status and inventory display.
- Consultation of historical data in graphic format, exportable to a spreadsheet (csv).
- Geo-location of the devices.
- Low level alarms configuration
- Possibility of integration with other programs.

Services



Tank volume calculations tools.



Data display in all international measurement units.



Data calibration and corrections.



Historical data in graphical format and exportable to spreadsheet.



Alarm notifications via SMS or e-mail.



Direct API connection with other software applications.



Generate personalized user profiles.



Status and control diagnosis of the devices.



- Create different user profiles.
- Limited access to the platform depending on a user profile.

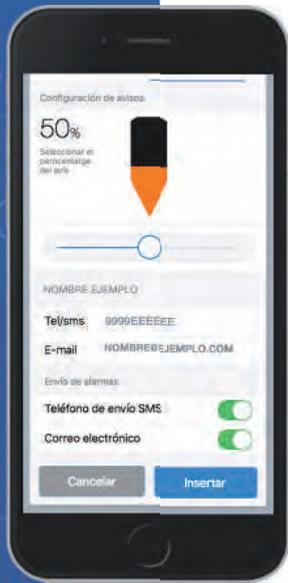
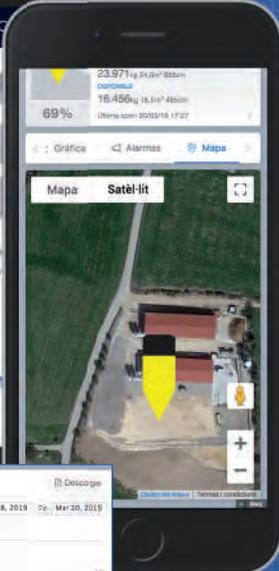
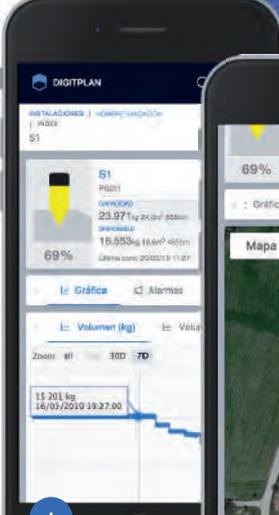


It is necessary to have installed at least one sensor.
View **Silometric** technical card.



- Installation general dashboard.
- Temperature and moisture.
- Graphs of inventory.

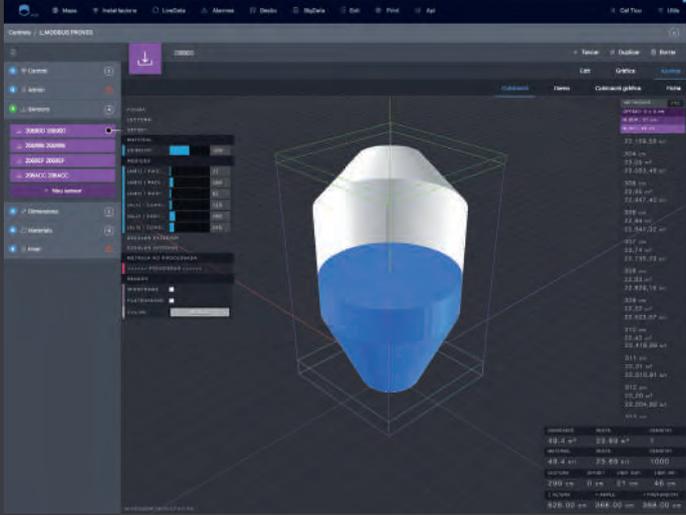
- Inventory data historical and alarms.
- Geo-location.
- Material density set up and customization.
- Historical data exportable to CSV format.

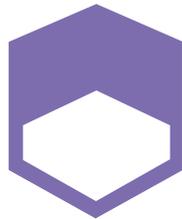


- Configuración de alarmas.
- Alarm notifications via SMS or e-mail.



Metrics are created from 3D models. Standard tanks and silos shapes are generated directly from DIGITPLAN software. Out of standard silos or tank shapes and dimension can be imported in 3D format.





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