AgroLog
BY SUPERTECH AGROLINE

INTELLIGENT GRAIN MONITORING & CONTROL



We help you secure your crops and values

Solid hardware and new intelligent software

ATEX
ISO 9001 Certified
EAC Certified



FEATURES

THE AGROLOG SYSTEM

- SOLID HARDWARE COMPONENTS
- A NEW INTELLIGENT SOFTWARE PLATFORM
- TEMPERATURE MONITORING
- MOISTURE MONITORING
- INVENTORY MANAGEMENT
- SILO HEAD SPACE MONITORING
- WEATHER STATION
- CO2 MONITORING
- AERATION CONTROL



WE BELIEVE IN A DIGITAL FUTURE

Make decisions based on valuable and reliable data

Let's talk about intelligent software management for grain and crop storage – it's all about what solid hardware and new intelligent software can do for you. Take full advantage of the newest technology and let our AgroLog grain and crop quality management system give you the strong tools you need to always be in control of your grain and crops.

At Supertech we no longer only talk about the advantages of our hardware. We talk about all the convenience and possibilities that we offer through our new and improved product line AgroLog by Supertech Agroline.

- Quick return of investment
- Minimise waste
- Maximise profit

We are here to help to protect and secure your crops and values.



THE AGROLOG SYSTEM

SOLID HARDWARE AND INTELLIGENT SOFTWARE

AgroLog by Supertech is for those of you who need a fully automated Temperature and Moisture Monitoring System to make your daily workflow easier and safer.

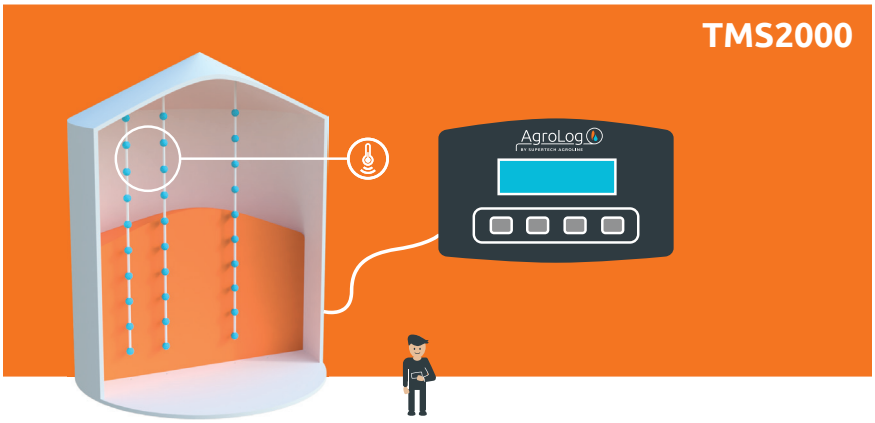
The system is comprised of solid hardware and intelligent software. It is up to you how advanced a solution you need. It is also up to you if you want a cloud-based or on-premises software solution.

We can customise AgroLog to your exact needs – no matter how many silos or bulks you need to secure or where they are located.

User examples:

For those of you who need to know the temperatures inside your silos

Every silo facility needs accuracy and a reliable temperature monitoring system. Our TMS2000 is a basic, professional handheld terminal and read-out unit.



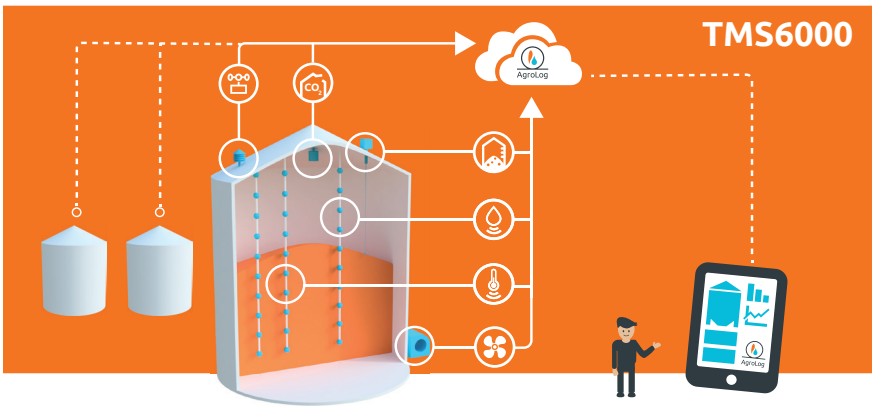
For those of you who need to be able to follow the development of your crops

Our TMS2500 is a compact, portable hand terminal with built-in memory for documented temperature monitoring which also includes a PC software program that can give you a quick overview.

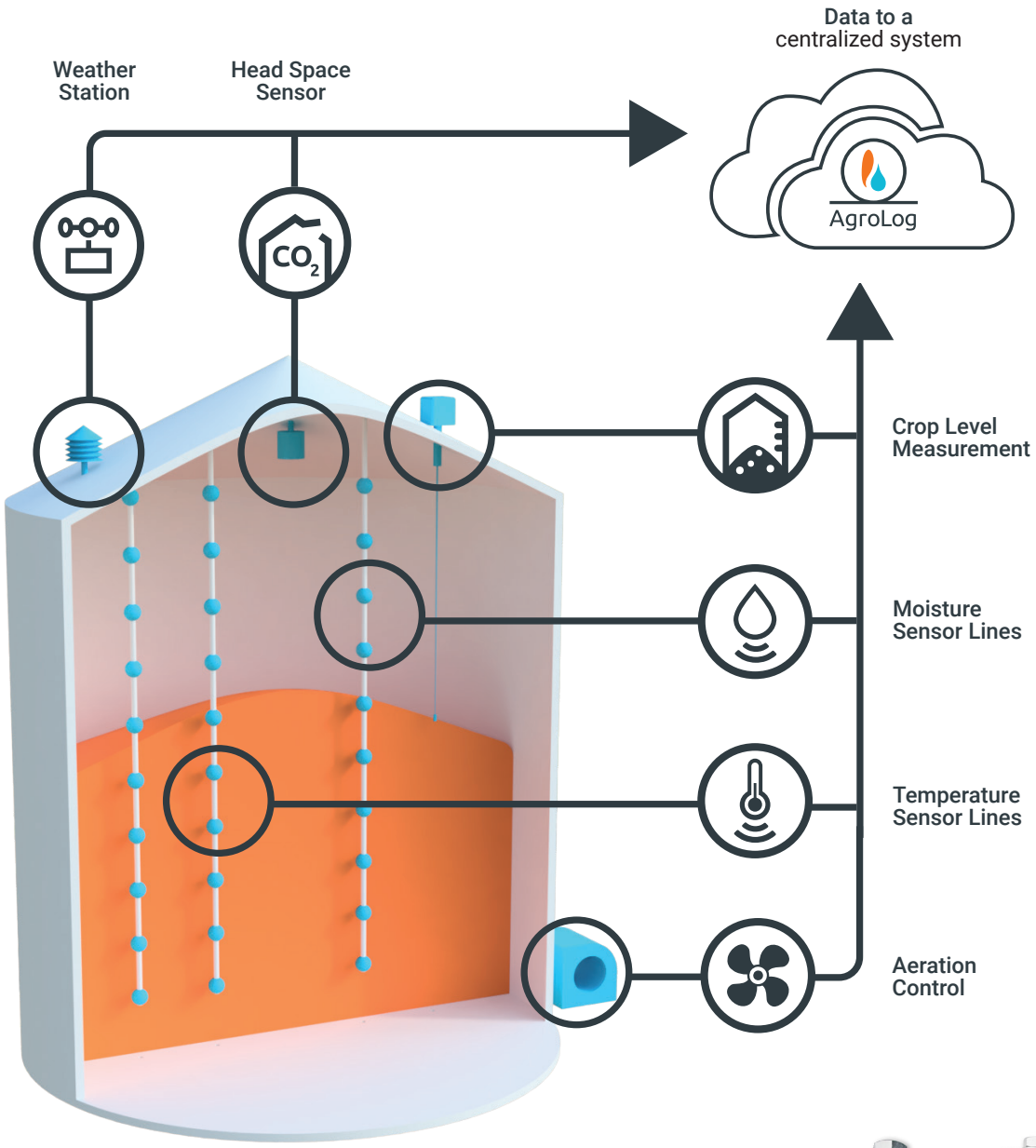


For those of you who need a fully automated system

Take full advantage of the benefits of the new technology and let our Agrolog grain and crop quality management system give you the strong tools you need to always be in control of your grain and crops.



HARDWARE
Solid Hardware Components

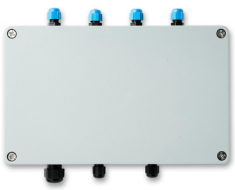




Hand Terminal
TMS2000 / TMS2500



Netlink



Netcontroller



Temperature Sensor Line



Moisture Sensor Line

Please visit **agrolog.io** for more information

Prevent waste, fire and financial loss. This is a complete easy-to-use solution.

Let's go digital and look into the future together.

MOISTURE MONITORING

For better storage quality and safety

Moisture and shrinkage control is achieved by measuring moisture content and temperature at several points throughout the silo.

TEMPERATURE MONITORING

Avoid spoilage in your grain by detecting hotspots

Check temperature regularly until the target temperature is reached. Cool temperatures permit grain to be stored at a higher moisture content level. Insects, mites, fungal and micro-toxins thrive in higher temperatures.

WEATHER STATION

Monitoring weather conditions provides great control for aeration

The weather station keeps a constant eye on ambient conditions, thus ensuring that only air with the desired properties is used for aeration.

LEVEL MONITORING

Tracking inventory in silos is an important component

Using the AgroLog software and our automatic level sensor makes it easy to know where crops are located and their quantity.

AERATION CONTROL

Automatic fan control optimises grain quality

Optimise grain moisture and temperature. Avoid shrinkage. Our temperature and moisture monitoring in combination with ambient temperature and humidity data starts and stops the fans automatically.

CO2 MONITORING

CO2 sensors can provide early spoilage detection

Insects and mould are organisms that respire and release CO2. The gas will travel to the head space of the silo due to the internal upward flow of air.

SILO HEAD SPACE MONITORING

Avoid condensation and wet grain on the surface

Roof ventilation fans are controlled by data from the Head Space Sensor located under the roof. Dew points are computed from temperature and humidity.

AGROLOG.IO – SOFTWARE

Customized for every client



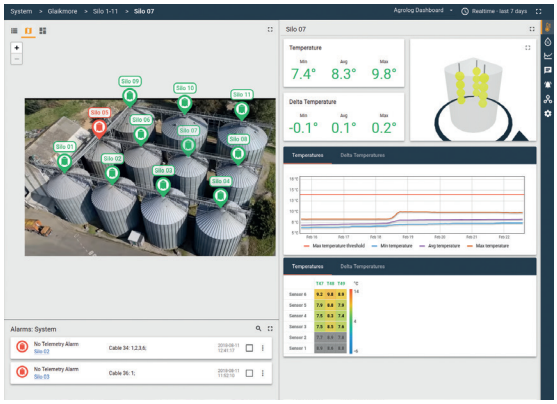
AgroLog.io is our intelligent software that will help you make better decisions. It is a new generation of agricultural monitoring software that will process sensor information, let you know about the smallest change in your storage facility and simultaneously automate critical tasks. We now offer you not only data but value from your data.

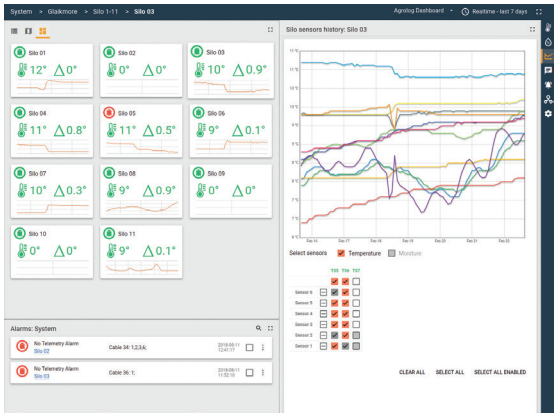
AgroLog

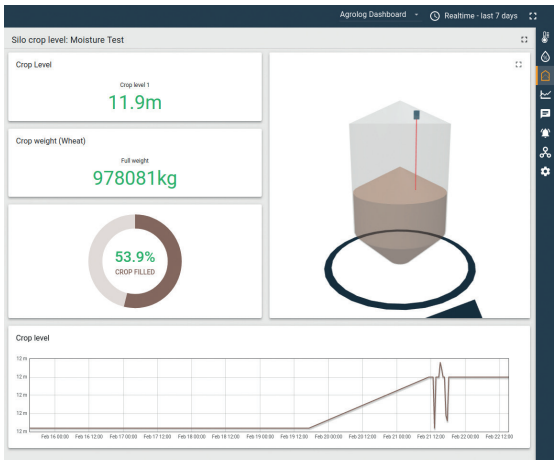
Intelligent software to help you make the right decisions.

THIS IS HOW EASY IT IS TO OPERATE THE SYSTEM

- Access the system anytime and anywhere using PC, smartphone or tablet etc.
- Increase safety. With one system you can control multiple sites from anywhere in the world
- Centralised system. Achieves high security and protection of data while being easy to manage and maintain
- Use the automated reports. Save worktime by letting the software generate valuable insights for you
- No software, backup or server maintenance as we handle this for you. We guarantee the safety of your data'







SOFTWARE BENEFITS

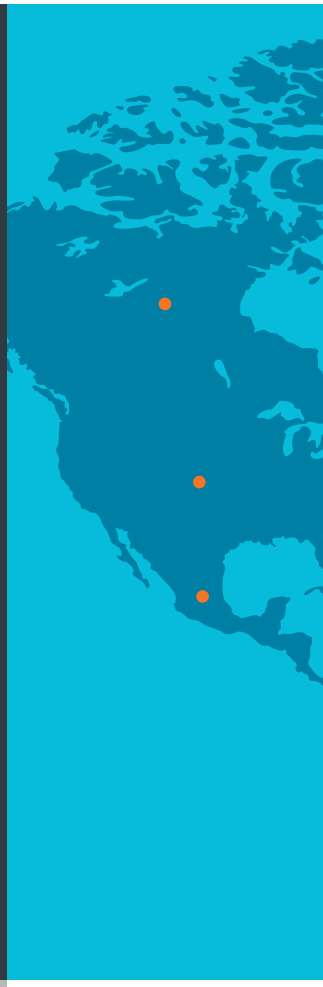
- Intuitive, modern graphical interface allows quick and easy interpretation of data
- Real-time data – telemetry, monitoring and control 24/7
- Real-time 3D visualizations quickly illustrate where the problems occur in the silo
- REST Interface for integration with third party systems and an open system that gives developers access to advanced computations
- Be alerted by e-mail to the slightest change in your crops, even when not currently using the software
- Full historical chart for deeper insights into trends

SUPERTECH AGROLINE

OUR STORY

Our story is a story of commitment, innovation and more than 25 years of hands-on experience with customers from all over the world. We are driven by our focus on our customers' needs in everything we do.

- Family-owned business founded by Lars Frederiksen
- Dedicated to the development, manufacturing and sales of high-quality grain monitoring and control equipment
- In-house Danish production
- Worldwide distribution and sales in more than 50 countries
- Reliable and trustworthy business partner. We are here to help you in every way and at every step of the process
- Strong relations and support all over the world and a strong aftersales service directly from our technical centre in Denmark or through your local dealer







SERVICE AND SUPPORT

ANYWHERE IN THE WORLD

AgroLog is a customised solution which includes full support at every step. We provide you with all the support you need. You can always contact us or your local dealer regarding installation, technical issues and questions regarding configuration of data and software – and of course daily use.



WE DO AMAZING AFTERSALES

Worldwide locations – we still support you. We offer free online support at any time – before, during and after installation.



FASTER AND BETTER SUPPORT

With our new software platform we now offer you more technical support and convenience during installation than ever before.



24-HOUR HOTLINE SERVICE

Don't hesitate to contact us to connect with our technology centre in Denmark if you have technical issues.

AgroLog
BY SUPERTECH AGROLINE

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Denmark

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Feel free to contact us for further information or a demonstration of THE AGROLOG SYSTEM

SUPERTECH AGROLINE WEBSITE
supertechagroline.com

THE AGROLOG.IO WEBSITE
agrolog.io

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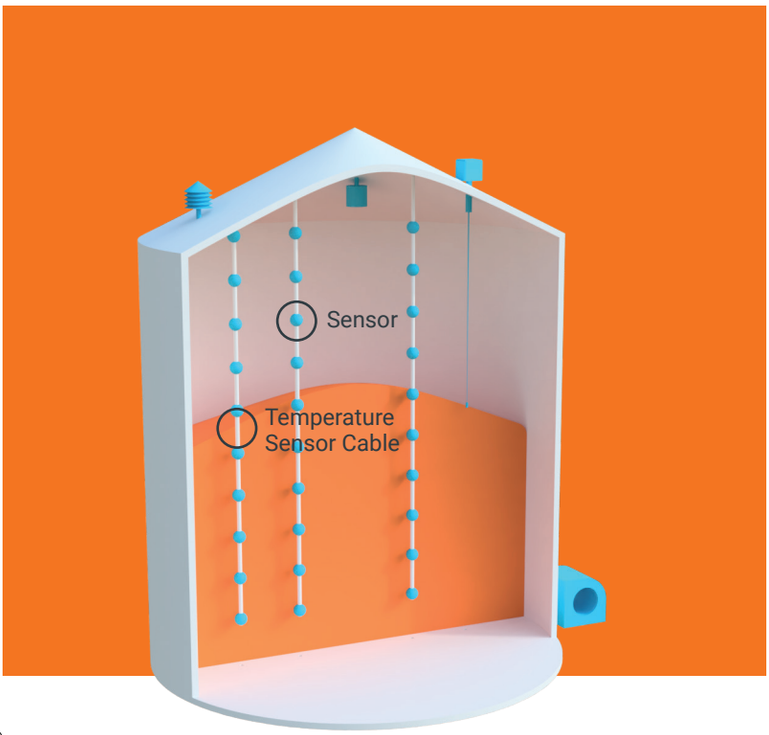
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Agrolog ver200107/ We reserve the right to technical changes.

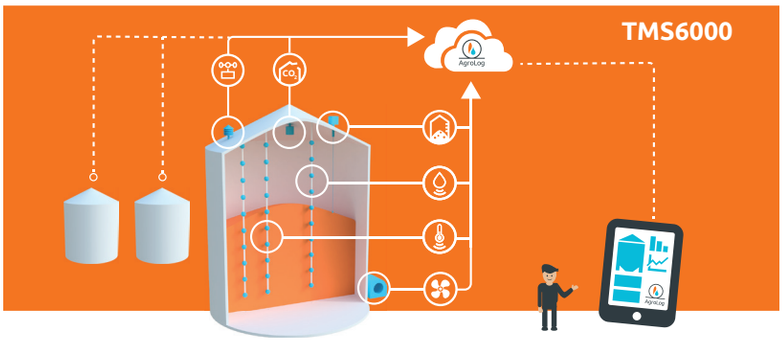
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TEMPERATURE SENSOR CABLE

SL3000/5000







Temperature Sensor Cable
Intelligent Digital Grain Monitoring

Check temperatures regularly until the target temperature is reached. Cool temperatures permits grain to be stored at a higher moisture content level. Insects, mites, fungal and mycotoxins thrive in higher temperatures.

The Sensor Lines are key elements of both the TMS2500 and the TMS6000 systems.



The key functions/benefits are:

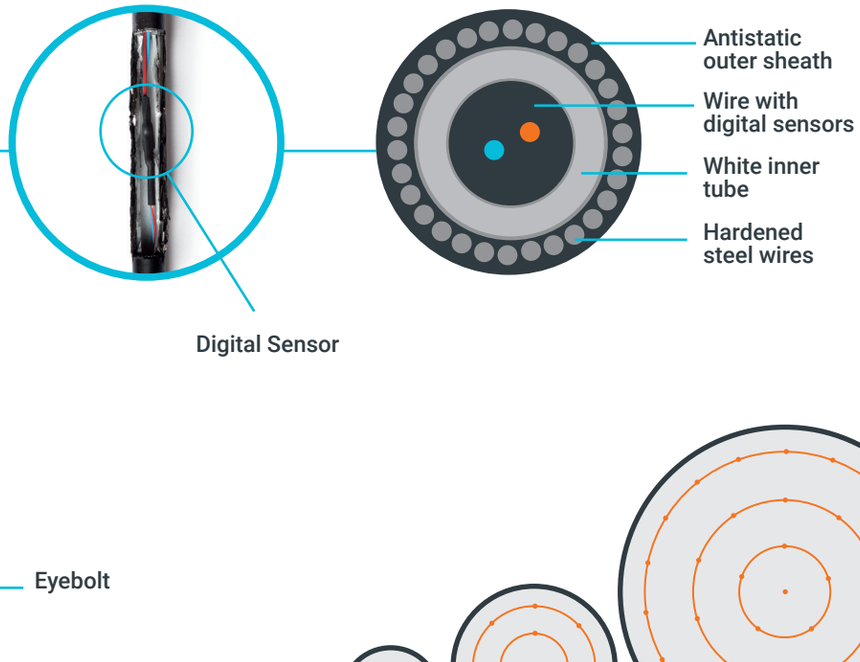
- Customized Sensor Lines from 1 to 80 metres in length
- Durable antistatic construction for high loads and certified for ATEX Zone 20/21/22
- Number of sensors on request, standard distance is every 1, 2 or 3 metres
- Simple and easy installation – only two wires to connect
- No temperature drift overtime
- Maintenance free

Avoid spoilage in your grain by detecting hotspots

All Temperature Monitoring Systems are customised to fulfill the requirements of the specific plant.

SPECIFICATIONS
SL3000/5000





Placing the Sensor Cable inside the silo

We recommends placing the Sensor Lines in a pattern as shown by the orange dots. Depending on silo diameter.

Examples of Cable locations

TECHNICAL SPECIFICATIONS

Temperature Sensor Cable: Diameters Ø10,8mm
Maximum Cable length: 50m/80m
Temperature range: -20°C to +80°C
Resolution: Sensor placement 1m, 2m or 3m
Sensor per Cable: Unlimited
Silo roof mounting: Hook, roof suspension plate, etc.
Silo floor mounting: Eye bolt
Tensile strength: 3600kg/7500kg

A well-placed grid of sensors along with frequent logging and tracking are the most important elements of a complete silo-monitoring programme.

ATEX ISO 9001 Certified EAC Certified

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SL3000/5000 productsheet ver200113/ We reserve the right to technical changes.

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TEMPERATURE MONITORING SYSTEM

TMS2000



A professional portable hand terminal Temperature Monitoring System

Every silo facility needs a reliable temperature monitoring system. Our TMS2000 is a basic, professional handheld terminal and read-out unit.

The key functions/benefits are:

- Reliable and user-friendly
- Easy to install
- Durable construction for all climates
- Connects directly to the Sensor Cables
- 2 wire cable for easy installation
- Digital sensor no, calibration needed
- Flexible design for future extension
- Sensor Lines tailored to any application for ATEX zone 20/21/22
- Backlight display to help read in low light conditions

For those of you who need to know the temperatures inside your silos

This system is flexible and can be extended at any given time. Perfect as a reliable and easy starter system for monitoring temperatures in your silos or bulk storages.

SOLID HARDWARE COMPONENTS

TMS2000



Hand Instrument

Our basic handheld and compact read-out unit. When the TMS2000 hand instrument is connected to the Agrolog temperature monitoring system all sensors will be scanned and all sensors temperatures will be displayed.

Sensor Lines

High load Sensor Lines up to 80 metres long for ATEX Zone 20/21/22
Number of sensor points on request
Standard is every 1, 2 or 3 metres

Suspensions

Different mounting brackets and hooks available for inside or outside assembly

Probes

Fiberglass Probes from 2.5m up to 12m long
2.5m – 2 sensors
4.0m – 3 sensors
5.5m – 4 sensors



Temperature Sensor Cable



Roof Suspensions



Fiberglass Probes

TECHNICAL SPECIFICATIONS

Measuring range: -10°C to +80 °C
Resolution: 0.5°C
Display: 2 line LCD with backlight
Battery: 9V alkaline
Sensor: 1-wire digital
Dimension: 148 x 88 x 25mm
Weight of terminal: 0.240kg
ATEX approved

ATEX
ISO 9001 Certified
EAC Certified

THIS IS HOW EASY IT IS TO OPERATE THE SYSTEM

- Connect the portable Agrolog TMS2000 hand instrument to the connection point.
- Turn on the hand instrument by pressing the ON/SCAN button and all sensors will automatically be scanned and highest temperature will be shown in the display.
- By using the arrow keys all sensors can be called off.

TMS2000 productsheet ver200113/ We reserve the right to technical changes.

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TEMPERATURE MONITORING SYSTEM

TMS2500



A professional portable hand terminal Temperature Monitoring System with built-in memory for documentation

Our TMS2500 is a compact, portable hand terminal with built-in memory for documented temperature monitoring which also includes a PC software program that can give you a quick overview.

The key functions/benefits are:

- Reliable and user-friendly
- Easy to install
- Durable construction for all climates
- Connects directly to the Sensor Cables
- 2 wire cable for easy connection
- Digital sensor no, calibration needed
- Flexible design for future extension
- Sensor Lines tailored to any application for ATEX zone 20/21/22
- Backlight display to help read in low light conditions
- PC program to store and recall data with time and date
- Temperature trend curves and tables

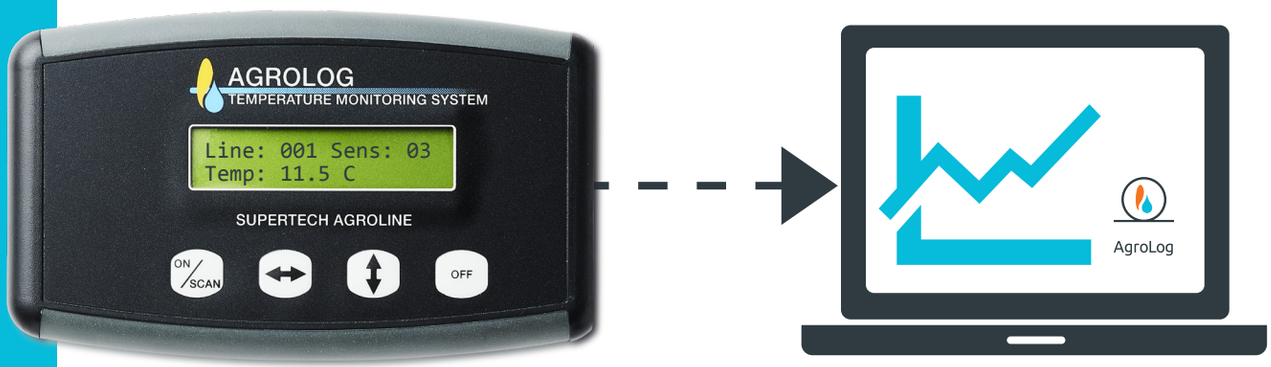
For those of you who need to be able to follow the development of your crops

This system also provides you detailed historical information. Temperature diagrams and tables are generated to enable temperature trends which are analysed over time.

1601_Supertech_Agrolog_produktblad_TMS2500_ver200113.indd 1 13.01.2020 13.26

SOLID HARDWARE COMPONENTS

TMS2500



Hand Instrument + PC interface

The portable Agrolog TMS2500 hand terminal is a compact unit with a memory function and USB PC interface.

Sensor Lines

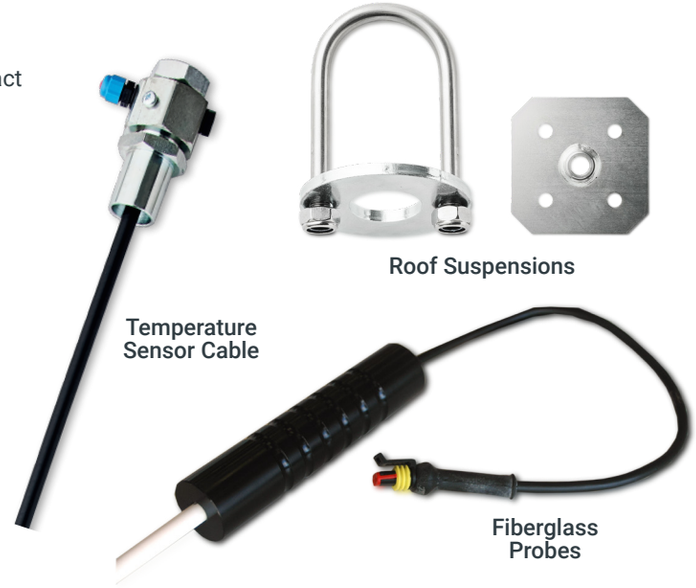
High load Sensor Lines up to 80 metres long
for ATEX Zone 20/21/22
Number of sensor points on request
Standard is every 1, 2 or 3 metres

Suspensions

Different mounting brackets and hooks available for inside or outside assembly

Probes

Fiberglass Probes from 2.5m up to 12m long
2.5m – 2 sensors
4.0m – 3 sensors
5.5m – 4 sensors



TECHNICAL SPECIFICATIONS

Measuring range: -10°C to +80°C
Resolution: 0.5°C
Display: 2 line LCD with backlight
Battery: 9V alkaline
Sensor: 1-wire digital
Dimension: 148 x 88 x 25mm
Weight of terminal: 0.240kg
ATEX approved

ATEX
ISO 9001 Certified
EAC Certified

THIS IS HOW EASY IT IS TO OPERATE THE SYSTEM

- Connect the portable Agrolog TMS2500 to the connection point and start measuring and logging the temperatures
- All temperatures from each silo and each sensor will be stored in the system and are displayed in the portable hand terminal
- Alternatively, the data can be transferred into the Agrolog PC2500 software program. Here, temperature diagrams and tables are generated to enable the analysis of temperature trends over time

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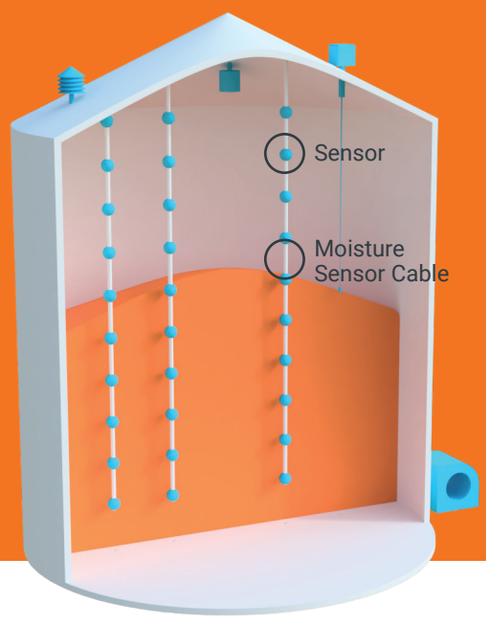
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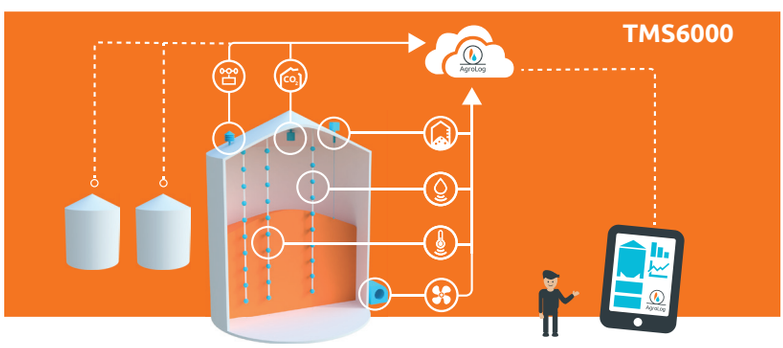
TMS2500 productsheet ver200113/ We reserve the right to technical changes.

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MOISTURE MULTI SENSOR CABLE

SLM3000





Moisture Multi Sensor Cable
Moisture Monitoring

Moisture and shrinkage control is achieved by measuring moisture content and temperature at several points throughout the silo.

In combinations with automated fan control it gives the best degree and accuracy of moisture and shrinkage control.



The key functions/benefits are:

- Humidity, Temperature and Moisture content
- Customized length up to 25m
- Durable antistatic construction
- Simple and easy installation
- Avoid shrinkage and start aeration only when needed
- Calibration available for all common types of grain

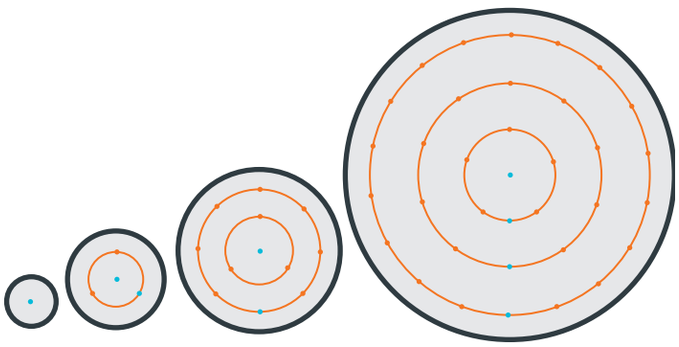
For better storage quality and safety

SPECIFICATIONS
SLM3000



Humidity and Temperature Sensor
Each sensor is encased in a protective housing provided with a sintered filter that protects the sensors from dust and other contamination.

Placing the Sensor Cable inside the silo
We recommends placing the Sensor Lines in a pattern as shown by the blue dots.



Examples of Cable locations

TECHNICAL SPECIFICATIONS

Temperature Sensor Cable: Solid antistatic
Maximum Cable leng: 25m
Temperature range: -20°C to +80°C
Resolution: Sensor placement 2m, 3m, 4m or 6m
Sensor per Cable: 1-13
Silo roof mounting: Hook, roof suspension plate, etc.
Silo floor mounting: Eye bolt
Grain Moisture Range: 6-24% Depending on type of grain
Head Space Humidity Range: 0-100% RH

A well-placed grid of sensors along with frequent logging and tracking are the most important elements of a complete silo-monitoring programme.

SLM3000 productsheet ver200511/ We reserve the right to technical changes.

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AgroLog BY SUPERTECH AGROLINE

Products Description

For more information please visit “Products - Units” page on our website

Temperature Sensor Cables



Certified cables for ATEX Zone 20/21/22.
Digital sensors – no calibration needed.
Easy on-site installation. Only 2 wires to be connected.
Small diameter Temperature Sensor Lines making the load on the roof construction significantly smaller.
Eye bolt in the bottom of the Temperature Sensor Lines for fixation to the silo-floor.

Moisture Sensor Cables



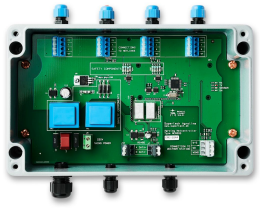
Digital dual sensors, measures both humidity and temperature.
Moisture content of the grain in the silo is computed in the Agrolog.io Software.
Eye bolt in the bottom of the Moisture Sensor Lines for fixation to the silo-floor.

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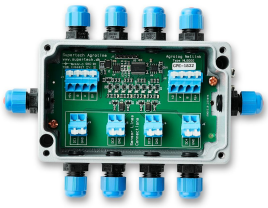
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Control Network

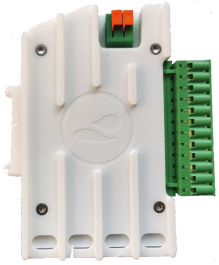


The Agrolog Netcontroller is the interface between the Agrolog Gateway, the Agrolog Netlink and the Agrolog Sensor Lines in hazardous areas. The Agrolog Netcontroller has a built-in safety barrier.

One Agrolog Netcontroller can connect up to 4 groups of Netlinks and Agrolog Netcontrollers can be connected in chains.



The Agrolog Netlink is the interface between the Agrolog Sensor Line and the Agrolog Netcontroller NC6000. More Agrolog Netlinks can be connected in chains. It exists in two sizes depending on the size of the silo.



The Agrolog Gateway collects data from the sensor network. The Gateway delivers data to the cloud, and secure full functionality of the total monitoring and control system even if the internet connection gets lost.

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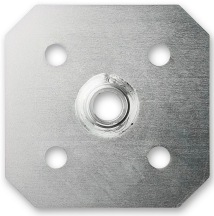
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Accessory Package For Mounting



Agrolog Suspension Hooks for Sensor Lines SL3000 for inside mounting in roof rafters.

Agrolog Suspension Hooks for Sensor Lines Moisture SLM3000 for inside mounting in roof rafters.



Agrolog Roof Suspension for Sensor Lines SL3000 for outside mounting.

Agrolog Roof Suspension for Sensor Lines Moisture SLM3000 for outside mounting.



The Knife Connectors cut into the copper-wires of the installation cable. Build-in silicone grease seals the connections to secure proper connections.



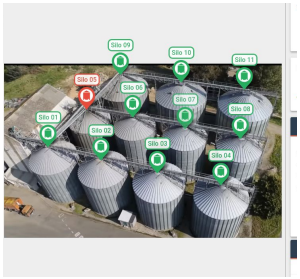
Installation cable UTP 4x2xAWG24 CAT5E PE for outdoor use are included to wire the complete system

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AgroLog
BY SUPERTECH AGROLINE

Intelligent Software Package





Agrolog.io is customized for every client.
The system will alert you with the smallest change in your storage facility by email.
The data empowers you to gain deeper insight in the trends and several functions such as aeration.
Access the system anytime and anywhere using PC, smartphone or tablet etc.
With one system you can control multiple sites from anywhere in the world.
Achieve high security and protection of data and still easy to manage and maintain.
Save work time by letting the software generate valuable insights for you.
Software, backup and server maintenance is handled by us.
Intuitive and modern graphical interface which allows easy and fast interpretation of data.
Real-time data – telemetry, monitoring and control 24/7.
Real-time 3D visualizations quickly identify where the problems occur in the silo.
REST Interface for integration with third party systems possible.
Full historical chart for deeper insights in the trends.

Cloud Software

- **<u>Full Support Package Included</u>**
- Free on-line auditing after one year
- Lifetime online support
- Free lifetime upgrade of software
- Maintenance of software and server
- Backup of data

Local Software

- Free online support during installation
- Free on-line auditing after one year
- Possibility to use your own Pc- Equipement if this one possesses windows 10.

For more support that listed above please purchase the “Full Support Package”

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CGRAIN TECHNOLOGY CO., LTD.
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+662-901-0350
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AgroLog
BY SUPERTECH AGROLINE

Full Support Package

- Full Online Lifetime Support

Hosting/Subscription + Sensor fee after 1 year:

- Base fee Euro 25,00 per month
- Sensor fee per sensor Euro 0,05 per month

Aeration Modul



Aeration control includes all necessary devices in order to measure ambient temperature and humidity.

Our temperature and moisture monitoring in combination with ambient temperature and humidity data starts and stops the fans automatically.

The data will then be shared in our newest Agrolog.io software.

Headspace Sensor



In the AgroLog system the headspace sensor is an important component. The sensor is placed in the headspace of the silo/bin where it measures temperature, relative humidity, EMC, pressure, dewpoint and CO_2

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Weather Station



With our AgroLog solution a Weather station is available. This one will give relevant and constant information about the weather conditions and ambient temperature for you to be able to manage in advance or in time the fluctuation of the temperature and moisture inside the silos.
This will help you to save your crops before anything even happens.

Inventory Management



Using the Agrolog.io Software and our level sensing based on the temperature sensors calculates approximate level, volume and weight.

Grain density and slip angles are included in the calculation of level.

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PC Equipement



The Agrolog PC Equipment package includes all necessary components such as, PC, monitor, keyboard, mouse and printer, reconfigured and ready to use.

This PC equipment is only available for local deployment of our Agrolog.

All our systems are guaranteed for 2 years. The guarantee covers defects in materials and manufacturing. The manufacturer accepts no liability for damages arising from any consequential losses in connection with its use, including incorrect display in connection with the settlement of grain. The manufacturer reserves the right to change product specification without notice.

ATEX

EAC

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