

DSE4200 Microwave based - moisture meter for balers



Moisture measurement with history...

For many decades Denmark has utilised the excess straw for energy purpose, and is the global leader within innovative solutions for the Bio-energy sector.

DSE Test Solutions sold the very first moisture meter for a straw-driven thermoelectric plant in 1991. Since then our microwave technology has become the preferred technology in the industry.

Today, we proudly can offer an advanced technological solution for professional farmers and agricultural contractors, who wish to have precise moisture measurements during baling: **DSE4200 Microwave based moisture meter for balers.**



Optimise your baling with DSE4200

✓ EXTEND THE BALING TIME

With DSE4200 you can continue baling 1 hour longer in the evening - even after the dewfall.

"With DSE4200 I can extend the baling 1 hour per day in average ..."

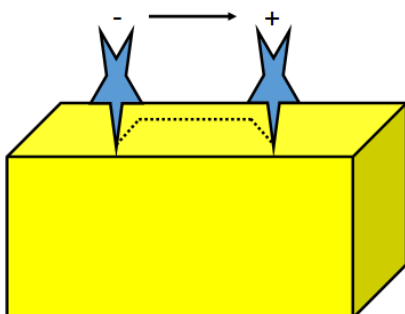
When the dew falls in the evening, the water drops start forming on the surface of the windrow, while the middle and the bottom part of the material remain dry for some time.

This conditions can be used to obtain extra baling time with a DSE4200!

The microwaves measure through the whole bale without having contact with the material. This gives significant advantages compared to the contact based moisture meters. The contact based technology only measures the surface of the material that the measuring unit has contact with, thus measuring to high moisture values compared to the real moisture content in the windrow.



Carl Johan Schultz
Farmer
Gjerlev, Denmark



Contact-based moisture meter, where the current runs on the moist surface of the straws

DSE4200 measures up to 13.000 cm³ of material for every pressure stroke and calculates an average moisture percent. Therefore, it is possible to continue baling until the average moisture content in all the measured material reaches the limit value, defined by the operator.

✓ **NO MANUAL MEASUREMENTS**

DSE4200 makes automatic measurements with each pressure stroke, while the measurement results are monitored on the display in the tractor cabin. The manual measurements therefore become unnecessary and you can bale more efficiently without stopping. DSE4200 assures:

- ✓ **Reliable measurements**
- ✓ **Overview of the field**
- ✓ **Documentable data**



✓ **LESS MOIST BALES**

DSE4200 measures through the whole bale and allows identification of wet spots in bales, and moist areas on the field. The Microwave technology also detects the inbound moisture in stems, e.g. in winter barley straw.

The alarm function in the display helps to make a fast decision of stopping the baling, if the field is too moist, reducing the risk of wet and moldy bales.



DSE Microwave Technology

DSE4200 consists of 2 microwave sensors for mounting on / or in the baling chamber.

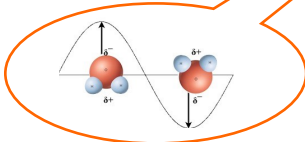
When the microwave signal is sent from the transmitter through the bale, the water molecules in the material start oscillating and the signal loses its initial strength.

The signal attenuation is then translated in to percent by the software in the receiving unit. The moisture percentage is defined as the average moisture content in all the measured material (up to 13.000 cm³ per measurement).

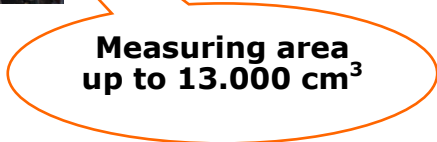
The actual and average measurement values can be monitored on the DSE display in the tractor cabin.

All the measurement data can be saved to USB for documentation.

- ✓ **High precision**
- ✓ **Consistent measurements**
- ✓ **No maintenance**



Oscillation of water molecules



Measuring area up to 13.000 cm³



DSE Test Solutions is a knowledge based company that develops and manufactures high tech test- and measurement solutions for various industries. Today we are the leading supplier of moisture meters for straw driven thermoelectric plants worldwide. Our Microwave Technology is known for it's precision and has become the preferred technology in the Bio-energy sector. We strive for understanding our customers' needs and adapt our product offering accordingly.

Technical specifications DSE4200

Moisture Meter Technical data

Dimensions (W x H x D): 150 x 80 x 80 mm
Measuring range: 6% - 35% relative moisture
Measuring accuracy: +/- 1% up to 30% relative moisture, hereafter +/- 2%. *
Measurement frequency: 2.4 GHz
Communication: CAN J1939
Speed signal: Via CAN or digital input
Connection: Deutsch DT13-08
Ambient temperature: -10°C to +60°C
Storage temperature: -25°C to +80°C
Ingress Protection: IP 65
Power: 10-28V DC
CE approval:
EN/ISO 14982:2009
EN 55011:2009

Dimensions (W x H x D): 95 x 95 x 46 mm
Resolution: 320 (H) x 240 (V) QVGA
Viewing Angle: 130/110 degrees from 6 O'clock.
Number of colors: 64K
Brightness: 750 NIT (cd/m²)
Power Requirements: 10V to 32V DC
Connection: (2) 12 Pin Deutsch DT04-12PA
Ambient temperature: -20° to + 70° C
Storage temperature: -30° to + 80° C
Degree of protection: IP 67
Case material: ABS
Case color: Black

* Calibrated after bale width of 1.2 m. Dry weight density approx. 135 - 160 kg/m³.

Display Technical data

Display: a-Si TFT, LCD 3,5"



* Download the ROI calculation on www.dse4200.com



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DSE Test Solutions A/S
Sverigesvej 19
DK-8700 Horsens
Denmark
Tel: +45 75618811
Fax: +45 75615895
Web: www.dse.dk
Mail: dse@dse.dk