User Manual for
Agromatic Digital Super I
SW 1.07

Content

Preparation of Test Sample

Grain and seeds are living organisms which consequently can change over time, due to local conditions as well as artificial genetic alterations.

The *Agromatic Digital Super I* has an advanced electronic balance as well as new highly sensitive - patent pending - electronic which takes most of the known factors in consideration.

However the better the quality of the sample the better results you get.

So we recommend:

Clean the test sample. It should not contain any beard, chaff, husk or dirt.

Recently harvested, <u>surface</u> -wet / -dry cereals must be stabilized in a tight plastic bag for up to 12 hours before correct measurement can be carried out.

Do not leave the instrument in direct sunshine or in a drivers cabin just before testing a sample

The instrument and the test-sample should preferably have the same temperature. If not, a change of the reading will appear until the temperatur-sensor in the measuring-chamber has read the correct temperature of the test-sample

Place the instrument on a plane, horizontal surface to obtain accurate weight. Do not touch the measuring-chamber during operation.

Pour the test-sample into the measuring-chamber slowly making sure that it is distributed evenly in the chamber.

Always calculate the average of at least 3 or 4 samples.

Description

The **_Agromatic Digital Super I_** is an advanced digital instrument for measuring the moisture content in many different commodities. The instrument is ideal for whole seed's but several other commodities such as flour are available. Thanks to its ability to measure the moisture content on whole seeds its a fast and reliable instrument which only needs infrequent cleaning compared to instruments using a mill to grain the seeds before measuring.

To ensure the best and most reliable measurement a build-in scale is used to ensure the sample is the same size measurement for measurement.

Finally a build-in temperature-sensor ensures that even commodities in drying plants can be measured while its processed without need for cooling.

Advanced technology makes it possible to store many commodities on a standard USB stick (max size is 2Gb - FAT 16). Up to 500 different commodities can be stored simultaneously. The instrument comes preinstalled with a number (depending on market and dealer) of commodities.

Parts

Complete instrument:

Instrument shown with USB inserted. This is how the instrument normally will appear. Although the instrument can run without (but then restricted to one commodity) the USB-memory we recommend that it's left in the instrument in normal circumstances.
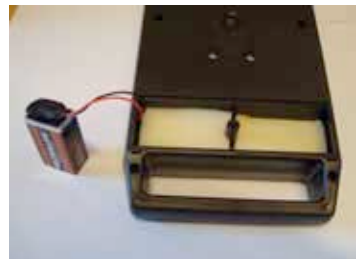
USB-Memory out:

Instrument shown with USB taken out. Normally just leave the USB in the instrument. It's a secure place and you will need it if you want to change commodity. Only one commodity is stored internal in the instrument. The rest are all stored on the USB-memory.

USB-Memory:

The USB-memory supplied with the instrument is a rugged little device which can store up to 500 commodities. Although other USB-Memories may be used we recommend the one supplied.

Please note: Each USB-Memory is unique. The memory has an ID which correspond with the serial no of the instrument (which can be found in the battery-compartment). The implication of this is that the commodities stored on the USB-memory are only valid for THAT instrument. Backups may be done and they will work on the original instrument, but not on others.

Battery:

The instrument operates on a single 9 V battery.

No data will be lost when battery is taken out. All data are stored internally in FLASH or on the USB-Memory. None of these requires supply to maintain the content.

The battery is located under the battery-cover which is placed on the back-side of the instrument.

PS: Be careful not to break the wires when changing the battery.
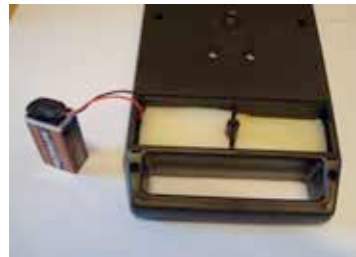
Operation

ON:

Press the On-switch and the instrument will turn on.
A test of the display segments will be the first to show.
Then the product name followed by the current software version.

SELECT COMMODITY:

The instrument retains the previously selected commodity. I.e. when you start the instrument, then the commodity that was used last time will still be available. So if you want to continue with this commodity you do not need to select commodity. Just go directly to measuring the moisture. !

The commodities are stored on the USB-Memory. You will need to make a search on the USB for the one you need. You can start from 1st. commodity be pressing the left-botton. The instrument will then go to first commodity on the USB-Memory.

While accessing the USB memory you will see that the display shows USB.

Now you will scroll through the different commodities by using the Right Key

Continue until you find the right one.

Note: If you run out of available commodities the display will show: NOFILE.

You will then need to go back to 1st commodity using the Left key

When you have found the right one you will need to read it from the USB and transfer it into the instrument. Do that by pressing the "DISK" key.

MEASURING THE MOISTURE-CONTENT:

When the right commodity has been found the you can measure the moisture-content in a sample.

Displaying the selected (and transferred to instrument) commodity you will be able to test a sample.

Start the test by pressing the "TEST" key.

A reading of the build-in scale now appears. The display reads the weight of the material in the measuring-chamber.

Continue to pour material into the measuring chamber until the display reads between 98 and 102. You will see that the lefthand arrow in the display changes to a horizontal arrow. If you pour too much in the chamber the arrow will point down - meaning too much in the chamber.

A clean 100 is preferable as the accuracy will benefit from it. The normal accuracy is however maintained over the whole 98 - 102 area.

When the reading of 100 (98-102) has been reached the arrow will point to the right allowing for the test to proceed.
Press the "TEST" key again

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The moisture-content will then appear in the display.


USING THE AVERAGE-Function:

When displaying the moisture content of the sample a average-function can be used.

Although the sample used, normally between 40-200 g, depending on commodity, is large, a reading over more samples is recommended. You can store the actual reading by pressing the "DISK" key. It will be stored in the "AVG"-Average memory (maintained only when instrument is on)

As soon as the "DISK"key has been activated the reading change (for 5 sec.) to read the average.

When the average has been displayed the instrument returns to the "Show" commodity mode.
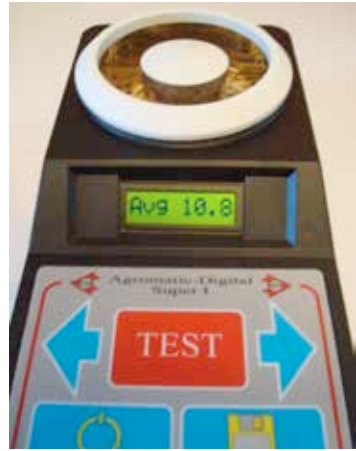
The Average can always be recalled when you are in the "Show" commodity mode.

Just press the "DISK" key and the Average value will be shown for 5 sec.

As soon as the "DISK"key has been activated the reading change (for 5 sec.) to read the average.

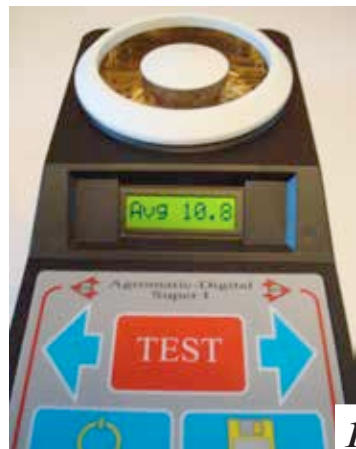When the average has been displayed the instrument returns to the "Show" commodity mode.

ADJUSTING THE INSTRUMENT:

Each of the installed commodities may need adjustment due to genetic or local variations compared to the original specimen. It's easily done. Compared to the earlier instruments, the adjustment will be retained even if the battery fails.

PS: When a new sort has been cultured a factory calibration - New commodity - may be made available. Consult your local dealer on this.

The adjustment is made when a given sample has been measured. While the moisture-content is shown on the display you can either adjust the reading to a higher level or a lower reading.

Use the lefthand key for re-ducing the reading and the righthand key for increasing the reading. The reading is changed by 0.1 % for each "click". When a commod-ity is adjusted the reading is successively preceded by an asterics '*'.

If you want to make the adjustment permanent you can save it to the USB-memory.

If you don't make it permanent it will be lost next time you change commodity.

The only time you can save the adjustment is just after you have made the adjustment. You save it by using the "DISK" key. The display will read "SAVE" followed by a "USB" while storing.

NOTE: It is always possible to repeat an adjustment or even remove the adjustment. Just perform a new adjustment on top of the old adjustment. When you pass the original setting, the asterics will disappear and the original setting is back again. Remember to store it !

OFF:

The instrument uses same Key to both switch On and Off the instrument. The key has other functions as well. But in general. When the instrument is in show active commodity, then the key will act as OFF key. (See below for further details).

To switch off the instrument just press the "ON / OFF" button. Note however that the OFF function is context-sensitive. This means that the key also is used to termi-nate functions such as "show moisture content" as well as "select commodity". When the instrument is in "show commodity" mode then the switch will act as OFF switch.

Note also, that during USB-access the key-board will be inoperable.

ERROR-CODES:

The instrument is self-correcting in most cases. Below is however an Error-code which needs the intervention of the User.

Other errors that might appear, which could be malfunction of the USB-interface due to moist / dirt in the connector, are often corrected by switching the instrument OFF and then back on again. The instrument then, at power up, corrects the fault. Should the instrument hang, then just disconnect the battery for a short while, reconnect and the instrument should correct itself.

When Measuring-chamber has not been emptied before "TEST" is pressed again the "ERROR 1" message will appear on the display. This informs you that you have to empty the chamber first.

If the chamber already is empty, and the error appears anyway then contact your dealer. The instruments needs to be adjusted / repaired.

SETUP / CALIBRATION OF INSTRUMENT:

The instrument is calibrated from the factory. A backup of the calibration-data are stored on the USB-memory to enable the dealer to repair / adjust the instrument. Although the setup.csv file can be read with an ordinary text-editor we recommend that no changes are made. A inaccurate instrument may be the result.

USER "SETTINGS":

Each commodity is stored in a individual file. Each commodity is named by its "NAME".AMD. The user may change these names to their liking, BUT the name MUST adhere to the rule that only CAPITAL LETTERS are used, both in name and in extension (which MUST be .AMD).
The name can only be up to 8 letters, e.g. "WHEAT" but NOT "WHAT_AN_ICE_WHEAT" Example: A user wishes to use a different name for OAT. This could be MY-OAT.AMD. This name will then be used in the search for commodity.

The USB-Flash drive must be kept together with the instrument
The instrument is setup by the files found on the Flash drive. The
Flash drive is also used for storage of Commodities. A Backup
can be made on another drive. The drive must adhere to follow-
ing: Diskformat FAT16, Sektorsize max 512 Bytes.