



LDS-IF MOISTURE ANALYSER OPERATING MANUAL

Speediness accuracy convenience

Automation moisture test
Automation temperature compensation
Revision moisture pre test
Automation switch off
Newest compensation mode
Setup standard by customer

Shanghai Qingpu

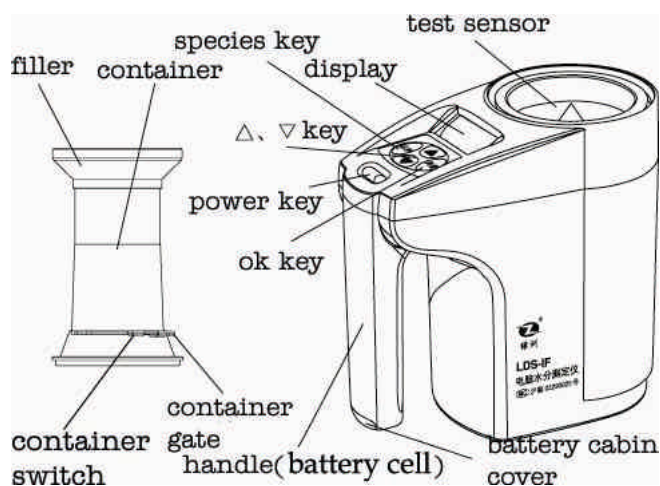
Oasis Instrument CO.,LTD,

Welcome to buy and use our product

This product is the LSD-1A product upgrade. It has the national patent (patent No. 200330106949.2) in industry design.

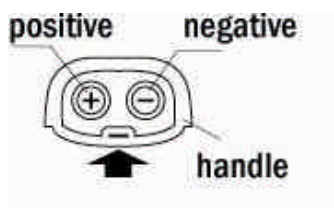
To get the ideal effect, please read the operating manual carefully before operation.

1. structural sketch map



2. preparation before operation

- 1) Fit on the four 5# dry batteries into the instrument handle (battery cell) according to the illustration. Put the instrument flatly and the filler onto the container.



- 2) Prepare for the sample, filter and take out the impurity, and bring the temperature into balance between sample and instrument
- 3) Select the species code from the table: To be convenient to the customer, we have set a standard parameters to the representative species. Please directly look for the appendix << table for related species code >> to select the code for directly test.

* When the instrument is used for trade liquidation with higher precision, we strongly recommend the customer to use the standard sample to calibrate the instrument error and standard setups.

3. moisture Test

Moisture Test:

1) Switch on the power supply, it will display the species code after self diagnosis.

For example :



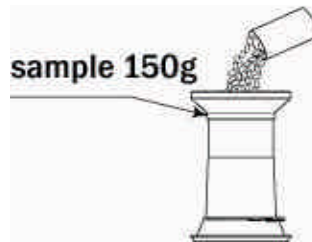
2) Press the“? ” or “? ” key to select the species code (see appendix).

For example: :



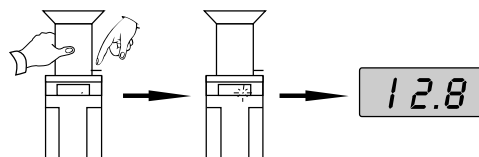
3) Weigh 150 gram sample with the scale which resolution is 0.1 gram (excluding the special sample) and put it into the container.

For example:



4) Put the container on the instrument sensor, press the container switch and let the sample fall into the Test sensor equably and completely. It will display the moisture after the decimal point flash

For example:



5) Close the container gate and spill all the sample from the sensor for next measure.

Note: take care of the operation in putting sample. For the big grain (such as: Maize), it will be better to average several test results to reduce the error.

4. error revision and standard setup

Because of the zone and species difference and the limitation to the pre-established standard species parameters, it is possible to find the error when using the default parameters defined by the factory. The customer can use following way to calibrate the error and standard to make sure the precision.

1) revisory value confirmation:

Based on the standard samples by means of 105 over, the corrective value means the standard value minus the test result. For example, the Tested moisture is 13.6% and the actual moisture needed to display is 14%, so we should add 0.4, and the current revisory value is 0.4. Otherwise it will be the negative value.

2) In revising status:

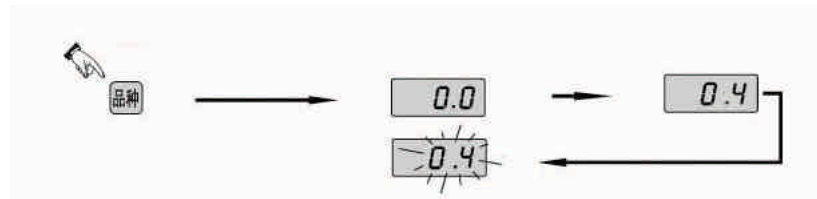
Spill the sample from the instrument, press the species key for long time till flash and then loose it. The red lamp under the low left corner of the display will be bright, and the instrument will display the default revisory value “0.0”. It means that the instrument is now in

the revising status;

3) revision:

Press the “?” key to add 0.4, then press the OK key to save. The revision is completed when the display flashes. Press the species key or switch off to exit.

The complete procedure refers to following illustration:



If you want to add the measurable species or you can prepare the standard sample by yourself, you can use following way to set up the standard.

- 1) Prepare the standard sample: Prepare three kinds of standard samples with high, middle and low moisture by means of 105 oven (if the actual Test range is less than 6%, it is enough to only use two standard samples with high and low moisture.). In order to make the standard setup representation and veracity, the moisture in the high and low standard sample must be in the two ends of the actual moisture range. The suitable moisture difference among the standard samples is 3-6%. (for examples: the moisture of wheat is 18%, 14% and 10%)
- 2) Enter into the standard setup: Spill the sample from the instrument, press the “OK” key for long time and loose it when the display flashes. The red lamp under the low left corner of the display will be bright, and the species code is showed on the display. It indicates that the instrument is now in standard setup.
- 3) Select the species code: Press “?” or “?” key to select the species code.
- 4) Note the setup order: You should follow the following order to set standard: first is the low moisture, next is the high moisture and final is the middle moisture.
- 5) Set low moisture standard: Weigh 150 gram low moisture sample and fall them into the sensor. When the test result is displayed, change the Test result (display 11%) into the standard value (10%). Then press “OK” key and loose it till the digits flash. One standard setup is completed.

For example:



note: one standard setup can be also the approach to calibrate the error.

- 6) Set high moisture standard: Spill the sample but don't switch off the instrument. Again weigh 150 gram high moisture sample and fall them into the sensor. When the test result is displayed, change the Test result (display 17%) into the standard value (18%). Then press “OK” key and loose it till the digits flash. Two standards setup is completed.

For example:



- 7) Test the standard samples again: Test the standard sample again. If the error is equal or less than 0.5%, it indicates the standard setup is successful. Switch off the instrument to exit the standard setup. If the error is large, it needs to reset the standard setup.
- 8) The third standard setup: If the gap between the low and high moisture standard sample is too large (exceed the 6%), the middle moisture standard sample can be used as the third standard setup. The setup approach is the same as it used in high and low moisture standard setup.

Note: When three standards setup is completed, the instrument will exit the standard setup automatically and enter into the test status.

6. recover the default data

The customer can remove the error revision and standard setup created by themselves and recover the default data given by the company. The approach is: press the OK key and the "? " key at the same time, when the display flashes several times, loose two keys together, at that time the data is recovered by the default data.

7. state indication

The instrument has the real time monitor function. It will display the different symbol based on the different cases, see below:

- Flashed **E-1**: indicates that there is sample in the sensor or instrument is uncorrected, it needs to spill the sample or correct.
- **E-2** **E-4**: indicates that there are defects in the moisture test circuit and the temperature test circuit
- Flashed red lamp at the high left corner of the display: indicates that the battery voltage is insufficiency and need to change.
- **db 1**: indicates that the moisture difference between the low and high sample is within 1% when use two standards setup.
- **db 2**: indicates that the moisture of the third sample (middle standard sample) is out of the low and high moisture range.
- Display the sample temperature: Press OK key one time to display the sample temperature when the moisture is shown on the display. Go back to the moisture display if you press OK key again.

Note: the displayed temperature is only for reference to the testing sample moisture.

8. mainly specifications:

Test object: foodstuff and other nonmetal grain sample, such as rice, wheat, maize, soya bean and rapeseed.

Test range: 3 -- 35%
 Repeat error: equal or less than 0.2%
 Test error: equal or less than $\pm 0.5\%$ (mainly moisture range)
 Test time: equal or less than 10s
 Sample: weight 150 gram (excluding the special sample)
 Power supply: four #5 dry battery
 Automation switch off: the instrument will be switched off automatically if there is no operation within 3 minutes.
 Environment temperature: 0 -- 40
 Relative humidity: equal or less than 80%
 Temperature compesnation: automation
 Net weight: 700 gram
 Accessories: container and filler, 4 dry batteries, cleaning brush, manual, certificate and guarantee card

Appendix: standard sample / code synopses

Species name	Species code	Species name	Species code
Round shaped paddy	P 1	Cottonseed 80g	P 9
Soybean	P 2	Cotton meal 130g	P 10
Wheat	P 3	Sunflower seeds 100g	P 11
Rapeseed	P 4	Soybean meal	P 12
Maize	P 5	Adzuki bean	P 13
Barley	P 6	Mung bean	P 14
Long shaped paddy	P 7	Millet	P 15
Rice	P 8	Peanut	P 16

9. maintenance

- 1) This product is a precision electrical instrument. It must be damp-proof and avoid intensive tremor. Place it horizontally when use and keep it clean and well maintained after use.
- 2) Take out the battery if the instrument is not used for a long time or during the transportation.