



Mini-405

User Manual

V1.1

MINI-405 PORTABLE GRAIN MOISTURE ANALYZER

The Mini-405 is a compact and lightweight portable digital Canadian grain moisture analyzer designed for all grains published by the Canadian Grain Commission (CGC) and United States Department of Agriculture (USDA). The Mini-405 can measure moisture, test weight, and temperature for up to 50 different grains, providing accurate readings directly in the field.

Its smaller form factor makes it ideal for farmers, agronomists, and grain buyers who need fast and reliable measurements anywhere and anytime. Built-in Bluetooth allows the Mini-405 to connect to a smart phone, where data can be shared, stored, and viewed through the companion app.

The device is powered by rechargeable batteries, making it easy to charge and operate in remote locations without access to power. For convenient data management, the Mini-405 includes a USB port for exporting or transferring test results. Unlike its larger counterpart, the Mini-405 does not include a thermal printer, offering a more streamlined, lightweight design optimized for true portable use.

PACKAGE CONTENT

- Mini-405
- 5V Charger
- Carrying Case
- User Manual
- 200 Gram Weight
- Strike Off Stick



OPERATION

CHARGING

1. Charge the device overnight during harvest season.
2. Do not charge in a combine or any motor vehicle.
3. While charging, the power button will be red.
4. When fully charged, the red light turns off.
5. If the battery is fully drained, leave it charging for at least 4 hours.
6. For accurate results, operate at room temperature.

POWERING ON

1. Hold the power button for 3 seconds until you hear a beep.
2. Ensure the battery is charged enough.
3. For accurate results, please do not use the device while charging as it affects the frequency factor.

PREPARING FOR TESTING

1. Place the Mini-405 on a flat, level surface.
2. Remove the grain cup and make sure the inside is empty.
3. Press OK to continue.

SELECTING CROP TYPE

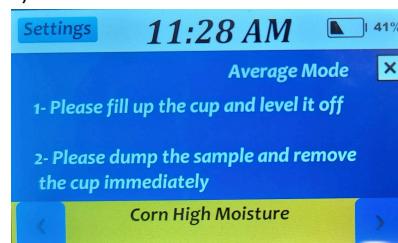
1. When powered on, the home screen will show the last used crop.
2. Use the left and right arrows to choose another crop.
3. To save your 8 most commonly used crops:
 - a. Tap Settings → Crops
 - b. Select up to 8 favorite crops
 - c. Press Settings to save

We recommend to overfill the dump cell for light grains like CANOLA, OATS, and FLAXSEED



Please use Average Mode when testing CORN

Test on Corn Low Moisture (9% to 21%) first. If it goes beyond that please use Corn High Moisture (above 21%)



PERFORMING A TEST

1. Fill the grain cup and level it evenly.
2. Place the grain cup on top of the machine.
3. Push the release button to dump grain.
4. Remove the grain cup immediately after dumping.
5. Results will display instantly on the screen.

TAGGING RESULTS

1. Use Tag 1 or Tag 2 to label or identify readings for record-keeping.

RETURNING TO HOME SCREEN

1. Empty all grain from inside the device.
2. Press Home to restart or test a new sample.

RESETTING THE DEVICE

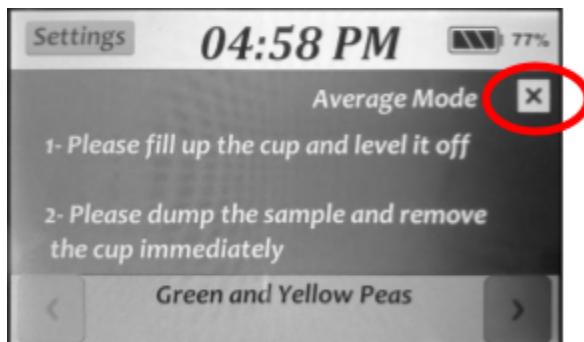
1. If the machine freezes, insert a paper clip into the reset hole on the lower front side.
2. The device will turn off and restart.

RECOMMENDATION

To get the best performance and longer battery life, we recommend powering off the device after 5 mins of use.

AVERAGE MODE

Average Mode allows the device to take three tests on the same grain sample and automatically calculate the average moisture reading.



HOW TO USE AVERAGE MODE

1. On the home screen, check the box next to "Average Mode."
2. Perform your test as usual and repeat it three times on the same sample.
3. After the third test, the machine will automatically average all three results and show the final value on the screen.

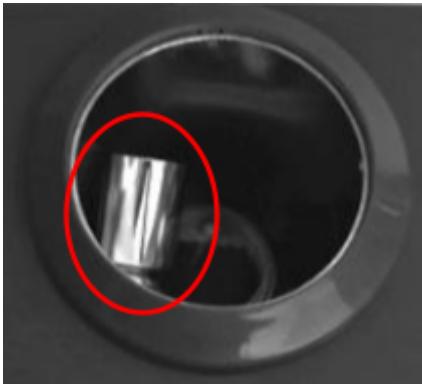
HOW TO EXIT AVERAGE MODE

1. To turn off Average Mode, simply uncheck the box next to "Average Mode" on the home screen.

SCALE/ LOAD CELL

SCALE CALIBRATION

1. Go to Settings and select Load Cell.
2. Tap Calibrate Scale.
3. The screen will ask you to confirm that the machine is empty.
4. Remove the grain cup and make sure no grain is inside the device.
5. When the empty calibration is complete, the screen will ask you to place a 200-gram weight into the grain tube.



6. Gently place the weight next to the cone.
7. Continue, and the device will finish the calibration.
8. Once complete, the machine will return to the Scale page.
9. Remove the 200-gram weight after calibration is done.

RESET SCALE

1. Open Settings and select Scale.
2. Tap Reset Scale.
3. Make sure the machine is empty of grain, then press Start to continue.
4. When the reset is complete, the device will automatically return to the Scale page.

SCALE CHECK

1. In Scale Settings, select Check Scale.
2. With the machine empty, the scale should read 0 grams.
3. Place a 200-gram weight into the grain tube and the scale should read 200 grams.

DEVICE CALIBRATION

1. If your machine needs calibration, please contact Prairie Grain Analyzers.
2. We recommend that the device be calibrated every two years. After approximately 2 to 3 years of use, the device will display a "Maintenance Required" reminder indicating that calibration or servicing may be needed.

BIAS CALIBRATION

- Bias Calibration is used when your moisture readings are consistently off by the same amount compared to another trusted tester.
- Please contact us before adjusting the offset to ensure accurate settings.
- Bias applies only to the current crop selected on the home screen.
- To change the crop:
 1. Return to the main menu
 2. Select a new crop
 3. Go back into Settings → Bias to adjust again if needed

COUNTRY

- Choose your region in the Country setting.

TIME

- Update your device's time and date in the Time setting.

LOGS

- The device automatically stores previous test results.
- Use the up and down arrows to scroll and view the last 5 tests.

USB DATA EXPORT

TO SAVE YOUR TEST RESULTS:

1. Insert a USB drive into the port on the bottom of the machine.
2. Select Charts to export your data.
3. Return to Settings and safely remove the USB drive.
4. The file is saved as a CSV.

TO OPEN THE CSV IN EXCEL:

1. Open Excel and start a new spreadsheet.
2. Click File → Import → CSV File.
3. Select the file from your USB drive.
4. When choosing a delimiter, select Semicolon (;) only.
5. Click Finish to view your data as a formatted table.

IMPORTANT

- Do not insert or remove the USB drive when the device is powered off.

SLEEP MODE

You can choose how long the device stays on with no activity:

- Always On (no sleep)
- Sleep after 1, 5, or 15 minutes

For best performance and battery life, we recommend using the **5-minute sleep option**.

FREQUENCY RESET

- Frequency Reset restores the moisture scale to its default starting point.
- Ensure the device is completely empty, then press Reset.



SMART PHONE APP

USING THE MOBILE APP

1. Download the “PGA Moisture Meter” app from the Apple App Store or Google Play Store.
2. Open the app and press Scan (top right corner).
3. Select your device by serial number.
4. You can view live results and previous test history directly in the app.

UPDATING THE DEVICE

To request the latest grain calibration and device update files:

- Email technical@grainanalyzers.ca with your device serial number,
- Or submit a request through our website at <https://www.grainanalyzers.ca/ma-405-tutorial>

When you send your device back for maintenance or recalibration, we will also update it with the latest available files.

IMPORTANT SAFETY INSTRUCTIONS

- Do not expose the device to extreme heat or cold, and do not use it near flame or fire.
- Do not use solvents, thinners, or liquid cleaners on the machine. Clean only with a dry cloth.
- Do not exceed the scale load limits, as this can damage the internal weighing system.
- Do not lift or hold the machine by the grain tube.
- Avoid using or placing the machine in areas with excessive vibration.
- Avoid installing or using the device near televisions, radios, or other electronic equipment, which may cause interference.
- Do not remove or adjust the leveling feet, as they ensure accurate measurements.
- Do not charge the machine in a combine or other motor vehicle. Only use the factory-supplied charger.
- Do not tighten or force the gap between the grain tube and the main body. This gap is normal and required for proper operation.

FOR CUSTOMERS IN CANADA & USA

This moisture meter complies with all applicable Canadian and U.S. interference-causing equipment regulations.

We recommend that the MA-405 be calibrated every two years. Please contact us before harvest season to ensure your moisture tester is fully prepared and operating at optimal accuracy.



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