

## Using the Product Grading Function

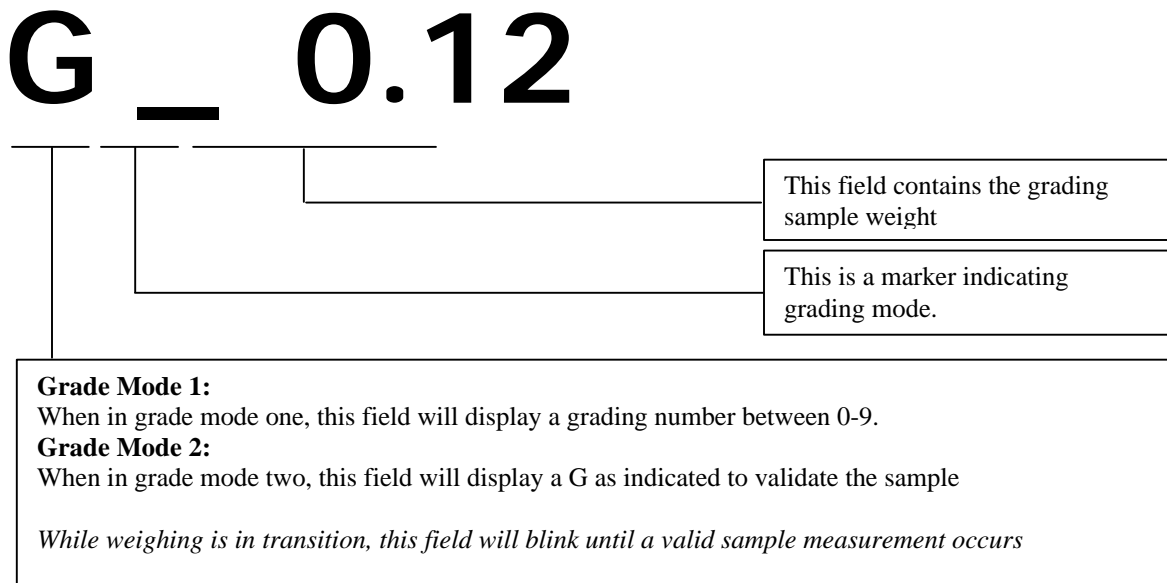
This function is used to grade the size of a product such as fish or lobster. The grading function allows for a total of 10 products of 10 grade sizes per selected product. The grading function acts on one scale only – scale 1. The grading function also accumulates the product samples to the *total accumulator* register as outlined in the Ticket Print Codes section of the M2000 user manual. The *total accumulator* register can be used in conjunction with ticket printing functions.

*A typical grading scenario is as follows:*

*The scale will be calibrated and the weighing platform will be placed on a stable foundation with low vibration noise levels. A container containing product samples will be placed on the scale. The total accumulator will be cleared by means of a ticket containing the Ticket Control Code 22 - Clear total accumulated weight register. Samples will be removed from the container for the purpose of grading or sorting.*

*Once the container is empty, the total accumulator will be printed to give the total of all samples removed from the container by means of a ticket containing the Ticket Control Code 24. It is assumed that the user created the tickets as outlined above.*

The grading mode is entered by pressing the ON/OFF button. When in one of the two grading modes, the LED display will look as follows:



*Please note: The grading function will only be available on firmware versions 1.10 and above*

#### 414 Grading function reset all

Parameter 414 will be accessible outside calibration mode. This function may be used to clear the grading database - all grading product entries will be destroyed and initialized.

This command should always be performed the very first time the grading function is used. This will clear the whole grading database. All existing grading entries will be lost.

A small 'r' will be displayed which means, "reconfirm". Press 1 followed by the TARE key to confirm reloading factory values.

#### Grading Optimization and Recommendations

To optimize the grading function, it is recommended to adjust the following calibration parameters as follows:

- ❑ Calibration command 41 - ( 32 )
- ❑ Calibration command 42 – (2)

For more information on the filtering and fast step response settings, please consult the M2000 user manual on the section – *PARAMETERS RELATED TO SCALE FILTERING*.

The grading database is stored in SRAM and is backed up by battery. The grading database is protected by a checksum to verify the validity of the database. If the checksum fails, an error message such as ERR 187 – *grading database changed*, will be displayed. This may be caused by a flat battery or an unusual power glitch.

#### 410 Grading mode enable/disable

To enable grading mode, the user needs to enter calibration mode and change the mode setting as follows:

- ❑ 0 Grading function disabled
- ❑ 1 Grading function enabled with grading numbers 0-9 displayed.
- ❑ 2 Grading function enabled with grading (G) displayed

The grading mode can also be disabled from outside calibration mode. However, the setting will be invalid if the indicator reboots. Only the entry from the calibration mode will be accepted as a permanent change to the grading mode setting.

To change between normal weighing and grading mode, press the ON/OFF button.

Enter the grading mode followed by the PRINT/SELECT key. You may also cancel at any time by pressing the CLEAR key.

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## Parameters used for grading

The following parameters are used for working with the grading settings:

### 411 Grading product selection

Parameter 411 will be accessible outside calibration mode. The grading function provides for a total of 10 different products each with its own set of grading entries. To select a product, enter the product number with the first product number starting at 0 and the last product at 9.

To change between normal weighing and grading mode, press the ON/OFF button.

Enter the grading product followed by the PRINT/SELECT key. You may also cancel at any time by pressing the CLEAR key.

- 400 Set grade entry 1 of 10**
- 401 Set grade entry 2 of 10**
- 402 Set grade entry 3 of 10**
- 403 Set grade entry 4 of 10**
- 404 Set grade entry 5 of 10**
- 405 Set grade entry 6 of 10**
- 406 Set grade entry 7 of 10**
- 407 Set grade entry 8 of 10**
- 408 Set grade entry 9 of 10**
- 409 Set grade entry 10 of 10**

Parameters 400-409 will be accessible outside calibration mode. The grade entry is the level at which the product sample will be graded. The grade entries should be entered with the smallest entry in grade entry 1 of 10. The largest grade entry should be in grade entry 10 of 10. The entry will be dependent on the current units and may contain decimal places. For example, if grade entry 400 is set to 5kg, then any sample under 5kg will be regarded as of grade “0”. Also, if the grade entry 405 is set to 10kg, then any sample under 10kg will be regarded as of grade “5”.

To change between normal weighing and grading mode, press the ON/OFF button.

Enter the grade entry followed by the PRINT/SELECT key. You may also cancel at any time by pressing the CLEAR key. These parameters may also be changed from outside calibration mode.

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#### **412 Grading sample minimum weight**

Parameter 412 will be accessible outside calibration mode. Each grading product has its own grading sample minimum weight setting. Entering a new value will pertain to the current selected grading product.

The minimum weight is the weight of the smallest sample allowed. This value should not be zero.

To change between normal weighing and grading mode, press the ON/OFF button.

Enter the minimum weight followed by the PRINT/SELECT key. You may also cancel at any time by pressing the CLEAR key.

#### **413 Grade sample validation threshold**

Parameter 413 will be accessible outside calibration mode. Each grading product has its own validation threshold setting. Entering a new value will pertain to the current selected grading product.

This parameter determines the number of samples that need to produce a stable weight before the sample will be validated. The default setting is 10 samples. A sample threshold of 0-100 may be entered. Keep in mind that, the higher the number, the longer it takes to validate the sample. Making the validation threshold too small will result in an inaccurate grading result.

To change between normal weighing and grading mode, press the ON/OFF button.

Enter the grading sample validation threshold followed by the PRINT/SELECT key. You may also cancel at any time by pressing the CLEAR key.

*Please note: The grading function will only be available on firmware versions 1.10 and above*