BaleMaster (GRN6165)

Protimeter Moisture Meter

Amphenol
Advanced Sensors

AAS-INS6165, Rev. A
August 2017

1 Safety Considerations

Caution note for the Bale Probe- The Bale Probe point is extremely sharp and should be handled with due care. The point should be covered with the cap provided with the probe when not in use

Calibration of unit - The accuracy specifications of the product are valid for one year from the date of calibration.
Periodic calibration checking, as outlined in section 4 , is advised.

Only operate the measuring instrument properly, for its intended purpose and within the parameters specified in the technical data. Readings from moisture meters are not definitive but are used to help a professional make informed judgement to the material's moisture condition. Conductive material such as salts, carbon and metal can give false positive readings.

2 Introduction

The *Protimeter BaleMaster* is a conductivity moisture meter designed for measuring moisture level of baled products such as straw and hay. The instrument is calibrated for wheat straw and may be used to take relative measurements in other baled products.

3 Moisture Measurement in Bales

Measure moisture in bales as follows:

Note: *Before using the stainless steel probe, be sure it is thoroughly clean and dry. The probe must not be wet when measuring moisture.*

a. Connect the *Bale Probe* to the instrument and switch ON by pressing and holding button.

b. Push the *Bale Probe* in to the bale to the required depth. Note the reading on the display.

Note: *When assessing the moisture content (mc) of whole bales, it is recommended that the average value is obtained from numerous readings taken from different sides and at different depths.*

c. To obtain the correct average value, use the following moisture measurement ranges as a guideline:

- Less than 15% mc: bales are in a safe condition for storage.
- Greater than 15% mc: bales are not in a safe condition for storage. Additional drying is recommended.

d. After use, switch the instrument OFF by pressing and holding the button, or leave the instrument to switch OFF automatically.

4 Calibration Check

Calibration can be checked using the Protimeter Calcheck device (Part # BLD5086) and a 2-pin moisture probe (Part # BLD5079), connected via the Bale probe socket. Correctly calibrated BaleMaster instruments register a value in the range 14.0 – 14.4 at 20°C across the Calcheck.

5 Care and Maintenance

When the BaleMaster is not in use, keep it in its pouch together with its accessories. Clean and dry the probe, and wrap it in the bubble wrap. Then store the probe for later use. Replace the batteries when the low battery power symbol appears on the display, or remove the batteries if the instrument is not going to be used for extended periods.

6 Reference Mode

Measure the material until the meter reading is stable. Then, press for 2 seconds. This will store the reading until the mode changes or the meter turns off. Now, all readings taken thereafter will be displayed as normal, and below you will see a second reading that shows if the material is measured above or below the original reading. Reference mode can be useful when trying to establish what materials are above or below a point of reference or dry standard.

7 Operating BaleMaster

Switch On:

Press the ON/OFF button.

The unit turns on, with the LCD displaying all the segments and sweeping the LED bar graph.

Measurements:

The numeric measurement and color LED will be shown, as well as “DRY” (green) or “AT RISK” (yellow) or “WET” (red), based on the measurement shown.

8.5-15 DRY (Green), 15.1-19.5 AT RISK (Yellow), 19.6-36.8 WET (Red)

Reference Mode of Measurement:

While the first reading is displayed on the screen, press and hold the button for 2 seconds to enter the Reference Mode. The display will be similar to the one shown on the next page.

To return to the normal measurement mode, press again.

Settings:

Press and hold the button and switch on the unit by pressing . Hold both the buttons until the BaleMaster displays the version.

Release buttons while it shows the version number. The unit enters Settings Mode.

DRY, AT RISK and WET Settings:

The first screen to appear in Settings is the DRY, AT RISK and WET setting screen.

This screen sets whether the indication on the display needs to be switched ON or OFF. When it is ON, the moisture condition will be displayed on the screen. When it is OFF, no indication is displayed on screen.

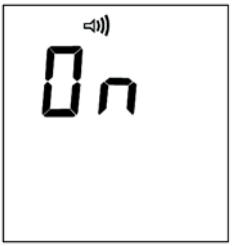
Use the button to turn ON/OFF the settings.

If the unit detects no key press for 2 seconds in the Settings screen, it moves to the next setting.

Pressing the button, after you have entered the desired setting, it will save the setting and move the screen to the next setting.

Buzzer ON/OFF Settings:

Once the DRY, AT RISK and WET settings are entered, the next setting turns the Buzzer ON or OFF.



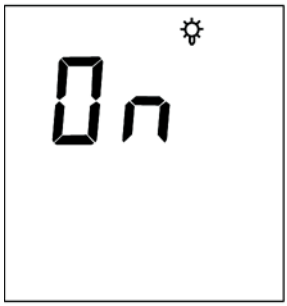
To change the settings, press the button.

If the unit detects no key press for 2 seconds in the Settings screen, it moves to the next setting.

Pressing the button, after you have entered the desired setting, will save the setting and move the screen to the next setting.

Backlight Settings:

Once the Buzzer settings are entered, the next setting turns the Backlight ON or OFF.



To change the settings, press the button.

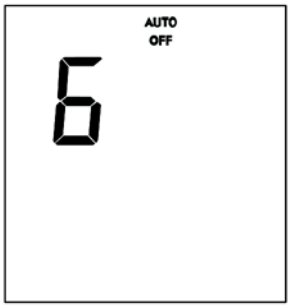
If the unit detects no key press for 2 seconds in the Settings screen, it moves to the next setting.

Pressing the button, after you have entered the desired setting, it will save the setting and move the screen to the next setting.

Auto Off Time Settings:

When Auto Off is set, the unit will shut down automatically at a specified time between 1 and 6 minutes, if there is no key press detected within the set time.

For example, if the Auto Off time is set as 1, then the unit will automatically shut down after one minute when no key is pressed.



The duration will change based on the set time of 1- 6 minutes.

If the Auto Off time is set to be “0”, then the unit will not automatically turn off. A user must manually turn it off by

pressing and holding the button for 5 sec.

Turn off time can be set by pressing the button, and can be saved by pressing .

After you save this setting, the unit will exit to the measurement screen.

Battery Low Indication:

Whenever the battery is low, a low battery indication symbol will appear on the screen (bottom right). This indicates that the battery is low and should be replaced soon. The unit will continue to perform in battery condition within the specified accuracy, and turns off when the battery reaches the limit.

Holding / Freezing the Reading:

While measuring, if the reading needs to be frozen for any observation, press  during measurement. A text "HOLD" will be displayed on the screen.

8 Battery Replacement

A 550mAh battery will last continuously for more than 20 of operation. A Low Battery indication on the screen indicates that the battery needs to be changed in a short time.

Remove the screw on the back side of the unit.

Slide the battery lid downwards, applying a slight pressure with the thumb to open the battery compartment.

Remove and replace the battery. Care must be taken to ensure that the polarity is correct as below.

9 Technical Specifications

Operating Conditions:

Operating temperature range: 0°C to 50°C Humidity: 0 to 90% RH, non-condensing

Measurement Specifications:

Protimeter Balemaster (Part# GRN6165) consists of:
BaleMaster instrument (Part# 6165) and Bale probe (GRN6148)

The Balemaster instrument is calibrated for Wheat Straw Measurement
Range: 8.5 – 36.8% mc

10 Physical Specifications

Power:

9V- Alkaline 550mAh, Battery low indication on LCD

Size:

19cm x 6.5cm x 3.5cm (7.5" x 2.5" x 1.4")

Gross Weight (without battery):

~228g

Buzzer:

Audible buzzer for key tone and measurement indication, user configurable

Regulatory Compliance:

CE, RoHS, ETL

MODEL: GRN6165

Meter

POL6148
Bale Probe

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