Impedance Grain Moisture Analyser (IGMA)

Introduction

Moisture plays an important role in storage and handling of grains, and affects the price of grains in market. Therefore, accurate measurement of moisture in grains is of utmost importance. 23. Impedance Grain Moisture Analyser (IGMA) measures mositure content in different types of grains covering a wide range. It is based on variations in impedance. The instrument comprises mainly an analog section and a digital section. IGMA uses power efficient,

high speed microcontroller (MCU) chip for control and various processing applications. The sensing system is made up of impedance cell that converts moisture contents into corresponding impedance variations. Presence of a very small quantity of water causes considerable change in the impedance cell.

Salient Features

- Data storage capacity and 10 plus crop calibrations can be customized.
- 2*16-character alphanumeric LCD with membrane keypad for user interaction.
- User friendly GUI for the convenience of calibration (for new and existing crops).
- Facility of offset correction for moisture.
- Auto backlight off and auto power off.

Specifications

- Principle of measurement : Impedance variation
- Measuring moisture range : 7% to 28 % (can be further customized)
- Precision of moisture : < ± 1%
- Measuring temperature range : 0°C- 70°C
- RTC Module : Date and time monitoring
- Temperature compensation : Internally compensated
- Calibration through GUI : To calibrate new or

existing crops

- Printer : Thermal portable printer
- AC mains : 9V DC adapter for AC mains
- Battery operated : 9V battery (rechargeable)
- Data logging, downloading & erasing:
    - To read saved records which includes moisture percentage, temperature, crop name along with date and time of measurement.
    - To download calibrated crop details in IGMA.

Applications/Users

- Procurement Agencies
- Agricultural Universities
- Quality control
- Food Processing Industries, Mandis, Storage Houses

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