

## Protimeter Grainprobe User Instructions

The Protimeter Grainprobe indicates moisture and temperature levels in stored grain. It is a grain storage management tool that enables the user to monitor temperature and moisture trend, and to identify areas of concern.

The Grainprobe complements, rather than replaces, the range of Protimeter moisture meters. When more precise content measurements are required by the user, we recommend using one of the range of Protimeter grind and compress meters (eg Grainmaster 900 series, Digital Grainmaster, GrainMini V). Such meters should always be used to determine the moisture content of grain that is *not in a condition of moisture equilibrium*, such as freshly harvested grain, or grain that has come directly from a dryer.

### Familiarizing yourself with the Grainprobe

The Grainprobe consists of the following components:

- A sensor head incorporating a spirally wound moisture sensor and a temperature sensor
- A display assembly incorporating an integral handle and 'ON' button
- A shaft, separating the sensor head and display assembly

The 'ON' button is used to switch on the Grainprobe, to switch from temperature to moisture measurement modes and to select the required crop calibration. Code numbers and symbols are used to denote crop calibrations and moisture/temperature measurement mode; these are as follows:

Code or symbol	Code number or symbol meaning	Note
c 0	Relative moisture scale of 0-100	For relative measurements
c 1	<b>Wheat 99</b> moisture calibration	Benchmark calibration: ISO 712
c 2	<b>Barley</b> moisture calibration	
c 3	<b>Oilseed rape</b> moisture calibration	
c 4	<b>Peas</b> moisture calibration	
c 5	<b>Beans</b> moisture calibration	
c 6	<b>Linseed</b> moisture calibration	
u - r + / -	Out of range of measurement Temperature measurement mode	Applies to moisture mode only Measures in °C. Note +ve and -ve values
BAT E 1,2...	Low battery power warning Software errors	Change batteries now Contact Protimeter plc

### Using your Protimeter Grainprobe

1. Push the Grainprobe into the crop to the required depth. Note that the tip of the probe should be inserted to a depth of at least 500mm.
2. Switch on the Grainprobe by pressing 'ON' button and note the moisture calibration that is displayed on the display (eg 'c 1' denotes wheat).
3. If an alternative calibration is required, press the 'ON' button immediately and repeatedly to scroll to the required calibration. Alternative calibrations can only be selected when the letter 'c' is visible on the display.

4. Allow a few seconds for the probe to stabilize and observe the moisture content value on the display. On release of the 'ON' button, the measured value is captured and displayed for five seconds before the instrument switches off.
5. Switch to temperature mode by pressing 'ON' button momentarily; the probe temperature is then displayed in °C. Note that temperature values are preceded by the '+' or '-' symbol to the measured temperature value is captured and displayed for five seconds before the instrument switches off.

#### Grainprobe Specification

Overall length	: 1680mm	Max working length	: 1400mm
Probe length	: 200mm	Probe diameter	: 25mm
Weight	: 1.5kg	Display resolution	: 0.1
Power Requirement	: 2xAA alkaline batteries (located behind panel on the display assembly)		

Temperature measurement range : -10 to 50 °C

Nominal moisture range :	Wheat	:	12 to 24%
	Barley	:	12 to 24%
	Oilseed rape	:	6 to 16%
	Peas	:	16 to 28%
	Beans	:	12 to 20%
	Linseed	:	7 to 16%

#### Good Practice

To ensure long and reliable performance, please note the following precautions:

1. Only use the Grainprobe in products for which it has been designed.
2. Store the Grainprobe in a dry, stable and dust free environment.
3. Remove the batteries when storing the Grainprobe for long periods.

#### **To obtain reliable moisture and temperature readings please ensure that:**

1. The probe is pushed to the required depth and left in place for several minutes before taking moisture and temperature readings.
2. A number of temperature and moisture values are taken at different depths.
3. Many readings are taken to obtain reliable averages.

#### Service and Repair

Should a Grainprobe get damaged, it can be repaired by the Protimeter Service Dept. Additionally, Grainprobes can be returned for routine servicing in accordance with the users quality control requirements. When returning a Grainprobe to the Protimeter Service Dept. please ensure appropriate and adequate packaging is used for protection in transit; we recommend you retail the original packaging for such purposes.

#### **Disclaimer:**

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