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M700 THERMOMETER INSTRUCTION MANUAL

GLA AGRICULTURAL ELECTRONICS
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**Made in the USA
Since 1969**

M700 Product Description

GLA M700 Thermometer

Features

8 to 15 Second Temperature

Fahrenheit or Celsius Temperature Mode

Continuous Temperature Position

Peak Temperature Position

Calibration Check Position

Ambient light sensing LED display

Charging Indicators

Battery voltage displayed

Automatic shut-off after five minutes

ERR1 Reading when probe is not attached or not reading properly

ERR2 Reading when low battery is detected

M700 Thermometer Package

GLA M700 Thermometer

GLA M207R or M207S Probe

GLA C725 Battery Charger

GLA M700 Thermometer Instruction Manual

GLA M207 Probes

The M207 Series of Probes have been designed for accurate rectal temperature of bovine, equine, swine, sheep, and small animals in an efficient manner. The M207 probe is available in either a right angle (M207R) or straight design (M207S). Sizes available include:

M207R Right Angle Probe (42°)

4.0" Right Angle Probe (10cm)

3.0" Right Angle Probe (7.6cm)

M207S Straight Probe

4.0" Straight Probe (10cm)

3.0" Straight Probe (7.6cm)

1.5" Straight Probe (3.85cm)

GLA C725 Battery Charger

C725 Charger US/ Euro standard Input: 100-240V~50/60Hz 0.15A,

Output: 12V~0.2A, wall plug-in

Why Temperature your animals?

- ♦ To monitor herd health and identify health problems early.
- ♦ To be able to correctly sort animals into the hospital pen.
- ♦ To know when to administer pharmaceutical products.
- ♦ To know when to stop administrating pharmaceutical products.

Rectal Temperatures of Select Animals

ANIMAL	FAHRENHEIT	CELSIUS
Horse*	100.5°	38.0°
Beef Cattle	101.0°	38.5°
Dairy Cattle	101.5°	38.5°
Sheep**	103.0°	39.0°
Swine	102.5°	39.0°
Dog	102.0°	39.0°
Cat	101.5°	38.5°
Goat	102.0°	39.0°

* Body temperature is higher in young animals and lower in older animals

** Sheep with fleece (s) have a higher body temperature.

The temperatures listed above are average rectal temperatures under ideal conditions. Outside temperature, time of day, age of animal, infection, ovulation, estrus, or pregnancy may affect actual temperature.

Most GLA M700 Thermometers and M207 Probes can be repaired when feasible. If you feel that you have a damaged unit, please send it to the factory for repair or call us for a consult.

With a minimum of care and maintenance, your M700 Thermometer should give you many years of service. We are always available to answer any questions you may have regarding our products.

Repairs

GLA has been manufacturing animal health thermometers and probes since 1969. Most GLA Thermometers and Probes can be repaired when necessary. Battery chargers, since they are not manufactured by GLA, must be replaced when necessary.

When you send us a thermometer/probe for repair, we request that you follow these guidelines:

Include your thermometer, probe, and charger. This allows us to check the entire "package" and ensure that the repair is correct and complete.

Include a note describing the problem you are experiencing, and in what situation the problem occurs.

Include your complete name, address, and telephone number so that we may contact you with any questions. Repairs can be sent to GLA from any authorized GLA distributor, or directly to the GLA factory.

By following these guidelines, you will make it easier for us to repair your thermometer efficiently and correctly. If you would like an estimate on the cost of a repair, or if you wish to discuss any repair, please contact us toll free at **800.346.1182** or email at info@gl-ag.com. Our staff of repair technicians can usually advise you of the best steps to take.

IF YOU ARE EXPERIENCING PROBLEMS, OR YOU NEED FURTHER INFORMATION, PLEASE CALL US AT 800.346.1182 AND A TECHNICIAN WILL BE GLAD TO ANSWER YOUR QUESTIONS.

Connectors

Probe Connector

Attach M207 Probe to this connector. If NO probe is attached Position **I** and **II** will read **ERR1** If a probe is attached and you see an **ERR1** display, it indicates a damaged probe. To attach the probe, screw the probe connector onto the mating receptacle connector. The probe should be attached **FINGER TIGHT ONLY**. Do not over tighten. The cord should be able to move freely on the connector.

Charger Connector

Attach C725 Charger to this connector. Charging indicated by (if unit off) rotating LED segment charging Indicated by far right decimal point lit (If unit on). It is **IMPORTANT** to charge the M700 before using it the first time

Automatic Shut-off

The M700 will turn **OFF** after 5 minutes of inactivity – to turn the unit **ON** rotate the knob to position **I** or **II**.

Damaged Probe Reading

Indicated by **ERR1** on the display

Low Battery Warning

Indicated by **ERR2** on the display

Using the M700

After charging, turn the unit ON. Turn the knob to the **CO** Position (position **I**). The display should read ambient air temperature (**if probe is attached / if no probe attached the display will read ERR1**).

To take a temperature, insert the probe and the display reading will begin to climb. In approximately 8 to 15 seconds your reading will

start to slow. Removing the probe will cause the temperature to begin declining.

To use the **PEAK** temperature mode, turn the knob to the **PH** position (position **II**). Insert the probe, the decimal point will flash rapidly until the peak temperature is measured, when the highest temperature is reached, the decimal point will stop flashing. The temperature will remain on the screen for five minutes. To reset the displayed temperature, turn the Control Knob one position to **CO** position.

If the unit shuts-off due to inactivity while in the **CO (I)** position, turning the Control Knob to the **PH (II)** position will turn the unit back on. Or you may turn the knob to the OFF position and back to the **CO** position.

If the unit shuts-off due to inactivity while in the **PH (II)** position, turning the Control Knob to either the **BATT (III)** or **CO (I)** position will turn the unit back on.

To recharge the battery pack, attach the charger connector onto the mating connector on the top left of the M700 Thermometer. Tighten FINGER TIGHT ONLY, to avoid breaking the connector. Plug charger into wall outlet. Charging will be indicated by a rotating LED. If the battery pack fails to hold a charge after being adequately charged, the battery pack may need to be replaced. If you do not get any indication of the charging display, the charger may need to be replaced.

You may use the M700 with the charger attached and plugged in at all times. Using the M700 this way disables the Automatic Off feature. To turn the M700 OFF turn the Control Knob to the OFF (**0**) position.

Maintenance

When recharging your M700 Series Thermometer, please be sure it is OFF. If your batteries fail to hold a charge, it usually indicates a dead cell in the battery pack, which will need to be replaced.

With proper care, your battery pack should last longer than the year warranted by the battery manufacturer. Normally it will last 2 to 4 years before needing to be replaced.

When your battery pack (B601) does need replacing, you may send the thermometer to GLA and we will replace it for a nominal charge, or you may order a new battery pack directly from GLA, or from an authorized GLA distributor. When you order a battery pack directly from GLA, installation instructions will be included. **NOTE:** Soldering is required to replace the battery pack. **It is very important to follow the battery installation directions, very carefully, step by step.**

Treat your probe and cord assembly with care. Over-stretching the retractile cord will inevitably break the internal wires. If the probe tip is allowed to strike a hard surface such as concrete, the high impact pressure will often destroy the sensing element. **DO NOT EXPOSE PROBES TO TEMPERATURES ABOVE 120° FAHRENHEIT (48.8° CELSIUS), AND DO NOT AUTOCLAVE OR HEAT STERILIZE YOUR PROBES.** High temperatures such as these will damage the probe tip and require its replacement. If your Probe, cord, or connector is damaged your LED Display will indicate a **ERR1** display. You will only see **ERR1** Readings in position **II** or **III**.

When using your M700 Thermometer outside, protect the unit from rain or extreme water exposure. The thermometer housing is splash-proof, but it is not designed to be continually exposed to high moisture situations or drenching.

Should your thermometer become wet inside, carefully remove the bottom four screws and bottom plate, (trying not to damage the bottom gasket). Let any water in the unit drain out and allow the unit to dry overnight in a warm dry location. **NO OTHER DISASSEMBLY SHOULD BE ATTEMPTED.**

Do not store your M700 Thermometer in vehicles or in outdoor sheds where temperatures may become very high. Ideally the thermometer should be stored in locations that do not exceed 115° Fahrenheit (45° Celsius).

Position II – Peak Temperature Position

With the Control Knob in this position the, the LED display will read **700 - PH - ERR1**. This indicates the Peak Temperature position and that there is no probe attached. If your display reads **ERR1** with a probe attached, it indicates a damaged probe. With the knob in this position the, the LED display will read **700 - PH** followed by the ambient temperature. Inserting the probe into an animal will cause the temperature to climb, and show a rapid flashing of the decimal point and when the Peak Temperature is reached; the decimal point will stop flashing. To reset the peak temperature, turn the knob to the **CO** position and then turn the knob back to the **PH** position.

Position III -Fahrenheit or Celsius – Battery voltage position

With the Knob in this position the LED display will read **700 - F7.00** (Fahrenheit) or **C7.00** (Celsius). The battery voltage will be the number indicated after the **F** or **C** indicator. In this position, depress and hold the Pushbutton Switch for twenty (20) seconds, the LED display will read **F0.01** (Fahrenheit) and will then switch to Celsius mode. Or if unit is in Celsius, depress and hold the Pushbutton Switch for twenty (20) seconds, the LED display will read **C0.01** (Celsius) and will then switch to Fahrenheit

Guarantee, Warranty, and Liability Limit

All GLA products are warranted against defects in materials and workmanship for two years from date of purchase. If, during the warranty period, the product is defective in material and/or workmanship (excluding battery pack deterioration, non-factory repairs, battery charger deterioration, moisture damage, or abuse), GLA will make the necessary adjustments and repairs. Other than expressly stated herein, GLA Agricultural Electronics makes no warranties, expressed or implied, with regard to the M700 Series of Thermometers and M207 Series of Probes, including any warranty of merchantability of fitness for a particular purpose, and no claim of any kind against GLA Agricultural Electronics arising out of the use of the M700 Series of Thermometers shall be for more than the price paid to GLA Agricultural Electronics for the price of the GLA Thermometer. GLA shall not be liable for any special, incidental, or consequential damages, whether arising in contract or tort, resulting from the use of a GLA Thermometer.

The warranty period for GLA products (excluding negligence), is as follows:

M700 Thermometer-	2 years from date of purchase
M207 Probes-	1 year from date of purchase
B601 Battery Packs-	90 Days from date of purchase
C725 Chargers-	30 days from date of purchase.

The use or purchase of GLA Agricultural Electronics products to the general public is restricted. GLA products are intended for professional users only, including, but not limited to, animal health or livestock suppliers, veterinarians, physicians, or other professionals and qualified users. GLA products are surrendered by GLA with the understanding that it assumes no responsibility for resale or safe and knowledgeable handling. Neither GLA, its owners, nor its employees shall be held liable in any way for any personal or property damages resulting from, or relating, to the use of GLA products. Diagnostic errors resulting from malfunctioning GLA products remain the responsibility of the user.

Other than expressly stated herein, GLA Agricultural Electronics makes no warranties, express or implied, with regard to the M700 Series of Thermometers and M207 Series of Probes, including any

warranty of merchantability of fitness for a particular purpose, and no claim of any kind against GLA Agricultural Electronics arising out of the use of the M700 Series of Thermometers shall be for more than the price paid to GLA Agricultural Electronics for the price of the GLA Thermometer. GLA shall not be liable for any special, incidental, or consequential damages, whether arising in contract or tort, resulting from the use of a GLA Thermometer.

For users in the state of California, the passage of Proposition 65 requires that we advise you that the GLA M700 Series of Thermometers contain a standard rechargeable NiCad battery pack which, if not handled properly, could conceivably be considered toxic. Should it have to be replaced, please take precautions not to expose it to heat or flames, and not to let it come in contact with food or drink. Please use reasonable care in handling the battery pack.

GLA's liability is limited to replacement or the repair of the GLA products purchased, or to the refund on undamaged items returned within 15 days. Returned items may be subject to a re-stocking fee.

Instructions GLA M700 Thermometers

Switches

Push Button Functions

To test Calibration (probe off) – Knob in **0** position – Probe must **NOT** be attached. Depress Push button – should read **100.0 (F°)** or **37.5 (C°)**

To switch between Fahrenheit and Celsius – turn knob to **III** position. Depress Push button and hold for 15 – 18 seconds. Indicated by **F0.01** (Fahrenheit) or **C0.01** (Celsius)

Knob Functions – Four Positions

0	I	II	III
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Position 0 – OFF or Calibration check

With Control Knob in **OFF** position, depress and Hold the Pushbutton Switch, the LED Display should read **100.0(F°)** or **37.8(C°)** indicating correct calibration. If your M700 does not read 100.0 or 37.8, please contact GLA. The calibration check will **NOT** work with a M207 probe attached. The number displayed on the LED display is irrelevant and may be different with different probes. It does **NOT** indicate any sort of calibration number. Turning the knob back to this position, the LED display will read **OFF** or the screen will go blank and the unit will shut off.

Position I - Continuous Temperature

With the Control knob in this position, the LED display will read **700 - CO - ERR1**. This indicates the ambient temperature position and that there is no probe attached. If your display reads **ERR1** with a probe attached, it indicates a damaged probe. In this position, the temperature will climb or drop based on the temperature the M207 probe is sensing. Inserting the probe into an animal will cause the temperature to climb; removing the probe will cause the temperature to drop. In this position the temperature may not stabilize.