

## TGPKPGTCTA LM320E

# TGPKPGTCTA LM320E Digital Inclinometer User Manual

## 1. INTRODUCTION

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Thank you for choosing the TGPKPGTCTA LM320E Digital Inclinometer. This device is designed for precise angle measurement, offering both absolute and relative angle modes. Its magnetic base allows for convenient attachment to metallic surfaces, making it ideal for various applications in construction, woodworking, and automotive industries. This manual provides detailed instructions for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your inclinometer.

## 2. PRODUCT OVERVIEW

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The LM320E features a large LCD with backlight for clear readings, a durable aluminum alloy frame, and powerful built-in magnets for secure placement.



**LM320E**

**Measurement range: 4\*90°**

**Unit: angle, percentage, mm/m, in/ft**

**Relative/absolute angle measurement**

**Magnetic base: 2 sides**

Figure 2.1: TGP KPGTCTA LM320E Digital Inclinometer. Key features include a large LCD display, magnetic base, and multiple measurement units.

### Key Features:

- **Measuring Modes:** Absolute angle and relative angle measurement.
- **Display:** Large LCD with backlight for enhanced visibility.
- **Magnetic Base:** Built-in powerful magnets for secure attachment to metal surfaces.
- **Construction:** Durable aluminum alloy frame for long service life.
- **Units:** Supports angle (degrees), percentage (%), mm/m, and in/ft.

### Product Demonstration Video:

Video 2.2: This video demonstrates the functionality and features of a similar digital angle meter (HW300 model), including display, buttons, battery compartment, and various measurement applications. While the model shown is HW300, the operational principles and features are comparable to the LM320E.

## 3. SETUP

### 3.1 Battery Installation

The LM320E requires two (2) AAA 1.5V batteries for operation. Batteries are not included with the device.

1. Locate the battery compartment cover on the back of the inclinometer.
2. Slide the cover open in the direction indicated by the arrow.
3. Insert two AAA batteries, ensuring correct polarity (+/-) as marked inside the compartment.
4. Close the battery compartment cover securely.



Figure 3.1: Battery compartment location on the back of the device.

## 4. OPERATING INSTRUCTIONS

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### 4.1 Power On/Off

- Press the **ON/OFF** button to turn the device on.
- Press and hold the **ON/OFF** button to turn the device off.
- The device will automatically power off after 5 minutes of inactivity to conserve battery life.

### 4.2 Measurement Modes (Absolute/Relative)

- The inclinometer supports two measurement modes: Absolute and Relative.
- **Absolute Mode:** Measures the angle relative to a true horizontal plane (0°).
- **Relative Mode:** Measures the angle relative to a user-defined zero point.
- Press the **REF/ABS** button to switch between Absolute and Relative measurement modes.

### 4.3 Unit Conversion

The LM320E can display measurements in various units:

- Degrees (°)
- Percentage (%)
- Millimeters per meter (mm/m)
- Inches per foot (in/ft)

Press the **UNIT** button repeatedly to cycle through the available measurement units.

### 4.4 Data Hold

To freeze the current measurement on the display:

- Press the **HOLD** button. The displayed value will be held.

- Press the **HOLD** button again to release the hold and resume live measurement.

## 4.5 Zero Calibration

To set a new reference point (0°) for relative measurements:

1. Place the inclinometer on the surface you wish to set as the new 0° reference.
2. Press the **ZERO** button. The display will show 0.00°, indicating the new reference point is set.
3. Subsequent measurements will be relative to this new zero point.

## 4.6 Screen Rotation

The display automatically rotates for easy viewing when the device is inverted.

## 5. SPECIFICATIONS

Below are the detailed specifications for the TGPKEGTCTA LM320E Digital Inclinometer:

<b>Model</b>	<b>LM320D</b>	<b>LM320E</b>	<b>LM320F</b>
<b>Measure range</b>	4*90°	4*90°	4*90°
<b>Resolution</b>	±0.05°	±0.05°	±0.05°
<b>Angel accuracy</b>	±0.2°	±0.2°	±0.2°
<b>Repeatability</b>	±0.2°	±0.2°	±0.2°
<b>Unit</b>	Angel, %, mm/m. in/ft	Angel, %, mm/m. in/ft	Angel, %, mm/m. in/ft
<b>lines</b>	<b>not</b>	2	3
<b>accuracy</b>	<b>not</b>	±3 /5m	
<b>Magnetic base</b>	<b>2 sides</b>	<b>2 sides</b>	<b>4 sides</b>
<b>Relative/Absolute Angle</b>	√		
<b>Angel hold</b>	√		
<b>Screen rotation</b>	√		
<b>Auto power off</b>	<b>when no use in 5 minutes</b>		
<b>Material</b>	<b>Aluminum alloy frame</b>		
<b>Working temp</b>	0°C~ +50°C		
<b>Working hours</b>	14h	8h	6h
<b>Product size</b>	84.5*70*35.5mm		

Figure 5.1: Comparison of LM320D, LM320E, and LM320F models. Specifications for LM320E are highlighted.

<b>Feature</b>	<b>Specification (LM320E)</b>
Measuring Range	4*90°

Feature	Specification (LM320E)
Resolution	±0.05°
Angle Accuracy	±0.2°
Repeatability	±0.2°
Units	Angle (°), Percentage (%), mm/m, in/ft
Laser Lines	2 (Accuracy: ±3 /5m)
Magnetic Base	2 sides
Measurement Modes	Relative/Absolute Angle
Data Hold	Yes
Screen Rotation	Yes
Auto Power Off	After 5 minutes of inactivity
Material	Aluminum alloy frame
Working Temperature	0°C ~ +50°C
Working Hours	8 hours
Product Dimensions	84.5 x 70 x 35.5 mm
Item Weight	10.6 ounces (approx. 300g)
Batteries	2x AAA 1.5V (not included)

## 6. TROUBLESHOOTING

If you encounter issues with your LM320E, please refer to the following common problems and solutions:

- **Device does not power on:**

- Check if the batteries are installed correctly with the right polarity.
- Replace old or depleted batteries with new AAA batteries.

- **Inaccurate readings:**

- Ensure the measurement surface is clean and free of debris.
- Perform a zero calibration on a known level surface.
- Avoid strong magnetic fields that may interfere with the device's sensors.

- **Display is dim or flickering:**

- This usually indicates low battery power. Replace the batteries.

- **Buttons are unresponsive:**

- Try turning the device off and on again.
- Ensure there is no dirt or obstruction around the buttons.

## 7. MAINTENANCE

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Proper care and maintenance will extend the life of your digital inclinometer:

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the inclinometer in a dry place, away from direct sunlight and extreme temperatures. If storing for extended periods, remove the batteries to prevent leakage.
- **Handling:** Avoid dropping the device or subjecting it to strong impacts, as this can affect its accuracy and internal components.

## 8. WARRANTY AND SUPPORT

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For warranty information or technical support, please refer to the product packaging or contact the manufacturer directly through their official channels. Keep your purchase receipt as proof of purchase.