ACAGALA IP54 Digital Inclinometer

ACAGALA IP54 Digital Inclinometer User Manual

Model: IP54 Digital Inclinometer

1. Introduction

The ACAGALA IP54 Digital Inclinometer is a portable, high-precision digital angle measurement tool designed for various applications requiring accurate slope and angle readings. Featuring an LCD backlight display, magnetic base, and IP54 dust and water resistance, this device offers reliable performance in diverse environments. This manual provides detailed instructions for the proper setup, operation, and maintenance of your inclinometer.

Figure 1: ACAGALA IP54 Digital Inclinometer in operation, demonstrating its clear digital display and portable design.

2. Product Features

- **LCD Backlight Display:** Ensures clear visibility of readings in various lighting conditions, including dark environments.
- **IP54 Protection:** Rated for dust and water resistance, providing durability and extended service life.
- **Magnetic Base:** Allows for secure attachment to metal surfaces, preventing slippage during measurements.
- **Portable Design:** Compact and lightweight, making it easy to carry and use in different locations.
- **Data Hold Function:** Freezes the current reading on the display for convenient recording.
- **Measurement Modes:** Supports both absolute and relative angle measurements.

Figure 2: The inclinometer demonstrating its IP54 water and dust resistance, ensuring durability in challenging environments.

3. Setup

3.1 Battery Installation

1. Locate the battery compartment cover on the back of the inclinometer.
2. Use a small screwdriver (often included) to open the battery compartment.
3. Insert two (2) AAA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover and secure it with the screwdriver.

Note: Batteries are not included with the device.

Figure 3: The inclinometer with a screwdriver, illustrating the battery compartment access.

3.2 Initial Power On

After installing the batteries, press the **ON/OFF** button to power on the device. The LCD display will illuminate, showing the current angle reading.

4. Operating Instructions

4.1 Power On/Off

- Press the **ON/OFF** button (yellow button) to turn the inclinometer on.
- Press and hold the **ON/OFF** button for approximately 3 seconds to turn the inclinometer off.

4.2 Zeroing (Relative Measurement)

To set a relative zero point:

1. Place the inclinometer on the surface you wish to use as your reference (0°).
2. Press the **ZERO** button. The display will show "0.00°", indicating that this position is now the relative zero.
3. Move the inclinometer to measure the angle relative to this set zero point.

4.3 Absolute Measurement

The inclinometer defaults to absolute measurement mode upon power-on. In this mode, it measures the

angle relative to a true horizontal plane (gravity). To switch back to absolute mode from relative mode, press the **ZERO** button again after setting a relative zero, or power cycle the device.

4.4 Data Hold Function

To hold the current reading on the display:

- Press the **HOLD** button. The current angle reading will freeze on the screen.
- Press the **HOLD** button again to release the reading and resume live measurement.

4.5 Backlight Control

The backlight automatically illuminates when the device is powered on. There is no explicit button for backlight control mentioned, but it is a key feature for visibility.

4.6 Tilt Percentage Measurement

Press the **Tilt%** button to switch the display between angle degrees (°) and tilt percentage (%). Press it again to toggle back.

4.7 Using the Magnetic Base

The inclinometer features a strong magnetic base on one side. This allows it to be securely attached to ferrous metal surfaces for hands-free operation and stable measurements.

Figure 4: The inclinometer's magnetic base securely attached to a metal surface, demonstrating its hands-free capability.

5. Maintenance

5.1 Cleaning

Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or solvents. While the device is IP54 rated, avoid submerging it in water or exposing it to high-pressure water jets.

5.2 Battery Replacement

When the battery indicator appears on the display, replace the batteries promptly to ensure accurate readings. Refer to Section 3.1 for battery installation instructions.

5.3 Storage

Store the inclinometer in a dry, cool place away from direct sunlight and extreme temperatures. Remove batteries if the device will not be used for an extended period to prevent leakage.

6. Troubleshooting

- **No Display / Device Not Turning On:**
  - Check if batteries are installed correctly with the right polarity.
  - Replace with fresh AAA batteries.
  - Ensure the ON/OFF button is pressed firmly.
- **Inaccurate Readings:**
  - Ensure the measurement surface is clean and free of debris.
  - Perform a zero calibration on a known level surface.
  - Check for strong magnetic fields nearby that might interfere with the sensor.
- **Display Flickering:**
  - This may indicate low battery power. Replace batteries.

7. Specifications

Parameter	Value
Measuring Range	4 x 90°
Measuring Accuracy	±0.2°
Resolution	0.05°
Power Supply	2 x AAA Batteries (not included)
Working Temperature	-10°C to 50°C (14°F to 122°F)
IP Rating	IP54 (Dust and Water Resistant)
Dimensions (L x W x H)	Approx. 57 x 55 x 25 mm (2.24 x 2.17 x 0.98 inches)
Weight	Approx. 70g (2.45 ounces without batteries)

Features	LCD Backlight, Magnetic Base, Data Hold, Absolute/Relative Measurement

Figure 5: Detailed dimensions of the ACAGALA IP54 Digital Inclinometer.

8. Warranty and Support

Information regarding product warranty and customer support is not provided in this manual. Please refer to the product packaging or contact the retailer/manufacturer directly for warranty details and technical assistance.