

# INSTRUCTIONS FOR Mini Digital Protractor

## ●TECHNICAL SPECIFICATIONS

- Measuring Range:  $4 \times 90^\circ$
- Resolution:  $0.1^\circ$
- Battery Type: 3V CR2032  $\times 3$
- Working Temperature:  $0^\circ\text{C}$ - $40^\circ\text{C}$
- Relative Humidity: 40%-80%
- Dimension:  $2'' \times 2'' \times 1''$

## ●BUTTONS

### 1. **ON/OFF** Power switch

Press this button to switch on power, press it for 3~5 seconds to switch power off.

2. **o%** Degree ( $xx.xx^\circ$ ) and percentage of slope ( $yy.yy\%$ ) in conversion  
Press 0%, it displays " $yy.yy\%$ ". ( " $yy.yy\%$ " =  $\text{tg}a \times 100\%$  ( $0 \leq a = xx.xx^\circ \leq 45^\circ$ ) or " $yy.yy\%$ " =  $\text{tg}(90^\circ - a) \times 100\%$  ( $45^\circ < a = xx.xx^\circ \leq 90^\circ$ ) )  
Press it again and the unit will change back to " $xx.xx^\circ$ ".

### 3. **Calibrate** Absolute /relative measurement conversion

Press this button to set one surface as  $0.00^\circ$  for measuring relative angle. Press this button for 3 seconds, the unit will change back to the state of absolute measurement.

### 4. **HOLD** (hold)

If the measured value needs to be saved, press HOLD to hold the display. The arrows on both sides will twinkle. Press it again it will quit.

## ●Functions

### 1. Absolute angle measurement

Press ON/OFF and the unit will directly enter the state of absolute angle measurement. It will display the angle between the measured surface and the level. When the angle between the working surface of the unit and the level changes, the angle value changes accordingly. When the two indicating arrows on both sides of the LCD display appear, they show that the working surface of the unit is not on the level. For example, when the arrow " $\downarrow$ " on one side appears, it shows that this side is under the level. It needs to move up this side of the unit to reach the level. The arrow " $\uparrow$ " shows that it is above the level. when the unit's working surface is on the level, The two indicating arrows will disappear.

## 2. Relative angle measurement

Put the unit's working surface on one surface, press "Calibrate" button, "0.00°" is displayed. Then move the unit to other surface to be measured, the displayed value will be the included angle of the two surfaces. Press "Calibrate" button for 3~5 minutes, it will change to the state of absolute measurement.

## 3. Upright display

The displayed value would be not upside down whatever the unit is upside down or not.

## **●Attentions**

1. Don't clean this precision unit with organic solvent. Keep it away from water and corrosive. Be careful when hand up or pick down.
2. Don't hurt the its working surface. Get rid of any dirt on it with soft cloth in order to keep its accuracy.
3. While using, it will shut down if the unit's buttons are not pressed in 3 minutes in order to save power. When the power icon appears, it shows its power is used up and stops measuring. Replace with new 3V CR2032 batteries. Take out the batteries if it's not used for a long time in order to avoid the leakage of battery liquid.
4. Keep this unit indoors in  $-30\text{ }^{\circ}\text{C}\sim+65\text{ }^{\circ}\text{C}$  and relative humidity  $< 90\%$ .