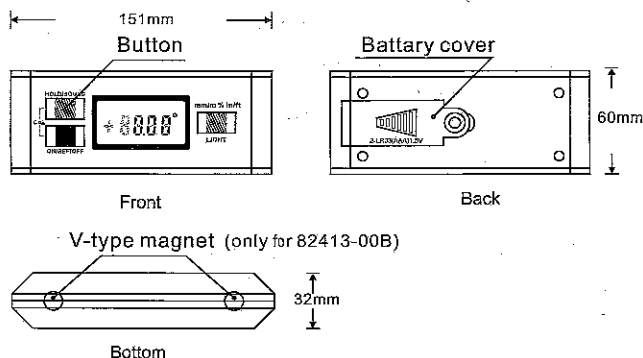


Digital Protractor Instruction Manual

GemRed®



Technical Specifications	
Accuracy	$\pm 0.15^\circ$
Resolution	0.05°
Working Range	$^\circ: 4 \times 90^\circ$, mm/m: 1000mm/m, %: 100%, in/ft: 12in/ft
Power	2 x AAA alkaline battery
Working temperature	32°F to 122°F (0°C to 50°C)
Working Humidity	$\leq 85\%$
Protection Grade	IP65

LCD SCREEN ICONS	
	Replace batteries when the Battery Power Icon is flashing. Only flashing when voltage below 2.2V
	Sound/Beeper Icon-This icon appears on the screen when the beeper function is activated
REF	Indicates that the level is working in relative angle mode
H	This icon appears on the screen when the HOLD function is activated
-1-	Indicates that the digital level is calibrating for one direction
-2-	Indicates that the digital level is calibrating for another direction

IMPORTANT NOTE	
1)	Reverse Display: When turned upside down, the product shows up-down reversal for easy read
2)	"ERRO" shows when either the forward tilt angle or backward tilt angle is not less than 30°

BUTTON FUNCTION

ON/REF/OFF	Press once to turn the LCD display screen on. Press the button again to set current angle to zero, REF icon will be displayed to indicate relative angle measurement mode. Long press to turn off the LCD.
HOLD/SOUND	Press once to enter the HOLD function and the "H" icon will show, press once again to release hold function. Long press the button for 3 seconds to activate sound function, shows. Beeper will sound at level (0°) or plumb (90°). Beeps frequency increase as it close to 0 or 90 degrees and eventually reaching a constant tone at exactly 0 or 90 degrees. Long press again to turn off the sound, disappears.
mm/m % in/ft LIGHT	Converts angles to different units. Press once to change the display units from degrees ($^\circ$) to mm/m, to percent slope (%), to pitch (in/ft). Long press for 3 seconds to turn on back light. Auto shut down the light after no button operation for 30s, touch any key to turn it on. Long press again for 3 seconds to turn off the back light.

CALIBRATION (Figures as below)

The digital level has been pre-calibrated at the factory, The product should only be recalibrated if it has been dropped

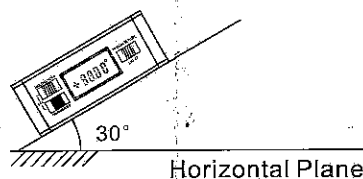
- Place the digital level on a flat and smooth surface, press button **HOLD/SOUND** and button **ON/REF/OFF** at the same time, the calibration mode is activated and "-1-" will be displayed.
- Press button **ON/REF/OFF** again, "-1-" will flash briefly. Do not move until "-2-" display
- Rotate it 180° in the same location and press button **ON/REF/OFF**, "-2-" will flash briefly. Do not move until the unit complete calibration and display the current angle value.



* display the angle between the calibration plane and water level

Absolute Measurement

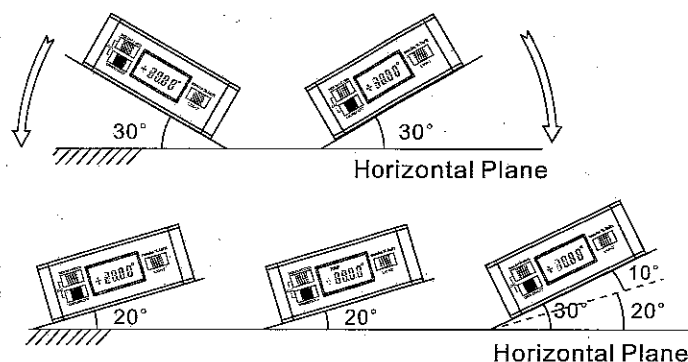
Short press button **ON/REF/OFF** to enter Absolute measurement mode, LCD displays the angle of absolute level.



Relative Measurement

Put it on the first measured surface, press button **ON/REF/OFF**, LCD display 0.00°. Put it on the second measured surface, LCD shows the intersection angle between two measured surfaces. Press button **ON/REF/OFF** again to enter Absolute measurement mode.

Symbol +/- showing how to adjust the surface to level



CERTIFICATE

Acquire certificate of CE, ROHS, PAHS.

Guilin GemRed Sensor Technology Co., Ltd.

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