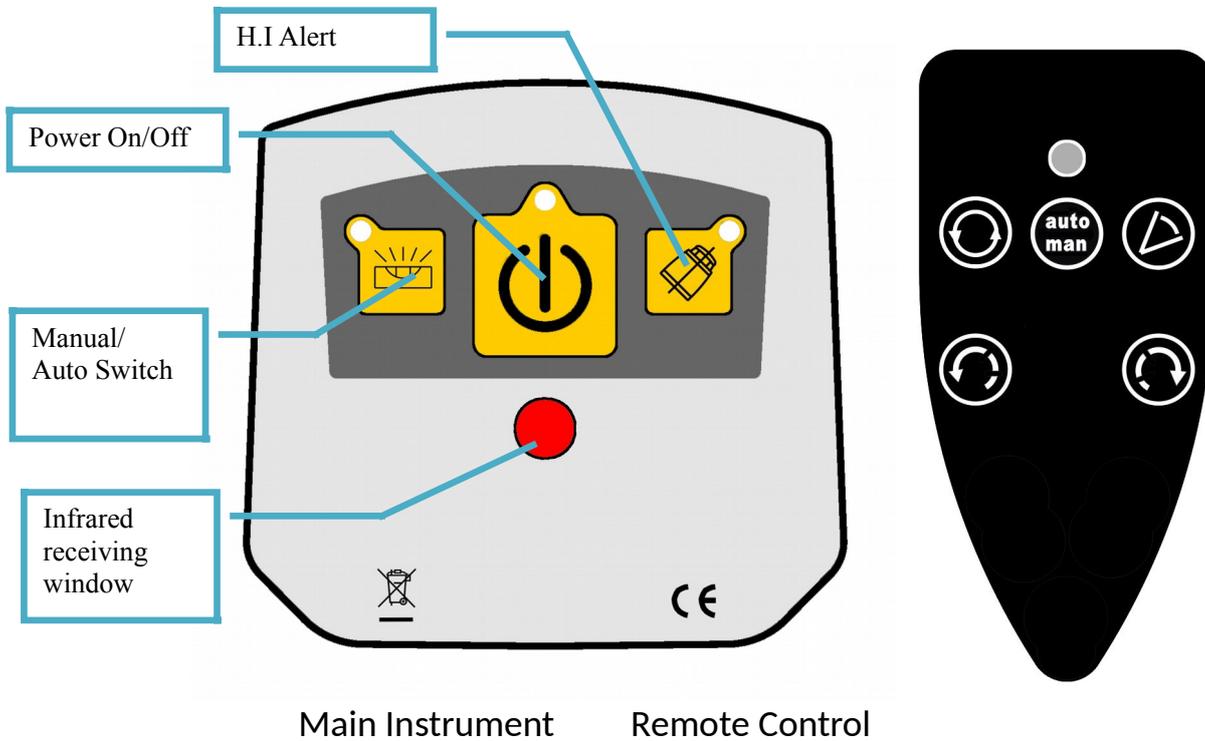


# FRE302 Operation Manual





Main Instrument

Remote Control

## Keypad Panel

**3 keys, 3 LED, 1 receive window.**



: Switch on/off: Controlling the state of power. When the LED lights, the instrument is starting up. Otherwise it is closing down.



: Manual/Auto switch: Controlling the mode of leveling. Laser turns on with auto-self levelling (no led on when in levelling), when press the button for one time, the led will turn continuous red and laser enter into manual mode.

Press it again led will turn off and laser enter back to self-levelling mode.

When the led winks, it stays in alarm. (The slope of the instrument is out of range).



: H.I. Alert: Warns the user for a misaligned device. When the light is twinkling slowly, it is in Automatic Drift System model. When the light is twinkling quickly, the laser level will not level.

## Operation:

### -Power:

Press the Key ON/OFF to bring automatic leveling into function when the power indicator lights.

When Power indicator lights, it shows the voltage of the batteries is insufficient. Then the rechargeable batteries need to be charged.

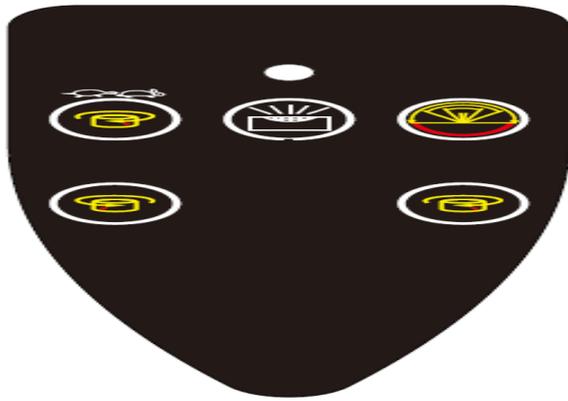
Press the Key ON/OFF again to switch off the instrument and power indicator will go out.

### -Leveling

Press the Key ON/OFF to bring automatic leveling into function when the laser beam begins to wink. After automatic leveling, the laser module will rotate at the speed of 600r.p.m.

If the instrument is placed improperly, or the slope of instrument exceeds the range of  $\pm 5^\circ$ , at that moment mode indicator and the laser beam will wink together. Then place the instrument properly.

**For other functions like rotational speed control, stepping spinning, directional scanning, these can be operated through remote control.**



## Remote Control:



Manual/Automatic: Controlling the mode of leveling



Rotational speed control:

Press the Key “Rotational speed adjustment” to control the spinning speed of the laser module. If press the key repeatedly, the spinning speed of the laser module will continuously change as follows:0-60-120-300-600-0 r.p.m.



Directional scanning:

Locate the Key Speeding-up at speed of 0 r.p.m, the laser module will stop spinning. Press the Key Directional scanning; the laser module will scan directionally. If press the key repeatedly, the angle of scanning of laser module will continuously change as follows: 0°-10°-45°-90°-180°-0°.

Press the Key Left-spinning or the Key Right-spinning to change the direction of scanning.



Left-spinning: Making the laser module step-move counter-clockwise, when the laser module is power off or it is scanning directionally.

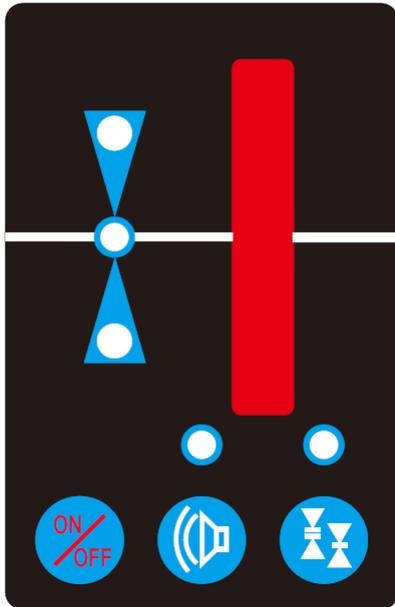


Right-spinning: Making the laser module step-move clockwise, when the laser module is power off or it is scanning directionally.

-Stepping spinning:

Locate the Key Speeding-up at speed of 0 r.p.m, the laser module will stop spinning. And press the Key Right-spinning, the laser module will step-move clockwise. Then if press the Key Left-spinning, the laser module will step-move counter-clockwise.

## Detector(FRD700):



Switch On/Off. Automatic switch off: about 3mins.



Buzzer On/off: The buzzer will be on when the detector is switched on. Meanwhile the led will turn to green. Press it for one time to switch off the buzzer, the led will turn to red.



Detecting accuracy option:

-high accuracy  $\pm 1.5\text{mm}(\pm 0.06\text{in})/40\text{m}$

-normal accuracy  $\pm 2.5\text{mm}(\pm 0.1\text{in})/40\text{m}$

The detector is switched on with normal accuracy. There has no led indicator. Press it for one time to switch to high accuracy. The led will turn to red.

### **Specification »**

Level system: Electronic sensor fast leveling.

Horizontal Accuracy:

30arcseconds( $\pm 1.5\text{mm}/10\text{m}$ )

Vertical Accuracy: 35 arc seconds( $\pm 1.75\text{mm}/10\text{m}$ )

Self leveling range:  $\pm 5^\circ$

Operation rang: 30m,400m with detector (Diameter)

Five head speeds: 0;120; 300; 600 R.P.M

Four scan widths:  $10^\circ$ ;  $45^\circ$ ;  $90^\circ$ ;  $180^\circ$

Power source:Wavelength:635nm Class II

Remotedistance:20m Without plumb down beam

Operation temperature:  $-20^\circ\text{C} \sim +50^\circ\text{C}$  ( $-4^\circ\text{F} \sim +122^\circ\text{F}$ )

Power supply: DC 4. 8-6V

4 x AA/2600mah Ni-Mh battery or 4 x AA alkaline battery

Continuance working time: Approx. 20hr.

Waterproof and dustproof: IP 54

Dimension: 150(L) X 128(W)X 161(H)mm

Weight:1.5kg

Adaptor:5/8"

at bottom & side bracket