User Manual of FRE205

1. What is included with your FRE205

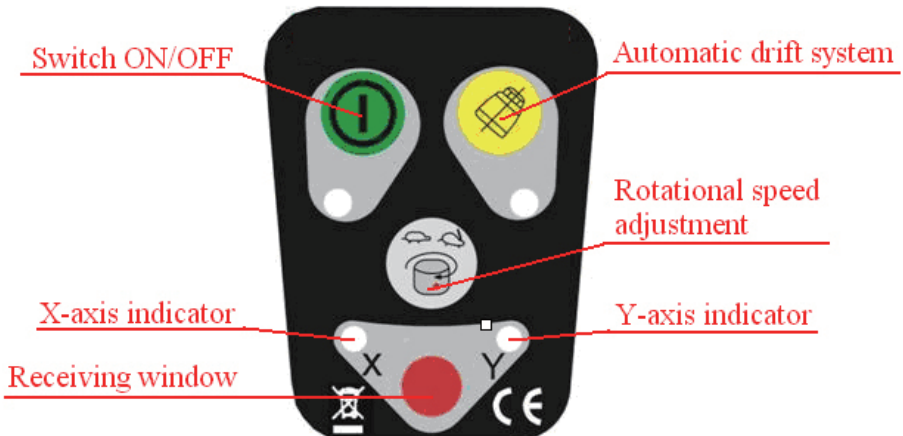
Your FRE205 includes the following parts:-

A) Main Instrument
B) Detector and Bracket
C) Remote Control
D) Charger
E) Target
F) Glasses
G) Hard Case with Foam Insert

Please contact your supplier if any of the above parts are missing.

2. Find your way around the FRE205:

2.1 Control Panel



2.2 Operation

(1) Switch ON/OFF: Set up the instrument as shown on the previous page. Press the (green) button on the bottom left hand side of the panel. The instrument will Auto level and start spinning giving a Horizontal beam.

(2)Spinning Control: To change the speed of the rotating beam press the [Hare/Tortoise Button]. Speeds of 120rpm, 300rpm and 600rpm can be obtained.

(3) Automatic drift system/Tilt: Warns the user for a misaligned device. When the instrument is in this mode, the LED below Tilt button will in fast winking to alert user that the position of the instrument has changed.

(4)Receiving window: After laser start rotating, it can be operated by remote control, including set slope, start automatic drift, calibrate the accuracy, etc.

(5)X-axis indicator: In manual mode, When it lights, the slope on X-axis can be manually adjusted.

(6)Y-axis indicator: In manual mode, When it lights, the slope on Y-axis can be manually adjusted.

(7)Leveling indication :Press the Key Switch ON/OFF to bring automatic leveling into function, meanwhile, the laser beam begins to wink slowly. After get leveled automatically, the head will rotate at an initial speed of 600r.p.m.

If the instrument is placed improperly, or the slope of instrument exceeds the range from -5° to +5° ,when the laser beam is winking fleetly. The instrument should be reset.

Notices: Instrument will close automatically after five minutes alarm.

3. Getting set up.

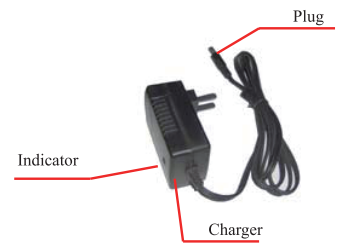
3.1 Charging the Battery

The AA Rechargeable batteries and AA Alkaline batteries are both available for this instrument. Please notice they can not be mixed used. The procedure of installment should as below:

(1) Take down the cover of battery compartment after loosing the knob.

(2) Put the batteries into the compartment according to the right electrode.

(3) Put the cover suitably back to compartment and then tighten the knob.



The standard power source comes with laser is rechargeable batteries.The instrument normally comes with some charge in the battery, however it is recommended before initial use the battery is fully charged.

For laser with rechargeable batteries, When the voltage indicator lights, the batteries needs to be charged immediately. Connecting the charger with AC, insert the plug of charger into the socket at the lower part of housing.(As depicted above).

Red flashing light - Battery not charging

Red light - Battery on Charge

Green light - Battery full charged

If the red light shows check the connection.

If the light is flashing please wait for charging to complete.

Once the green light shows the instrument is fully charged- charging normally takes 8 hours to give 30 hours of use.

Notices:

(1) Using the standard rechargeable batteries of the instrument, charging will be finished within 5 hours.

(2) Power required for the charger: Frequency: 50-60HZ, Voltage: 85-265V.

(3) If keeping the instrument in storage (or Leave the instrument unused for a long time), the batteries (dry battery or rechargeable battery) need to be taken out from the instrument.

(4) Brand-new rechargeable batteries or long-time unused batteries needs to be recharged and discharged three times to attain the capacity required.

3.2 Setting up the instrument in horizontal mode.

The instrument should be set on a solid base, ideally a tripod which is stable. The instrument should be attached to the tripod using the screw that inserts into the underside of the instrument.

The instrument will only self level if it is set up within 5 degrees of horizontal. If the instrument appears level by eye then it should be within this range. Using the horizon as a datum will help with this assessment. If the instrument looks tilted then adjust the tripod to suit.

4.The Detector

The detector will pick up a spinning beam when it crosses the electronic sensor window.

The detector has 3 buttons:

On/off button

A Sound button with 2 settings :off –on

A sensitivity button. This will either give a narrow or a broader range of detection.

When the detector is too high a slower beep will be emitted, when too low, a fast beep will be emitted, when same level as beam a continuous pitch will sound- at this point the centre of the detector is at the same alignment as the beam.

To get accurate results use the spirit bubble to keep the detector level.

The detector is powered by a standard 9v battery.

5.Remote control

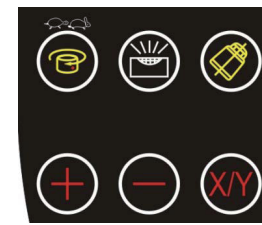
The remote control of the instrument adopts the infrared technique.

Aim the aperture of infrared ray to the instrument (as depicted below) to bring remote controlling into function (Available distance: indoor: 30M;outdoor: 20M). The remote panel includes 6 keys; the indicator on the device will wink to show the operating signal has been sent out once pressing any key.

Functions fulfilled by the remote listed as follows:

(1) Rotating:

Press the “Speed” to control the spinning speed of the laser module. If press the key repeatedly, the spinning speed of the laser module will be changed circularly as follows: 0-60-120-300-600-0 r.p.m.



Keypad of Remote Control

(2) Slope adjustment:

The slope of X&Y axis can be manually adjusted by remote control.

1.Press the Key  , the X indicator on main keypad panel will light;

The instrument enters into the slope adjusting on X axis.

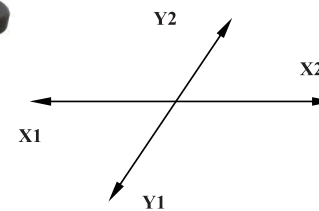
2. Aim the X1-beam to a direction which need to be adjusted.

3.Press the Key  or  to move the laser beam up or down until it gets to the target.

4.Press the Key  to switch the slope adjustment to Y-axis. Using the same way by pressing  or  to adjust the slope manually for Y axis.

5.When press key  continuously, the manually slope adjustment will switch in between X and Y axises.

6.Press  again to quit manually slope function, after that the laser will self-leveling again.



6. Trouble shooting

The majority of problems that occur arise from the power source.

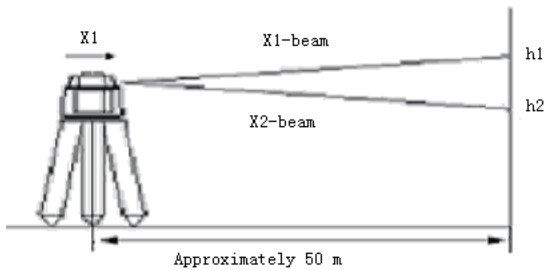
1) Check the batteries are installed correctly with the + and - in the correct orientation.

2) Check the power rating of the batteries are correct - particularly if you are using rechargeable batteries.

3) Please use the charger supplied with the instrument. While similar charges may fit the instrument socket they may not be charging the batteries if the rating is not correct.

7. Accuracy Checking

(1) Place the instrument at the point of 50m in front of wall (or set a scaleplate at the point of 50m away from the instrument), and then adjust the level of the base approximately to aim the X1 to the wall (or scale plate), as depicted below:



(2) After switching on the power, use the laser detector measure and mark the h1 of X1 direction on the wall or scale plate.

(3) Loose the screw of the tripod ,and then turn around the instrument of 180°to measure

and mark the h2 of X2-direction on the wall or scaleplate.

D-value between h1 and h2 ought to be less than 15mm.

(4) Check the Y-beam by using the same way.

8)Specifications

Accuracy	±30″(±1.5mm@10m)
Automatic self-leveling range	5°
Laser source	Visible Laser Diode 635nm
Classification	Class 2
Operational range	500m dia.(with detector)
Rotational head speed	60,120,300,600 R.P.M
IR Remote control	Indoor:30m, Outdoor:20m
Operation temperature	-20ºC ~ +50ºC (-4°F~+122°F)
Power supply	DC 4.8-6V (4xAA NI-MH battery or 4xAA Alkaline battery)
Continuous working time	Approximately 30hours
Water-proof	IP 54
Dimension	190(L)*145(W)*166(H)mm
Weight	1.2kg