Thank you very much for purchasing RedBack LLRMM30 line laser ranging detector.

LLRMM30 Receiver

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I. Feature & Function

LLRMM30 laser ranging detector is an essential accessory for line lasers to detect the position of the laser signal emitted by the line lasers. Used in conjunction with the line laser to give horizontal and vertical reference plane quickly and accurately.

※Digital display the laser line position exactly;

※Large detecting window;

※TFT LCD and high-brightness LED display simultaneously;

※Ranging function

※Suitable for various types of line lasers

Both red and green lasers can be used;

※Strong magnetic attachment function.

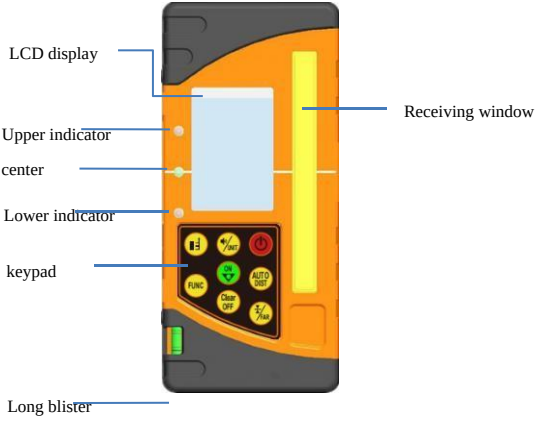
II. User Security

⚠ Do not disassemble the instrument and perform internal repairs. Repairs

can only be made through an authorized service center.

☞ Make sure the instrument is in place.

III. Instrument Structure



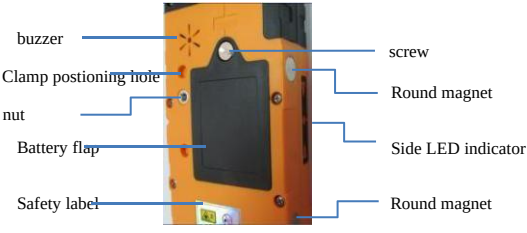


Figure 1

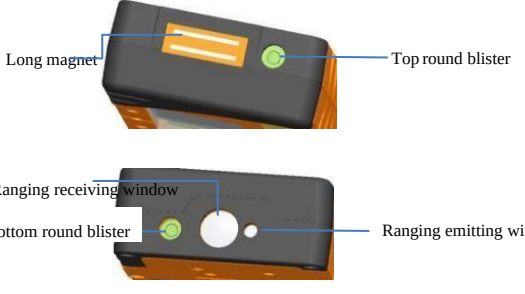


Figure 2

Power:switch on/off; fine/coarse measurement switch: short press to switch to detection accuracy/ long

press to switch between short and long distance;

sound/unit switch: short press switch buzzer function/ long press switch to unit; 

Ranging reference selection: short press to switch the ranging reference;

Mode: Short press to switch area measurement, volume measurement, Pythagorean 1 measurement, and Pythagorean 2 measurement;

Ranging button: lit the laser/single ranging;

Clear: clear data or exit the current state;

Automatic: enter the automatic measurement subroutine.

IV. Operation Manual

1. Switch on/off

Press once, the LCD displays the instrument model and version number (Figure 3), the LED indicator lights up from top to bottom and then goes out ; the buzzer emits a “didi” power-on prompt, and then enters the normal detection state. Shown in Figure 4.

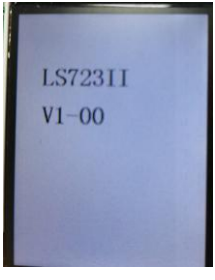


Figure 3

Figure 4

2. Detection accuracy mode selection

Short press the key FAR in the power-on state, and the instrument will switch

between fine measurement (±1mm) and coarse measurement (±3mm) modes. The detection accuracy indicator on the LCD is shown in the figure below.

As shown in the figure: the top one is the fine measurement, the bottom one is the coarse measurement;

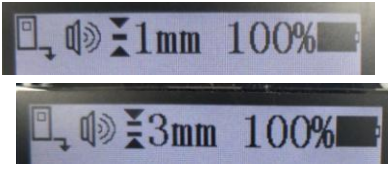


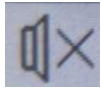
Figure 5

3. **Short/long distance mode selection**

When the instrument is turned on, the instrument is in the long-range mode, if you want to receive strong signals, you need to hold down the key FAR to switch to the short-range mode to receive signals; There are text prompts at the top left of the screen: Far, Near.

4. Sound state selection

Short press the key  in the power-on state, and the instrument will switch between sound and silent state. The sound indicator on the LCD is as shown in the figure below.

Figure 6  

sound silent Prompt: The sound and silent state is for the sound indication when receiving; the key tone will not be turned off;

5. LCD backlight function

The lighting is on when it is turned on, and the backlight of the round blister is also turned on. If the laser signal is not received within 2 minutes, and there is no key operation, the backlight will automatically go out. Once the laser signal is received, or

there is a button operation, the backlight will automatically turn on.

6. Value display & unit switch function

Long press  to switch the value unit.
On the left corner of the screen displays:M, Ft.
M means meters, and Ft means foot.

7. Posture recognition and display flip

When the instrument is used upside down, the instrument will automatically recognize the posture and turn the display on the LCD upside down to facilitate the user to read the indication status and measured value;

8. Laser detection

The meaning of the information displayed on the LCD when the instrument detects the laser is as follows:

a. The laser line is on the upper part of the zero position, and the lower indicator LED is long on, and the instrument emits a quick short tone.

Example: The laser line is emitting 1mm above the zero line, the LCD displays an upward arrow, and the offset distance value is 1mm.

Figure 7

b. The laser line is at the bottom of the zero position, the upper indicator LED is on, and the instrument emits a slow short tone.

c. The laser line coincides with the zero position, the centered LED is on, and the instrument emits a long beep.

Note: When the distance between the laser level and LS723 is less than 1 meter, it may cause the display position to be abnormal. Please use it when the distance is greater than this.

9. Ranging function

After the instrument is turned on, it enters the regular measurement page, and the ranging module is in working state;

9.1 Setting the measurement reference

Short press  to switch the measurement datum; it can switch among the 3 datum

planes: upper end surface, zero line, lower end surface, etc.;



Upper end zero line lower end Figure 8

9.2 Single measurement

Press the key  for the first time to light up the laser dot (Figure 9), aim at the target with the laser dot, and press  again to measure the distance; the distance measurement result is displayed on the first row;

If the distance measurement operation is performed again, the distance value of the first row will automatically move to the next row, and the new value will be displayed in the first row, as shown in Figure 10. When

the distance measurement is performed multiple times, the latest distance value is always in the first row; Simultaneously display the results of the last 5 distance measurements;

Operate 

to clear the last ranging result;

Figure 9

Laser dot lit up

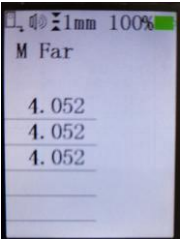


Figure 10

9.3 Area measurement

9.3.1 Short press the key FUNC once in the routine measurement to enter the area measurement, as shown in Figure 11; press the key ON to light up the laser, and press the key Clear OFF to clear the last measurement;

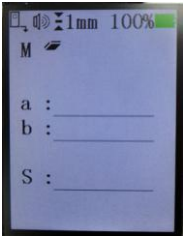


Figure 11

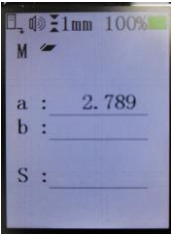
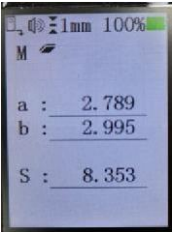


Figure 12

9.3.2 First measure the first edge, the measurement result is shown in Figure 12;

9.3.3 Then measure the second edge, and the measurement result will be displayed on the second



row; the instrument will automatically calculate the area value and display it on the third row, as shown in
Figure 13;

Figure 13

9.4 Volume measurement

9.4.1 Short press the key FUNC twice in the routine measurement to enter the volume measurement, as shown in Figure 14; press the key to light up the laser, and press the key to clear the last measurement;

9.4.2 First measure the first edge, and the measurement result is displayed on the first row, as shown in Figure 15;

9.4.3 Then measure the second edge, and the measurement result is displayed on the second row, as shown in Figure 16;

9.4.4 Finally measure the third edge, and the measurement result is displayed in the third row; the instrument will automatically calculate the volume value and display it in the fourth row, as shown in Figure 17;

Figure 14

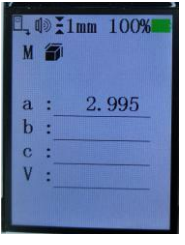


Figure 15

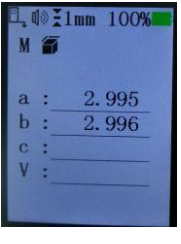


Figure 16

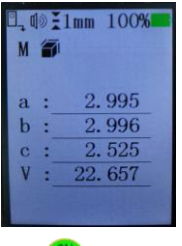
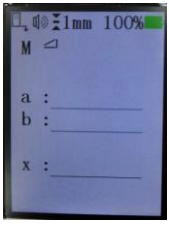


Figure 17

9.5 Pythagorean 1 measurement

9.5.1 Short press the key FUNC three times in the routine measurement to enter the Pythagorean 1 measurement, as shown in Figure 18; press the key ON to light up the laser, and press the key Clear OFF to clear the last measurement;

9.5.2 First measure the first side a (hypotenuse), the measurement result is displayed on the first row, see Figure 19;
9.5.3 Then measure the second side b (right-angle side), and the measurement result will be displayed on the second row; the instrument will automatically calculate the value of the third side x and display it on the third row, as shown in Figure 20;



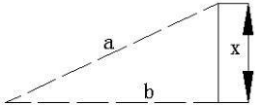


Figure 18

Figure 19

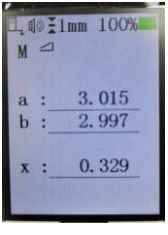


Figure 20

9.6 Pythagorean 2 measurement

9.6.1 Short press the key FUNC four times in the routine measurement to enter the Pythagorean 1 measurement, as shown in Figure 21; press the ON Clear OFF keyto light

up the laser, and press the keyto clear the last

measurement;

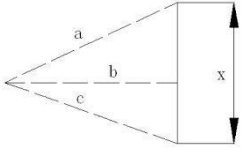
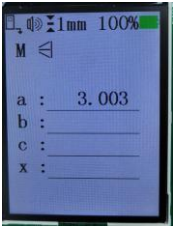
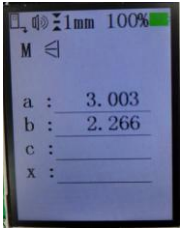


Figure 21





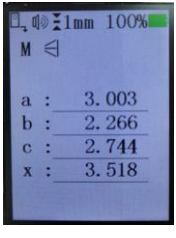


Figure 22 Figure 23 Figure 24

9.6.2 First measure the first side a (hypotenuse), and the measurement result

is displayed in the first row, as shown in Figure 22;

9.6.3 Then measure the second side b (right-angled side), and the measurement result is displayed in the second row, as shown in Figure 23;

9.6.4 Finally measure the third side c (hypotenuse), and the measurement result is displayed in the third row; the instrument will automatically calculate the value of the fourth side x and display it in the fourth row, as shown in Figure 24;

Tip: When measuring Pythagorean 1 and Pythagorean 2, the hypotenuse should be larger than the right angle, otherwise an error beep will sound and the measured value will be discarded;

9.7 Automatic measurement

9.7.1 Press the key AUTO DIST in the normal measurement mode to enter the automatic measurement subroutine, as shown in Figure 25;

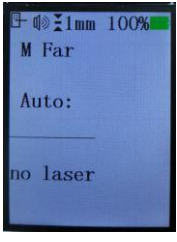


Figure 25

At this time, the measurement reference changes to the laser line as the reference (see the first icon in the status bar); a line of prompt lines is displayed at the bottom of the LCD; if the laser level signal is not received, "no laser" will be displayed;

9.7.2 When the instrument receives the laser signal of the laser level, it will display

the offset value and the indicator arrow, as shown in Figure 26; the prompt line information is cleared;

Figure 26

Figure 27

9.7.3 When the mobile receiver receives the laser signal, when the indication deviation is centered and lasts for more than 1.6 seconds, the instrument will measure the distance once and display the distance measurement value; “Hold” is displayed in the prompt line, as shown in Figure 27;

9.7.4 In the automatic measurement interface, the key is invalid; after

entering the hold state, pressing AUTO DIST will clear the current value and start a new measurement; if you want to exit the automatic measurement interface, press the key Clear OFF.

10. Power saving function

If the instrument has no signal for 2 minutes, and the instrument is still, the display and backlight will automatically turn off;

If no laser signal is detected for 6 minutes and no key operation is performed, it will automatically shut down.

11. Battery level indicator function

As shown in the figure below, the LCD of the instrument will display the percentage of the battery status. When it is lower than 15%, the battery symbol will turn red; low battery

will affect the ranging accuracy; when the battery is 0, it will automatically shut down;

12. Battery installation

a. Open the battery cover, insert 3 5# batteries according to the polarity instructions, and close the battery cover.

b. When the instrument displays that the remaining battery power is less than 15%, the instrument can still receive operations. At this time, it is not recommended to perform a ranging operation.

Please replace the battery in time.

note:

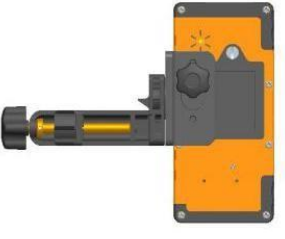
(1) If the instrument will not be used for a long time, please remove the battery.

(2) Please replace the battery in time when the voltage is low.

13. Application

a. When detecting the horizontal laser line, the top round blister should be centered. The deflection of the receiver will affect the receiving accuracy (if detecting the vertical laser line, the side long blister should also be centered).

b. Connecting with clamp



c. Connecting with staff

V. Technical Specifications

Item	Specifications
Detecting range	30m
Detecting accuracy	Fine detecting ±1mm coarse detecting ±3mm
Detecting resolution	1mm
Laser class	ClassII
ranging	0.3~50m
Ranging accuracy	±2mm
sound	Sound, silent
LED indicator	Upper(red), center(green), lower(yellow)
Power supply	3*AA

Battery life	25 hours
Timing	6±0.5min
power off	
Working temperature	0℃～+40℃
Storage temperature	-20℃～+70℃
Size	172×78×32mm
Weight	Ca.300g (battery not included)

VI. Maintenance

※ Do not attempt to disassemble the instrument, non-professional dis-assembly will damage the instrument;

※ Please put the instrument in the carrying case when not in use.

VII. Packing List

No.	item	quantity
1	LS723II	1
2	LS305 clamp	1
3	AA battery	3
4	Manual	1

Q. **C**.

Date / /

Warranty 12 Months – see included sheet for details.

RedBack Lasers Distributed by CMI Industries Pty Ltd.
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